
SYNERGETICS

D I C T I O N A R Y

The Mind of Buckminster Fuller

Compiled and Edited by E. J. Applewhite
With an Introduction and Appendices

Garland Publishing, Inc.
New York and London
1986

Order Underlying Randomness

This drawing is a spontaneous exercise in synergetic geometry illustrating the fundamental relationships between geometrical order and numerical order. Whenever Fuller sketched out an original concept—or repetitive amplifications thereof—he liked to document the occasion by citing the time and place of execution. He did this for his own gratification, to celebrate his pleasure in the conceptual breakthrough, to record the event meticulously for his chronofile archives—all perhaps not without some thought for posterity. The drawing is signed in his handwriting:

R. Buckminster Fuller
Sept-11-1963
15268 Earlham
Pacific Palisades, Cal.

“Order Underlying Randomness” is the kind of exposition in which Fuller delighted. He loved to share this kind of graphic demonstration with lecture audiences and hundreds of blackboards have been temporarily filled to their furthest corners with these patterns of his geometrical accounting. Sometimes he would omit some of the events or vary their sequence, but this drawing is one of the most exhaustive expositions of a major theme: that there is a geometry of thinking, that understanding results from the accounting of the sum of all numerical and geometrical relationships, and that the aggregate of understood relationships is always tetrahedral.

E.J.A.

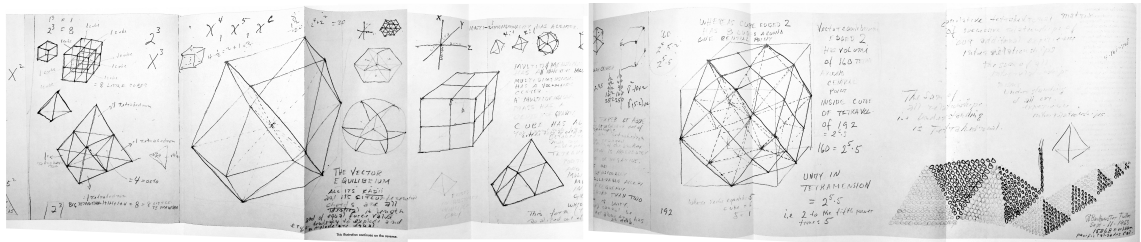


Figure 1: Order Underlying Randomness

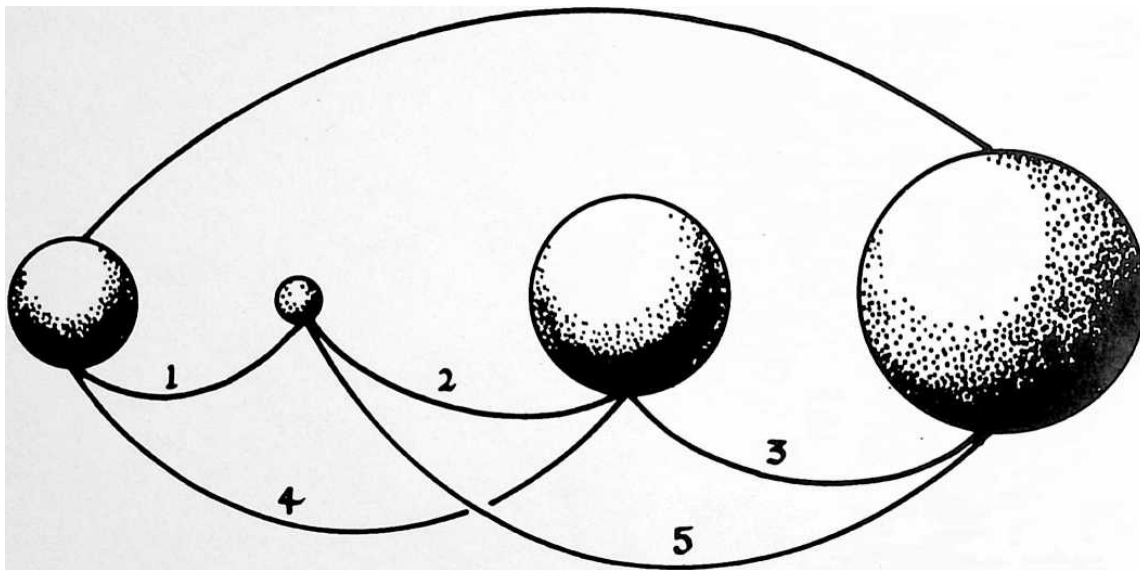


Figure 2: A Linear Tetrahedron has six relationships

The genesis of numerical and geometrical accounting occurs with four initial events of experience. The device above—two concurrent aspects of the same phenomenon—illustrates the origin of conceptuality in the recognition of the interval between the third and fourth periodic events of experience. Here in graphic form is the initial act of the geometry of thinking. It is used here as a colophon to the dictionary because it epitomizes the sensorial genesis of mathematical experience in physical reality with the transition from instability to stability and the creation of insideness and outsideness.

The closest Fuller ever came to giving a name to this figure is the term *Linear Tetrahedron* he employed in the caption to fig. 2 of *Omnidirectional Halo* (1963). It illustrates the dynamic pattern of events defining periodicity, frequency and shape in the minimum

geometrical consideration from which all other geometry and structure is derived. Hugh Kenner has called it “stability incarnate...a nest of principle.” Here is a symbol devoid of cultural nuance or mythological freight; it is pristinely abstract. Conceptually and geometrically, this linear tetrahedron is Fuller's minimum limit case.

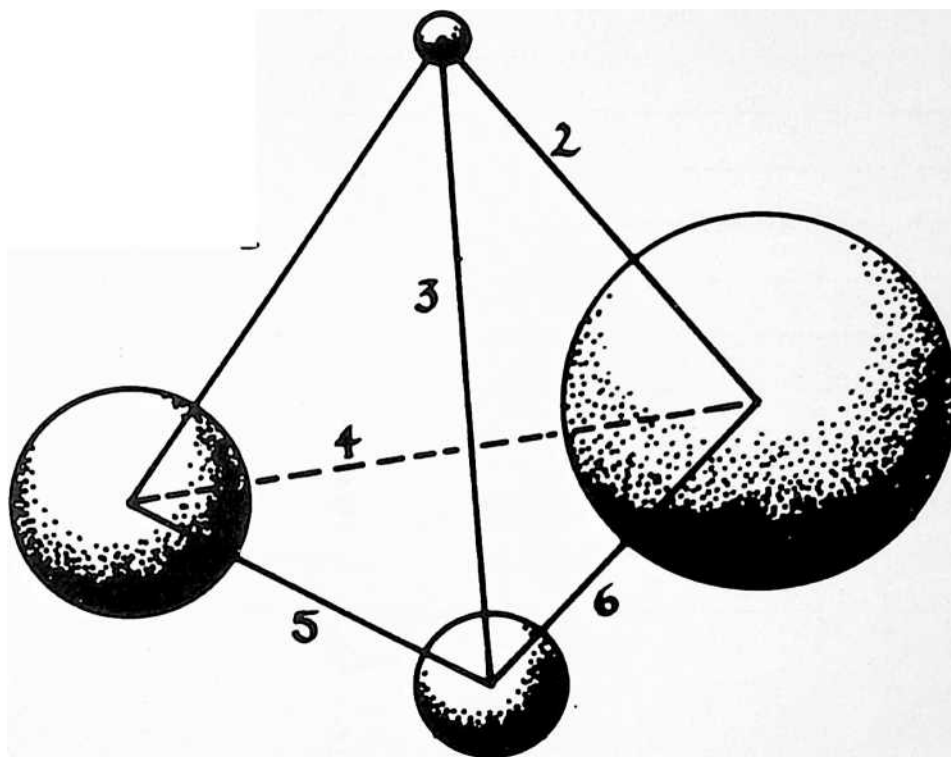


Figure 3: Four frequencies (sizes) of Entities or Particles comprise the Tetrahedron

An exhaustive philosophical and psychological exposition of the linear tetrahedron phenomenon may be found—in the context of “The Geometry of Self and Otherness”—in *Synergetics 2* [FA79] at secs. 265.08—13.

1: Add link

Its evolution in Fuller's system of synergetics is documented in this dictionary in entries captioned as follows: *Pattern*, 1954;

2: Add link

Star Events, 1960

3: Add link

, 2 Jul 1962, and Oct 1965;

4: Add link

Intuition, 26 Dec 1974;

5: Add link

Comprehension, 29 Sep 1976;

6: Add link

and *Metaphysical*, 22 Jun 1977

7: Add link

.

E.J.A.

Books by E. J. Applewhite

Cosmic fishing: an account of writing Synergetics with Buckminster Fuller

Washington itself: an informal guide to the Capital of the United States

and as Fuller's collaborator:

Synergetics; explorations in the geometry of thinking

Synergetics 2: explorations in the geometry of thinking

*Synergetics dictionary: the mind of Buckminster Fuller : with an introduction and
appendices*

Synergetics Dictionary

The Mind of Buckminster Fuller

Compiled and Edited by E. J. Applewhite With an Introduction and Appendices
Volume 1: A–E

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So long as man is alive and has more days, he is going to be acquiring more information regarding those factors which are a priori to existing. So the dictionary is going to continually increase in size. That is absolutely inexorable.

R. B. Fuller to Alan Watts Los Angeles, 19 Oct 1970

All words in the dictionary do not make one sentence; all the words cannot be simultaneously considered, yet each of the words is valid as a tool of communication; and some of the words combine in a structure of meaning. All the words are memoranda of all of humanity's attempts to communicate to self or to others their understanding of the unique evolvement of their separately viewed experiences. The dictionary is the inventory of unique aspects of the totally composited experiences known as Universe.

R. B. Fuller, *Synergetics*, sec. 510.10

8: add link

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List of Main File Indicators

This list contains the principal file indicators in each volume. The file indicators were compiled by the editor to provide a recapitulation—perhaps even a redundancy—of cross-references. Some are purely technical, like running lists of rules, equations, and corollaries. Others reflect Fuller's propensity for lists, inventories, and trends. Some few suggest critical concepts peculiar to synergetics, such as ethical physics and psychological geometry. The most significant of the file indicators are *Paired Concepts and Sequences: Metaphors*.

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Preamble with a Few Explanations

Since the death of R. Buckminster Fuller in 1983 at the age of eighty-seven, the record of his prodigal career as a writer, artist, designer, and philosopher continues to be widely recognized—and even celebrated—out of all proportion to the notable paucity of serious critical evaluation of his work.

It is not my purpose in this introduction to correct that imbalance. I have not acquired the academic credentials for such a task, and besides, as his longtime collaborator, I could not muster the necessary detachment.

So many of the discoveries of synergetics remain undiscovered by those very mathematical and scientific disciplines to which they would appear most relevant. But are they relevant? Will there ever be a synergetic accommodation with the psychologists and the particle physicists and the topologists? Can Fuller's claimed discoveries be reconciled with the latest accepted picture of reality as described by the various branches of physics? Maybe only the beginnings of answers will be found in this dictionary, but at least it exhaustively documents Fuller's proposal of a whole new field of study: a geometry of thinking and a geometry of physical reality.

This dictionary represents the first comprehensive documentation in one publication of all the major avenues of Fuller's thinking since they were first anticipated in his *Nine Chains to the Moon* of 1938 [Ful38]. Here is the full array of the themes and concepts of his half-century of writing and lecturing—including many propositions that remain to be tested—always expressed in his own words but organized in a way to help the inquisitive reader pursue his own explorations. Hundreds of the entries herein are unpublished table talk and ephemera now in print for the first time, while roughly a third of the entries trace their way back to the primary source material of Fuller's dozen or so books published since 1938.

Though the systematic arrangement of the dictionary is inescapably analytic, it aims to be expository rather than critical. I organized it as an instrument to help the two of us write the *Synergetics* books. My hope is that it can serve as a tool for students and critics to make their own assessment of his work and thus reinforce the recognition of his achievements with the weight of discriminating examination.

At this point Fuller might tell us in his sometimes simpler words, “Every time man makes a new experiment he always learns more. He cannot learn less.”¹

This *Synergetics Dictionary* was developed primarily around Fuller's system of synergetic geometry as later incorporated in *Synergetics* and *Synergetics 2* (published by Macmillan in 1975 and 1979). But as a dictionary it goes well beyond the geometry to cover the full range of his original strategies of economic accounting, tensegrity engineering, energy harvesting tactics, individual and group psychology, Dymaxion airocean world map, and world game patterns of industrialization, and their ultimate synthesis in one grand scheme that he termed *design science* (q.v.).

For Fuller it was all one gestalt book that never quite got published—one endless lecture with slides—a mosaic of his engineering blueprints, his allegorical lithographs, his lecture transcripts, his economic polemics, and his geometry. It was a frustration for him that his two *Synergetics* books were not fully comprehensive—particularly in the omission of his almost desperate lifelong commitment to the *geosocial revolution* (q.v.), his hallmark strategy of making the world work. The current Garland edition enables me to make public amends for the first time by placing his synergetic geometry in the context of the complete body of his work and his program. For Fuller mathematics is intensely relevant to the evolution of humanity.

The obituary of R. Buckminster Fuller that ran on page one and continued for six columns in the *New York Times* of 3 July 1983 made no mention of his magnum opus *Synergetics* although these two volumes are his chief literary accomplishment, his most original work, and constitute what I believe is his major legacy to posterity. *Synergetics* has gone through many printings and is available in both hardcover and

1 See entry in dictionary captioned *Learning: You Can't Learn Less*, dated Dec 1972.

paperback. It has a devoted following of readers young and old. But the *Times* failed to mention the work—with apparent impunity—because it has received a dearth of recognition from academic specialists in the fields it presumes to explore, and because of the peculiarity and difficulty of its language.

In fact it has been easy for many otherwise responsible people to absolve themselves from paying attention to Fuller's work solely on the grounds of the inaccessibility of its style. Perhaps I should not have expected others to share my intrigue with that mode of expression: I would prefer to collaborate with a difficult writer who might need more help than an easy writer, and Fuller could always be counted on to come up with drafts that were complex to the point of obscurity and devoid of the least risk of banality.

Although Fuller declared that he was striving for a style expressing the most accurate and comprehensive observation of experience², he ended up with a wholly new and unfamiliar and often polysyllabic vocabulary of his own invention. At their best his descriptions achieve a kind of poetic combination of feeling and abstraction—physical sensations merging into metaphysical patterns. Because it verges on a prose poem I describe *Synergetics* as a literary rather than a scientific work. In fact when we started to collaborate on the project in 1969 he had an impulse to write the whole book in blank verse—or at least with unjustified right margins. The manuscript as I discovered it after years of gestation had the first two chapters in verse form. Fuller agreed to my suggestion that these chapters had an integrity of their own, and with the invaluable guidance of Bill Whitehead at Doubleday 1 helped him prepare them for separate publication as *Intuition* in 1972.

Synergetics is a book without genre. It proposes no less than a geometry of thinking and a *geometry of* physics. It deals with questions of geometry and philosophy through an exposition which does not conform to the conventions of mathematicians and philosophers. Fuller's descriptions reintroduce those very subjective properties and

2 *Synergetics*, sec. 203.06.

sensory impulses that have been eliminated by classic science from formal descriptions in physics. He rejects the established disciplines of the universities by ignoring them; in their place he imposes his own self-discipline and his own way of thinking in a deliberate attempt—as artists do—to change his generation's perception of the world.

0.1 FULLER AND GERTRUDE STEIN

In his preface to *Synergetics*, Professor Arthur Loeb of Harvard compares Fuller's literary style to that of Gertrude Stein. They were both innovators in the metaphorical use of language. She made the English language “an artist's medium, a sort of prose imitation of the Cubist practice of portraying an object on all sides at once.”³ He made poetry a strategy for arriving at truth. For Fuller a poet is “a very general term for a person who puts things together in an era of great specialization...where most people are taking things apart.”⁴ By such a definition, “Einstein became and will probably remain history's greatest poet—for who could say so much so simply as did Einstein when he described physical universe as $E = MC^2$.”⁵ Fuller does not describe himself as a poet because the term is not really professable; it is a term which only society can bestow and then only retrospectively.⁶ For Fuller, the essence of engineering is poetry:

Take out for yourself some engineering and science textbooks and break the words up into phrases . . . and prove it for yourself. Then fry some non-engineering prose and it probably won't work. I would not be surprised if some day it were proven a law that the better the science the better the poetry.⁷

3 James Atlas, review of *Everybody Who Was Anybody*, by Janet Hobhouse, *New York Times Book Review*, 11 April 1976.

4 See dictionary entry captioned *Poet*, 22 Apr 1961.

5 See dictionary entry captioned *Poetry*, 13 Nov 1969.

6 E. J. Applewhite, *Cosmic Fishing* (New York: Macmillan, 1977), p. 57.

7 See dictionary entry captioned *Poetry*, 1962.

Fuller's language fuses the sensorial and the technological, as in “...the echoed voice of a poling raftsman to the forwardly informative radar manipulations of the stratojetpiloting airman.” His speech abounds in physical allusions:

holding patterns of energy
corkscrew spiral traceries
impact extrusion
jet-stilting
pumping fraction factors
reach-miles
swivel-moored
girth-tensed bonds
fibrous crystalline units
invisible trampoline
vacuum-fulcrumed oars

Not so rich perhaps as Homer's rosy-fingered dawn and wine-dark sea, but what could convey more energy than Fuller's vacuum-fulcrumed oars?

0.2 FULLER AND EDGAR ALLAN POE

Perhaps the nearest thing to *Synergetics* in its cosmological range is the work of another American poet-philosopher, the *Eureka* of Edgar Allan Poe published in 1848 [Poe48]. As Paul Valery says of *Eureka*, “Cosmogony is one of the oldest of all literary forms. ...As for the idea of a beginning—I mean an absolute beginning—it is necessarily a myth.”⁸ I am not suggesting that Poe had any influence on Fuller; he was only a casual reader of Poe and had never read *Eureka*. But both were amateurs and autodidacts venturing into heady speculations into the nature of physical reality.

8 *Variety* (New York: Harcourt, Brace, 1944), pp. 137, 141.

Since Fuller was not an accredited mathematician it was an act of presumption for him to dedicate *Synergetics* to a leading geometer of the day, Professor H. S. M. Coxeter of the University of Toronto. With comparable audacity Poe inscribed his work to Alexander von Humboldt. Poetic license indeed.

In an even greater extension of hubris, Poe goes on to invoke the example of Johannes Kepler: “I care not whether my work be read now or by posterity. I can afford to wait a century for readers when God himself has waited six thousand years for an observer. I triumph. I have stolen the golden secret of the Egyptians. I will indulge my sacred fury.”⁹

And *Synergetics* is an even more ambitious elaboration of the cosmological themes, both in the originality—the gritty intent—of its epistemological starting point and in the exquisiteness of its geometrical expositions. For Fuller the lodestar is what he calls *omnirationality*—the reciprocity of geometry and number.

What he shares with Poe is a fierce conviction in the inevitability of his description of the cosmos.

On the opening page of *Synergetics* Fuller exhorts the reader, “Dare to be naive.” Similarly in speaking he tended to address professors as if they were nine-year-olds and nine-year-olds as if they were professors. This is a strategy that was anticipated by William Blake who “liked to think that his works were perfectly comprehensible to the innocent, to minds not blunted by education and fashion, especially children.”¹⁰

0.3 MATHEMATICS DERIVED FROM EXPERIENCE

Fuller's alternate term to describe “synergetics” is “experimentally founded mathematics—EFM.” This explains why mathematicians can ignore Fuller's conjectures with impunity: partly because the Cartesian *XYZ* coordinates and the centimeter-gram-second system of coordination work so well that there is no particular incentive to adopt the synergetic model, and partly because any mathematician will tell you

9 *Eureka* (New York: Mclellan Book Co., 1908), p. 190.

10 Mark Shorer, *William Blake: The Politics of Vision* (New York: Henry Holt and Company, 1946), pp. 13–14 [Sch46].

that, whatever it is he does, it has nothing to do with physical experience. In fact, one of the glories of pure mathematics, to its practitioners, is its essential irrelevance to all but psychic or esthetic considerations. It is a discipline devoid of empirical content. Indeed, the branch of mathematics that is most remote from practical applications (except perhaps in codes and ciphers) is number theory, whose purity has gained it the description “the queen of mathematics” (That is, the basis of the mathematician's work is in pure logic, and the application of his work to the physical world is left to others.)

Fuller had no intention of reforming conventional mathematics; he merely wanted to introduce the world of science and physics to popular understanding. He had no quarrel with the deductive reasonableness of mathematics, only with its axiomatic assumptions of hypothetical points, lines, and planes based on grounds of strict logic. Fuller proposes a new philosophical foundation for a mathematics based on observation and experience, deriving from the physical reality of the energetic behavior of atoms, molecules, and gravity. His strategy is designed to cope with the information available directly from our senses as well as “the information progressively harvested through microscopes, telescopes, and electronic probings of the non-sensorially-tunable ranges of the electromagnetic spectrum.”¹¹

Fuller says that “even the development of sets derives from experience because mathematics is generalization—and generalization itself is sequitur to experience. The mathematicians talk of 'purely imaginary numbers' on the false assumption that mathematics could be a priori to experience.”¹²

The world of mathematics is not about to give up its axioms to accommodate the world of physical experience—much less the picture of reality presented by today's physicists. The mathematicians have no imperative to confront or judge Fuller—they are doing quite different things—as long as they do not object to his application of mathematical strategies to his experiential picture of the world.

11 See dictionary entry captioned *Mathematics*, 13 Mar 1971.

12 See dictionary entry captioned *Mathematics*, 22 Apr 1971.

0.4 GETTING NATURE INTO A CORNER

In its simplest terms synergetic geometry aims to substitute triangular and tetrahedral mensuration for the rectangular and cubical XYZ coordinates of Cartesian accounting and calculus.

It describes energetic phenomena in terms of angle and frequency and rejects what Fuller considered the vulgar quest for the ultimate “building blocks” of matter that has become the theme of so much journalistic description of science. Synergetics generates its modularities from the operation of a few limit-case geometrical phenomena: the closest packing of unit-radius spheres, the foldability and triangulation of great circles, and the fractionation of the regular tetrahedron.

A tetrahedron may be thought of as a pyramid with a triangular base: a four-sided polyhedron with three angular corners at each vertex. Tetrahedra are the basic modules of Fuller's philosophic system. In his most elegant formulation he says, “Substituting the word *tetrahedron* for the number two completes my long attempt to convert all the previously unidentifiable integers of topology into geometrical conceptuality.”¹³ Understanding that sentence is the key to understanding synergetic geometry, where tetrahedron is unity and unity is two. Here is his integral pattern for the coordination of thinking with physical action, incorporating the energy quantum of physics into a rational metaphysical system: this is what he means by “getting nature into a corner.”¹⁴

13 From “Omnidirectional Halo” in *No More Secondhand God* (Carbondale: Southern Illinois University Press, 1963), p. 156. Also found at *Geometrical Conceptuality*, 11 Nov 1973 in this dictionary.

14 See *Synergetics 2*, sec. 261.01—which is excerpted among the five citations to *Nature in a Corner* in this dictionary.

0.5 DICTIONARY AS AN ANALOGUE OF UNIVERSE

Knowledge organizes itself geometrically. There is a pattern in the very process of dismissing irrelevancies. (“The dismissing of irrelevancies” [q.v.] is Fuller's description of the process of thinking.) This dictionary should be thought of as systematic rather than linear. Though the dictionary contains the heart of *Synergetics*, it is organized for shorter spans of attention.

For Fuller the dictionary is an analogue of the universe itself. He defines universe as an aggregate of humanity's communicated nonsimultaneous and only partially overlapping experiences. Dictionary is likewise a collective concept, integral but ipso facto nonsimultaneously recollectable. Thinking, remembering, and looking something up all require time. Though the set of all the words in the dictionary cannot be simultaneously considered, their overlapping sequence is progressively revealing. In the same way the universe encompasses too many simultaneous events for any man to have a comprehensive understanding of them at any one time.

So much for a glimpse through the magic casements—a foray into salvation by mathematics. Now let's get to the files.

0.6 RATIONALE FOR THE DICTIONARY

On 9 February 1970 Buckminster Fuller addressed a memorandum to one of his office assistants at Southern Illinois University saying, “Please arrange to have an exhaustively cross-referenced, alphabetically coded, first-word indexing of my topical concept files ...to package up all the concepts ...and save me from repetitive discourse and writing.”¹⁵ As a result of that initiative, Fuller's office in Carbondale sent me (at my home and office in Washington, D.C.) over a period of many months copies of all books and articles by Fuller and relating to his geometry, including lecture transcripts, untranscribed tape recordings, manuscripts, letters, and unpublished papers, and two trunkfuls of the original files of his synergetics notes dating from the

15 RBF memorandum to Dale Klaus, 9 Feb 1970.

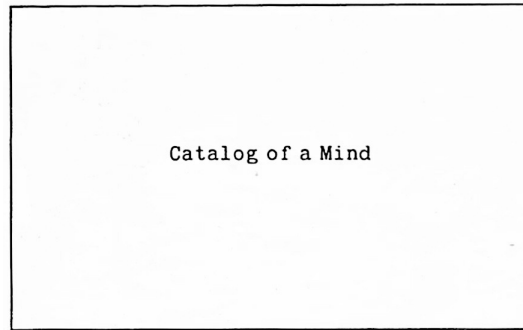


Figure 4: Catalog of a Mind

1940s, together with notebooks, drawings, blueprints, and collateral clippings. Here was plenty of grist for the mill to keep me busy excerpting and indexing when Fuller was not visiting with me in Washington over the ten-year period of collaboration in which the two *Synergetics* volumes were completed.

Neither Bucky nor I realized it at the time, but as all those files were compiled, they seemed to manifest a sort of self-organizing character, and we ended up creating something approaching a new art form.

In preparation for collaborating with Fuller on the work that was to become *Synergetics*, I had, beginning in 1969, accumulated on 5 x 8-inch cards in alphabetical sequence by topic the best net statements I could get my hands on from everything he had said or written about almost everything. I typed all these entries myself on an old Underwood standard typewriter. (The few corrections to these entries made especially for this Garland edition of the dictionary may be identified by their new IBM typeface.) Eventually, there came to be twelve file boxes arrayed around my desk like the manual of an organ so that I could reach any of the 22,000 excerpts from where I sat while typing the successive drafts of *Synergetics*. (See photograph.) The current edition is designed to provide the reader with comparable easy access. (In 1976 Princeton Datafilm Inc. published the dictionary in a format of 250 microfiche.)

The first title entry of the dictionary reads

The second title entry of the dictionary is replete with antique initial capitals:

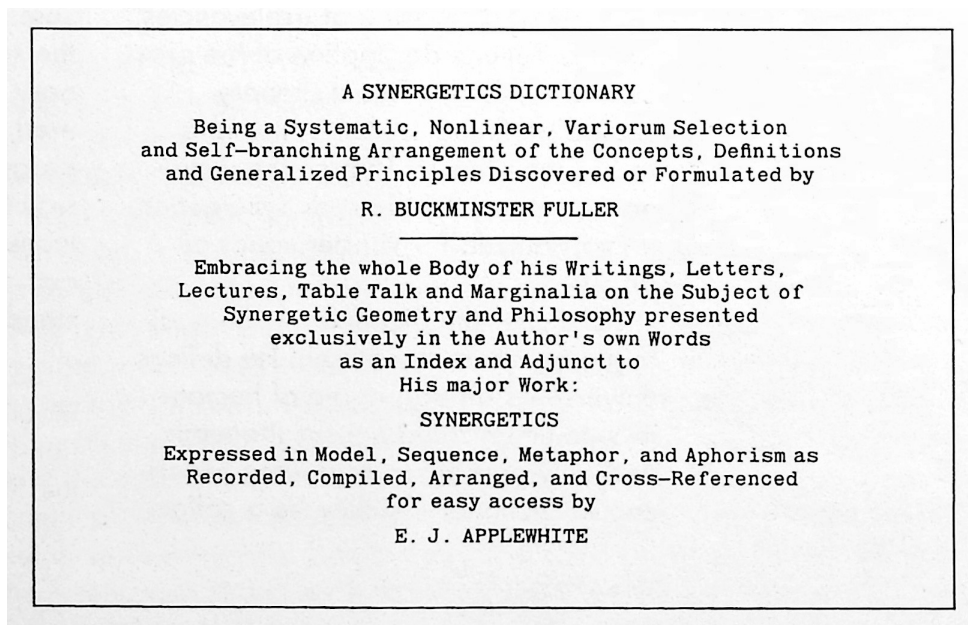


Figure 5: A SYNERGETICS DICTIONARY

A SYNERGETICS DICTIONARY

Being a Systematic, Nonlinear, Variorum Selection
and Self-branching Arrangement of the Concepts, Definitions
and Generalized Principles Discovered or Formulated by

R. BUCKMINSTER FULLER

Embracing the whole Body of his Writings, Letters,
Lectures, Table Talk and Marginalia on the Subject of
Synergetic Geometry and Philosophy presented
exclusively in the Author's own Words
as an Index and Adjunct to
His major Work:
SYNERGETICS

Expressed in Model, Sequence, Metaphor, and Aphorism as
Recorded, Compiled, Arranged, and Cross-Referenced

for easy access by
E. J. APPLEWHITE

Fuller had a penchant for putting things together, I for taking things apart. We both wanted to write a book as accessible as possible to the common reader, and wherever his peculiar and invented terms were unavoidable we wanted to be sure that they were exhaustively defined. Like many great teachers, Fuller's communications mode of choice was oral discourse. The transcripts of his many—always extemporaneous—lectures recorded the sound without the sight with unavoidable loss of the gestures and body language that always helped him juggle several themes at once in a tapestry of interwoven exposition. Sometimes a Fullerian metaphor will run on for minutes and pages at a time, strung together by gesture and intonation despite illuminating asides and digressions, but making for a certain complexity of syntax and some strain on the auditor's span of attention. As the architectural critic Reyner Banham once put it in describing Fuller's creative thinking, “Problems are simultaneously bulldozed frontally, undermined termitically, and outflanked by relative clauses lasting up to six weeks.”¹⁶

Even on the occasions when Fuller is terse and aphoristic, his statements can benefit from being read in context. Thus the problem of the dictionary as I saw it was to index it in such a way that it could afford the reader (including Fuller himself) both the short focus of the net statement as well as the full context from which the phrase was abstracted. At the price of redundancy, the dictionary provides both. For example, take his arresting statement “Time is an invention.” In these files that observation is indexed for comparison with Fuller's other notions of inventions and cross-referenced to passages where the phrase appears in its full philosophic context.

The method is tomographic, like a succession of medical X-rays in which details on one plane of a tissue appear clear and sharp while adjoining planes are blurred: by varying the focal length we can concentrate on different objects of consideration.

For instance, take a short paragraph from Fuller's essay “Total Thinking”:

16 *Arts Magazine*, London, October 1963.

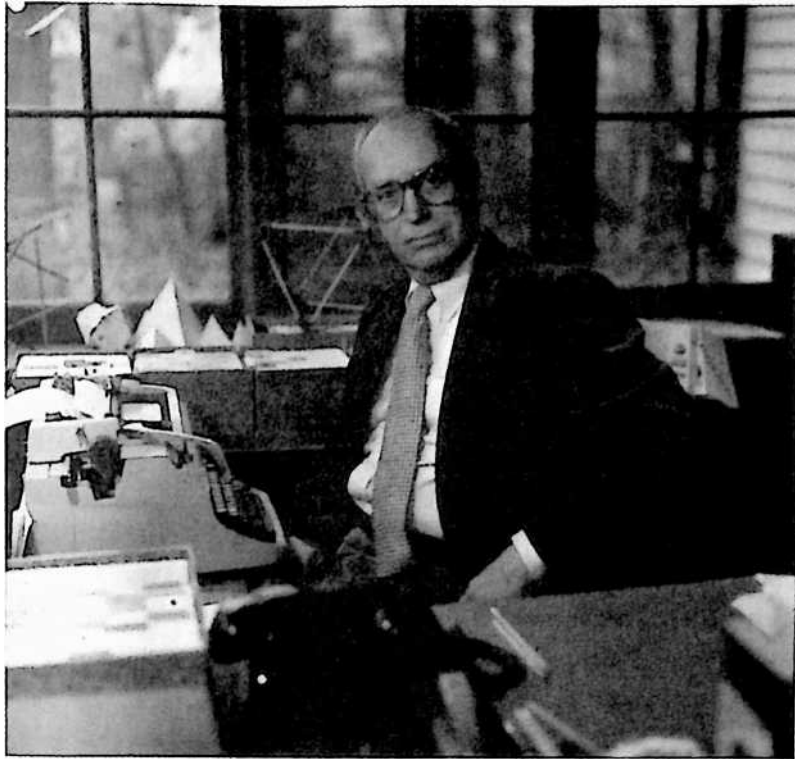


Figure 6: E. J. Applewhite and the *Dictionary* (Photo by Steve Flores, New York)

*Mathematical concepts of group phenomena may be acquired in principle by the willingness (subjectively initiated) of the individual to be governed by the integrity of progressive conceptioning principle—the objective synchronizations are implicit and unavoidable competence and comprehensive, realizable design will result. Let us pursue further the conceptioning in specifics of group principle.*¹⁷

That unusually difficult passage initiates an uninterrupted narrative of exposition requiring thirteen successive file card entries subsumed under the caption *Periodic Experience* (1)—(13). That particular paragraph is abstracted under *Subjective & Objective* and cross-referenced to *Individual & Group Principle*.

0.7 DEFINITIONS AND SEQUENCES

Fuller's vocabulary may be unconventional but it is rigorously consistent—there would be no point in a dictionary if it weren't—both in its employment of invented words and in its use of familiar words in a special way.

The dictionary is organized to serve as a bridge between the peculiar concepts and terminology of Buckminster Fuller and the more common terms of our everyday discourse. Thus for convenience some common terms that he simply never uses, such as “psychology” and “mortality,” are listed in the dictionary to provide cross-references to the invented phrases that he uses in their place. (For some examples see “Enter With Your Word: Exit With Fuller's” on page xxxviii

9: add link

.)

When appropriate, both the most concise and the most all-embracing definitions are presented—always in the author's own words. In cases where there has been a significant evolution in the development of a concept, successive citations are presented in chronological order. Sometimes the chronological sequences are not only of interest in themselves as an illustration of Fuller's *modus operandi*, but also of possible clinical interest as an exercise in cognitive science.

¹⁷ Chapter 12 of *Ideas and Integritys* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), p. 237.

There are two main classes of entries (intermingled by alphabetical order). They are *Definitions and Sequences*.- *Metaphors*; the former tend to be topical in form while the latter tend to be narrative.

Definitions: Explicit statements of what the author means by each word he uses. Some words are limited to the most graphic and definitive examples; for example, there could easily have been a hundred different entries for the term *Regenerative* (a word Fuller works into almost every paragraph) while in fact there are seven. In a few cases the dictionary attempts to be exhaustive, as with philosophical concepts like *Limit*, *Set*, and *Metaphysical & Physical*. In other cases, like *Environment* and *Universe*, there appears an exhaustive record of the chronological evolution of the author's progressively poetic refinements of phrase.

Metaphors: Sequences: These narrative sequences that recur time and again in Fuller's lectures and writings have been assigned descriptive phrases or clauses to permit their systematic recapitulation. An alphabetical list of these major metaphors—in fact 668 of them—may be found under the file indicator *Sequences*. Sometimes as many as a half-dozen different versions are presented when there are significant variations, particularly over a period of time. For examples, see:

Bubbles in the Wake of a Ship

10: Add link

Sequence

11: Add link

Divide & Conquer Sequence Lever: Fallen Tree As a Lever Rich Man Drowning in Shipwreck

12: Add link

Wave Pattern of a Stone Dropped in Liquid

13: Add link

Miscellaneous entries: Some of the “table talk” items in the dictionary are not filed strictly as definitions but under the name of the person or object considered. Fuller always said that conversation was the most generous of the arts. Even when not lecturing, he was a prodigal talker—not at all as an indulgence but as what he considered an act of responsibility. Although he loved people and funny stories, he had no small talk. One could not inquire about his health or the journey or the weather without risking a response of disconcerting gravity.

I gathered these informal and impromptu observations from his casual discourse at such unpromising occasions as breakfasts with sophomores or long waits at airports—not to mention his marginalia on the back of envelopes, tickets and menus. As an example of his free-form conversation see the entry for *Aiken: Conrad*, 14 Feb 1972

14: Add Link

; it may not tell you much about Aiken but it's quite a glimpse into the mind of RBF and his views on the social function of literature.

For detailed instructions on all the nuances of tracing and searching available from the various types of cross-references, see “How to Use the *Synergetics Dictionary*,” beginning on page xxxiii.

15: Add Link

An incidental result—Fuller might have said a synergetic result—of the process of compiling the dictionary was its use as a device and stimulus for furthering the creative process itself. For Bucky there was never a final draft and seldom a time when he could be confronted with a file card of one of his earlier statements on some topic without wanting to amplify it (almost never to delete or erase). Some holographic examples of this procedure are included among the initial cards in “Sample Entries Edited by Fuller.”

16: Add link

0.8 A PERSONAL NOTE

People often ask me why I don't give a course or write a book that will really explain synergetics. One of the reasons I don't is that I see a basic incompatibility between the passive role of an editor and the active role of a teacher. A collaborator should not be an explicator. I have tried to write synergetics in the voice of one person—Fuller's. I never want the reader to have to worry about whether this is something RBF is saying or is it EJA who is talking; in these two books and in this dictionary the reader need have no doubt: the voice is always that of Fuller.

As for teaching synergetics I can come up with no better curricula than those I have already devised. They are the ninety-page index at the end of *Synergetics 2* and the comprehensive introduction to Fuller's work that this dictionary constitutes. I have nothing more to add.

E. J. Applewhite

January 1986

1517 30th Street, N.W.

Washington, D.C. 20007

0.9 NOTES

17: Display footnotes

An Annotated Bibliography of Books by R. Buckminster Fuller

Nine Chains to the Moon. Philadelphia: Lippincott, 1938. The original printing was 5000. Republished in paperback by Southern Illinois University Press in 1963. Republished in paperback by Doubleday Anchor in 1971 [[Ful38](#)].

The title derives from a statistical cartoon: “If ...all of the people of the world were to stand upon one another's shoulders, they would make nine complete chains between the earth and the moon. If it is not so far to the moon, then it is not so far to the limits—whatever, whenever or wherever they may be.” This is Fuller's first book and one of the few he wrote *as a book* and not as a composite of articles, transcripts, or letters. Many of his original and lifelong metaphors and strategies were introduced in this volume. A projected final chapter, “From Bibble to Bible to Babble,” was rejected by the publishers because its concrete poetry format was deemed too radical for inclusion in a trade book. The end papers anticipate the Dymaxion airocean world map. There are five appendices documenting Fuller's virtuosity in large patterns: (1) on the chronology of scientific events from the ancient world to 1936; (2) coincidence of U.S. population centers with isotherm of 32° F; (3) U.S. to become world's greatest exporter; (4) world copper production and consumption; and (5) growth of U.S. industry correlated with inventions.

Untitled Epic Poem on the History of Industrialization, with an introduction by Russell Davenport. Published in two separate paperback original editions from the same plates. Both now out-of-print. [[FW62](#)]

(1) Highlands, North Carolina: Jonathan Williams, publisher, the Nantahala Foundation (Jargon Series 44), 1962 (\$3.50).

(2) New York: Simon and Schuster, 1962 (\$1.95).

Jonathan Williams and Fuller became friends at Black Mountain College in North Carolina in the 1930s. Williams was delighted when in 1962 Fuller offered him a grant to help bring out this long poem in the Jargon Press series. Williams knew nothing about the concurrent Simon and Schuster edition until some years later when he came across a copy in a bookstore. Given Fuller's casual approach to the publishing process this kind of funny coincidence was not unusual.

Russell Davenport was an editor at Fortune magazine during the period from 1938 to 1940 when Fuller was a consultant. (Davenport was later national campaign manager for Wendell Willkie in the Republican campaign of 1940.) Almost buried on *the back* of the folded inside flap copy of the Jargon edition is Fuller's statement that he and Davenport closely collaborated on the *Industrialization* piece: "About 10 percent of the wording was Davenport's" and "...neither of us ever hoped it would find a publisher." In the introduction Davenport describes Fuller as "not a poet in words" but "a poet in science," and he had once described Fuller in Fortune as "the first poet of industrialization."

Hugh Kenner has characterized this anthem to American industry as "our only readable didactic poem."

Education Automation, Freeing the Scholar to Return to His Studies. Carbondale: Southern Illinois University Press, 1962. Hardcover (\$2.00). Republished in paperback by Doubleday Anchor (A0-30), 1971. Republished in London in hardcover by Jonathan Cape, 1973. [\[Ful62\]](#)

A transcript of Fuller's discourse to a university planning committee.

No More Secondhand God, and Other Writings [\[Ful63b\]](#). Carbondale: Southern Illinois University Press, 1963. Hardcover (\$4.00). Republished by S.I.U. press in the Arcturus paperback series in 1967 (\$2.45). Republished by Doubleday Anchor (AO-33) in 1971 (\$2.95). Vernon Sternberg of the S.I.U. Press was responsible for bringing out the first edition of this collection of occasional pieces. In addition to

the title piece, written in 1940, it includes other blank verses: “Machine Tools,” 1940; “The Historical Attempt by Man to Convert His Evolution from a Subjective to an Objective Process,” 1948; “Universal Requirements of a Dwelling Advantage,” 1917–62; “The Fuller Research Foundation,” 1946–51; “A Comprehensive Anticipatory Design Science,” 1956; and two prose essays with geometrical diagrams and tables, “Introduction to Omnidirectional Halo,” 1959, and “Omnidirectional Halo,” 1960.

I once asked Fuller whether *No More Secondhand God* meant secondhand as in clothes or second hand as in watch? He seemed bemused by the question and answered with a casualness I found suspect—“Now that you mention it,” he said, “I suppose both.”

Ideas and Integrities: A Spontaneous Biographical Disclosure. Englewood Cliffs, N.J.: Prentice-Hall, 1963. Republished in paperback by Collier Books, 1969. [\[Ful63a\]](#)

A major compendium of occasional writings with photographs and an index. I was able to establish dates for most of the chapters as follows: (1) “Influences on My Work,” January 1955; (2) “Later Development of My Work,” June 1958; (3) “Margaret Fuller's Prophecy,” November 1932; (4) “The Comprehensive Man,” January 1959; (5) “I Figure,” December 1942; (6) “Fluid Geography,” April 1944; (7) “The Cumulative Nature of Wealth,” from *Earth, Inc.*, 1947; (8) “Domes—Their Long History and Recent Developments,” first published 1963; (9) “Comprehensive Designing,” 1 June 1949; (10) “Design for Survival—Plus,” January 1949; (11) “Preview of Building,” 1 April 1949; (12) “Total Thinking,” May 1949; (13) “Prime Design,” May 1960; (14) “The Architect as World Planner,” July 1961; (15) “World Planning,” September 1963; (16) “The Long Distance Trending in Pre-Assembly,” no date established; (17) “The Future,” no date established; (18) “Continuous Man,” 1963; (19) “The Designers and the Politicians,” 1962.

The essay “Total Thinking” in this volume is a dense rhapsody ranking with “Omnidirectional Halo” (in *No More Secondhand God*) as one of the two most concentrated expositions of the major psychological and philosophical themes in Fuller's work, including man's conscious participation in his own evolution and the concentric organization of individual and group observations of experience.

“Total Thinking” and “Omnidirectional Halo” depart from the common pattern of transcripts of extemporaneous oral discourse; they show the kind of writing that Fuller is capable of when he is alone with his thoughts and putting it all down in longhand with no one else's assistance whatever.

Ideas and Integrity was organized and edited by Robert W. Marks who also contributed an introduction and participated in the initial royalties.

Operating Manual for Spaceship Earth. Carbondale: Southern Illinois University Press, 1969. Hardcover (\$4.25). Republished by Simon and Schuster as a Clarion paperback, 1970 (\$1.95). Republished as a Pocket Books paperback, November 1970 (\$1.25). Republished as an E. P. Dutton paperback, 1978 (\$2.95). [[Ful69a](#)]

Of all of Fuller's books this is the simplest introduction to his thinking and the most accessible for the general reader. It is a transcript of a lecture that Fuller gave to a meeting of the American Institute of Planners in Washington, D.C., in October 1967. A member of the institute, William R. Ewald, Jr., and his wife edited the tape from a faulty transcript and prepared it for initial publication in *Environment and Change*, issued by the Indiana University Press.

Utopia or Oblivion: The Prospects for Humanity. New York: Bantam Books. Paperback original, December 1969. Republished in hardcover in London by Allen Lane, The Penguin Press, 1970. [[Ful69b](#)]

A substantial compendium of transcripts of lectures during the period from 1964 through 1967. The individual transcripts were edited and this anthology was organized by Robert W. Marks who was science editor of Bantam Books at the time. Marks also contributed a signed introduction.

The Buckminster Fuller Reader, edited and introduced by James Meller. London: Jonathan Cape, 1970. [[FM70](#)]

This anthology—available only in England—recapitulates all of the essays in *Ideas and Integritys* except for the three chapters 9, 14 and 17. It also contains “Universal Requirements of a Dwelling Advantage” from *No More Secondhand God*, and two pieces not elsewhere published in book form: “Buckminster Fuller Chronofile” and “Designing a New Industry.”

Intuition. Garden City: Doubleday, 1972. Hardcover (\$5.95). Revised edition in Anchor paperback (AO-58) (\$2.95). [Ful72]

In 1970 and 1971 Fuller was concurrently composing a poem suggested by his new Morgan sloop “Intuition” and rewriting, with my collaboration, the projected first chapter of *Synergetics* called “Brain and Mind.” Fuller agreed with my suggestion that this first chapter had an integrity of its own separate from the rest of the *Synergetics* manuscript, and he felt that both of these works had an urgency that argued for their publication at the earliest possible date. With the help of Bill Whitehead, our editor at Doubleday, they were combined in *Intuition*, the first of his two books of blank verse.

Earth, Inc. Garden City: Anchor Press/Doubleday, 1973. Paperback original (AO-62). [Ful73]

A collection of occasional polemical pieces on the continuing theme of making the world work.

Synergetics: Explorations in the Geometry of Thinking, in collaboration with E. J. Applewhite. Preface and contribution by Arthur L. Loeb. New York: Macmillan, 1975. Third printing, 1978. Macmillan paperback edition, 1982. [FA75]

And It Came to Pass—Not to Stay. New York: Macmillan, 1976. Hardcover (\$6.95). [Ful76]

Seven compositions in blank verse form. The best known of these poems is not the title work but the often-cited “How Little I Know” and “What I Am Trying to Do.”

Tetrascroll: Goldilocks and the Three Bears. Published jointly by Universal Limited Art Editions (ULAE) and St. Martin's Press, New York, 1977. [Ful82]

A series of twenty-one original triangular lithographs (with narrative captions) which may be displayed in a helical scroll of linked tetrahedra. They were executed during the years 1975 and 1976 under the guiding light of Tatyana Grosman (to whom Fuller had been introduced by Edwin Schlossberg) at her ULAE print workshop in West Islip, Long Island. In something of a publishing innovation this trade book was brought out concurrently with a limited edition of the signed original lithographs. Michael Denny was the editorial impresario at St. Martin's and Ronald Feldman Fine Arts handled the exhibition of the lithographs.

Fuller composed the *Tetrascroll* between the publication of *Synergetics* in 1975 and *Synergetics 2* in 1979. He had been frustrated by the rigid structure of the synergetics books which, despite certain advantages, he felt robbed the work of spontaneity and narrative force. To compensate for this Fuller worked feverishly on the *Tetrascroll* as a free-form obbligator to the synergetics books. He explained to me at the time, "The empirical, the scientific way to present the argument of synergetics is the way I am doing it in *Goldilocks*."

Synergetics 2: Further Explorations in the Geometry of Thinking, in collaboration with E. J. Applewhite. New York: Macmillan, 1979. Macmillan paperback edition, 1983. [FA79]

Synergetics 2 contains a ninety-page index to both volumes. They comprise a single work with the sequence of paragraphs numbered to dovetail in a single integrated narrative. They should eventually be published as a single work eliminating the artificial division into two volumes resulting from the chronology of their composition.

Critical Path, with Kiyoshi Kuromiya, adjutant. New York: St. Martin's Press, 1981. In both paperback and hardcover (boxed). [Ful81]

A mature summation in one volume of all of Fuller's lifelong design artifacts and planning strategies. It has an introduction on the "Twilight of the World's Power Structures" and presents a systematic critical-path analysis of the crisis of humanity in this century—his most urgently polemical prescription for the geosocial revolution. As the book went to press he told me fervently that *Critical Path* was by far his "best and most important book because it has everything you wouldn't let me put in *Synergetics*."

Grunch of Giants. New York: St. Martin's Press, 1983. Hardcover (\$8.95). [Ful83a]

Grunch stands for “Gross Universal Cash Heist,” a graphic turn of phrase intended to excite and admonish. This is a hortatory sequel to *Critical Path* and its program for individual dedication to strategies for making the world work. Kiyoshi Kuromiya's role in helping Fuller prepare this book for publication was equal to if not greater than his contribution as adjuvant—Fuller's term—in *Critical Path*.

Inventions: The Patented Works of R. Buckminster Fuller. New York: St. Martin's Press, 1983. [Ful83b]

An oversize volume presenting photographs and facsimile drawings of twenty-eight of Fuller's patented inventions from 1927 to 1983. It contains an autobiographical introduction, “Guinea Pig B”—“B” is for “Bucky,” who always said “I'm the only guinea pig I have.” An appendix recapitulates Fuller's honorary doctorate citations with notes by St. Martin's editor Michael Denny whose close collaboration with Fuller included review of the final galleys, which was not completed until after Fuller's death. 356 pages with 75 photographs and more than 400 drawings.

The Artifacts of R. Buckminster Fuller; A Comprehensive Collection of His Designs and Drawings in Four Volumes. Edited with descriptions by James Ward. [FW84]

Volume One. *The Dymaxion Experiment, 1926–1943*

Volume Two. *Dymaxion Development, 1927–1946*

Volume Three. *The Geodesic Revolution, Part 1, 1947–1959*

Volume Four. *The Geodesic Revolution, Part 2, 1960–1983*

New York: Garland Publishing, Inc. 1985.

Engineering and architectural drawings from the Fuller archives. In addition to the editor's introduction, Volume One contains a chronology of Fuller's career and a bibliography. A profile of Fuller written by Calvin Tomkins, “In the Outlaw Area,” which originally appeared in the *New Yorker* (8 January 1966), is reprinted here in full at the suggestion of Mr. Fuller's daughter Allegro Snyder and through the courtesy of Mr. Tomkins.

A Special Note:

The Dymaxion World of Buckminster Fuller, by Robert W. Marks. New York: Reinhold Publishing Corp., 1960. Republished by Southern Illinois University Press, 1969. Republished by Anchor Press/Doubleday in paperback (A0-35), 1973. [MF60]

This book by Robert W. Marks is a special case as strictly speaking it doesn't belong in a bibliography of books by R. Buckminster Fuller since it is a book about him. But it is almost a book by Fuller, for Marks says in a prefatory note that there are many quotations and paraphrases based on personal conversations with Fuller, and besides, when the book was in galleys, Fuller intervened and rewrote and amplified many of the captions.

The Dymaxion World of Buckminster Fuller is copiously illustrated. It was for many years the only available introduction to all aspects of Fuller's work and it remains the most comprehensive and sympathetic one.

It should be noted for the record that the S.I.U. Press edition of 1969 is not a "second printing" as indicated in the front matter, but actually a second publication after the Reinhold edition had gone out-of-print. To make the S.I.U. Press republication possible, Marks was reluctantly persuaded to relinquish his rights in the book to Fuller. To confound matters further, the revised Anchor Press paperback edition of 1973 was brought out without consultation with Marks and (though throughout the text it consistently refers to Fuller in the third person) it lists Fuller first on cover and title page as co-author.

Over the years, a number of other books have appeared that give Fuller's name as co-author. I have omitted them from this listing as his connection with such works was invariably too casual or too remote to implicate him in the result.

When Fuller died he left behind for us a virtually completed manuscript for his posthumous work *Cosmography*, and when that eventually appears in print it will become the nineteenth and final book in the Fuller canon.

Sample Entries Edited by Fuller

c-yctK

RBF DEFINITIONS

Cycle:

”Convergence to frequency magnitude is tunability.

As with all wave phenomena, tunability is in terms of *a du Uc-Z?CINC- TO*
whole cycles ~~twi- (uyuled~~ a vertex.

Three intervals plus three events = tetra.

**Four intervals plus four events = octa. Five intervals plus five events
= icosahedron There are no other fundamental cycles.**

- Cite RBF holograph, Synergetics Notes, 1955
- Sketch by RBF, Santa Barbara, 10 Feb 1973

y

RBF DEFINITIONS

Death:

Both death and life are
electromagnetic experience

Z>- R

“Primitive

nothing to

do

- Cite RBF to EJA, Wash, DC, 18 Jul’76; RBF rewrite 19 Jul 1976

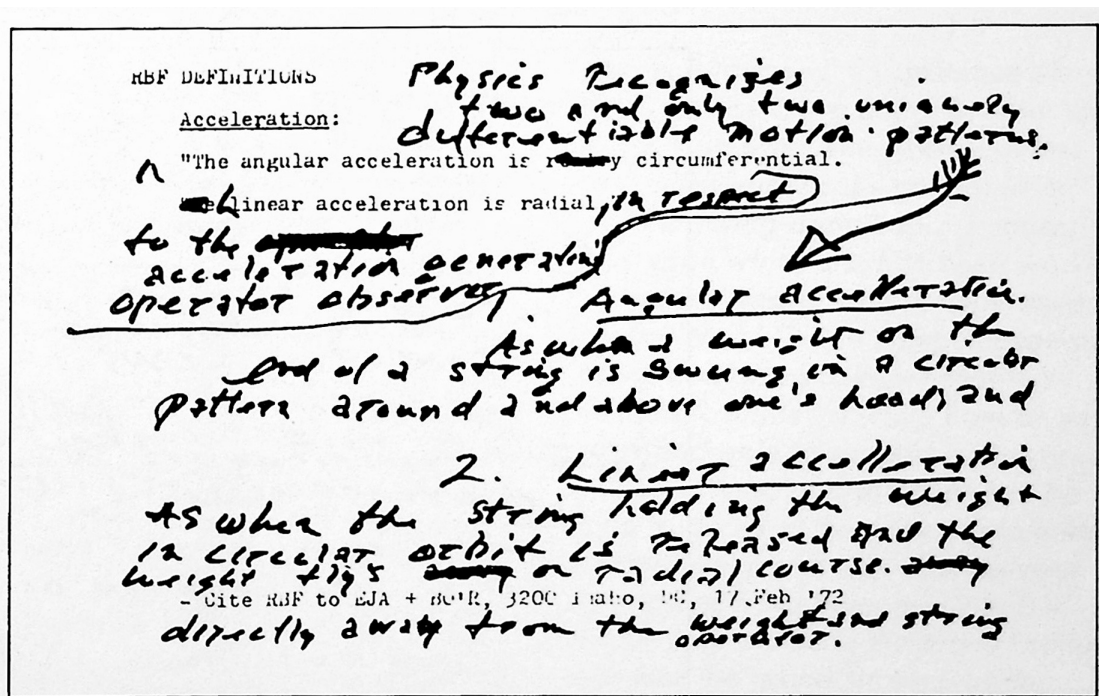


Figure 7: Acceleration

RBF DEFINITIONS

Cycle:

"Convergence to frequency magnitude is tunability.

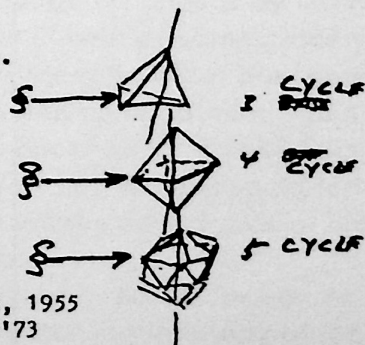
As with all wave phenomena, tunability is in terms of whole cycles to ~~converging to~~ ^{converging to} ~~(cycled with 1/2)~~ a vertex.

Three intervals plus three events = tetra.

Four intervals plus four events = octa.

Five intervals plus five events = icosahedron.

There are no other fundamental cycles.



- Cite RBF holograph, Synergetics Notes, 1955
- Sketch by RBF, Santa Barbara, 10 Feb'73

Figure 8: Cycle

of our

3

pt-

a

"We don't have two Universes. Death is only the as-yet
unexperienced... very long-wave, super-low frequencies. _x

fr'S

Primitive;

ords

is what you[^]wey without

with Russian or English

grid "f, p," Th r qiiunijii Hum

How to Use the *Synergetics Dictionary*

The description of the dictionary and instructions for its use are divided into the following sections: Rationale; Captions; Citations; Cross-References; Scope; File Indicators; Tomographic Effect;

Enter with Your Word: Exit with Fuller's.

0.10 RATIONALE

The design of the dictionary derives from the assumption that Fuller's idiosyncratic style, difficult syntax, and predilection for oral discourse make his message not easily accessible to the average reader. He has a penchant for juggling several themes at once in an interwoven tapestry of exposition. Even his most terse and pithy statements benefit from being read in context. Sometimes an extended metaphor may take him pages to complete while he strings together a provocative pattern of digressions and observations.

For example: "Time is an invention." Certainly this thought is an arresting one. It merits being abstracted for comparison with other Fullerian inventions. But to get the author's full philosophic intent it must be read in context where the dictionary file card indicates it may be found, at both *Twelve Universal Degrees of Freedom*, 29 May 1972, and *Timeless*, 1 April 1972.

Thus the rationale of the file is to provide the reader with both the short focus on the isolated aphoristic net statement—or definition—as well as the full context from which the word or phrase was abstracted. At the price of redundancy, the dictionary affords both.

Letter to Dale Klaus: On the ninth of February, 1970, Fuller wrote a letter to his administrative assistant at Southern Illinois University in Carbondale, which read in part:

Dale:

Please arrange with Constance Abernethy [a free-lance editor in New York] to have an exhaustively cross-referenced, alphabetically coded, first-word indexing of my topical concept files upon which she has been working for several years. I feel it imperative for the World Game computerization of the scenario strategies that this work be completed while I am as yet alive and able to supervise its insinuation into the total playing and to be able to do so at the outset before lines of alternative and less alternative strategems have been hardened—which may preclude the ready insinuation into the grand strategy of the insights and concepts which I have been employing successfully over the years. ...I want you also to study the means...to package up all the concepts for quick retrieval printouts to save me from a fantastic magnitude of repetitive discourse and writing.

Commencing exploration: The best way to judge an atlas is by looking up your hometown or some place you are familiar with. What are some phrases that come to mind when you think of Buckminster Fuller? Such phrases or keywords should lead you to main entries or a choice of cross-references.

If nothing in particular comes to mind, try starting in at any of the following:

Starting with Universe

identity

Technocracy

Social Sciences: Analogue to Physical

Sciences

Games

Sex

Dreams

Prognostications about Future of Man

Artist

Walking

0.11 CAPTIONS

At the top left-hand corner of every dictionary entry, and above the underlined caption, is the phrase “RBF DEFINITIONS.”¹⁸ The caption itself, whether a word or a phrase or a clause, is always underlined. And the caption is invariably in Fuller's own language wherever it is followed by an excerpted text. Captions which are not representative of Fuller's vocabulary are employed only for purposes of cross-reference.

0.12 CITATIONS

Citations are listed as the bottom line or last two lines of the file-card entry. They are from both published and unpublished sources. Published sources list the title of the volume in capital letters, the page number or numbers, and the year of publication. Only a very few unpublished sources are undated; most unpublished citations provide month, day, and year as well as a geographical location. One of the purposes of the precise dating of citations is not only to list them in proper order for cross-reference but to provide a documentation of the evolutions and refinements of Fuller's phraseology of his concepts over a period of many years.

The major published sources for citations in this dictionary are the two volumes *Synergetics* and *Synergetics 2* published by Macmillan in 1975 and 1979; in these cases, citations are to section number rather than page number. In many cases the cited text will have preceded or anticipated the text of the books as finally published; in these cases section numbers have been provided retrospectively.

Synergetics 2 is sometimes referred to as “Synergetics, 2nd. ed.” Section numbers cited in italics (e.g., Sec. 100.020) or preceded by “s” (e.g., Sec. *si00.020*) also refer to *Synergetics 2*. The abbreviation “I & I” stands for *Ideas and Integrity*; “U or O” stands for *Utopia or Oblivion*. Citations such as these appearing in IBM typeface were prepared specially for the Garland edition of the dictionary.

18 Where the phrase “RBF DEFINITIONS” is three to five spaces to the left of the margin, this indicates all extracts included in the Princeton Datafilm microfiche edition of July 1976. In extracts cited since that date the phrase “RBF DEFINITIONS” is directly flush with the left margin.

0.13 CROSS-REFERENCES

There are three types of cross-references indicated by a number in parentheses in the upper right-hand corner of the file entry: primary reference (1); secondary reference (2); and third-level reference (3). An effort has been made to provide cross-references that are extensive if not exhaustive. However, some entries will have no cross-references, some will have only primary references, many will have both primary and secondary references, and only major subjects will be recapitulated with third-level references. Examples are as follows:

Primary references

(1)

Membrane:

See Diaphragming

Invisible Trampoline

Occulting Membranes

Omnidirectional Shutterable Sieve Monometric Bubble Skins

Electromagnetic Membrane

All entries under each cross-reference refer to the caption *Membrane*.

Sweepout: (1)

See Ecology

Deployment: Man's Increasing Deployment Pattern

Human Sense Ranging & Information Gathering

Locomotion: Radius of Man's Locomotion

Man's Universe Penetrations

Man's Degrees of Freedom of Action

Outreach

Radial Reach

Reachability Range

Science-Technology-Industry-Economics-Politics Sequence

Travel in a Human Lifetime

All entries under each cross-reference refer to the caption *Sweepout*.

Secondary references

Membrane: (2)

See Bubbles, (2)

Domains of Actions, 21 Dec 1971

Privacy, 22 Apr '61

Only the specific entry cited in the cross-reference refers to the caption *Membrane*.

When an asterisk (*) appears following a citation in the listing of secondary references, it means that you need not bother to look it up in its primary location, as that particular

reference has already been abstracted and retyped for inclusion (in proper chronological sequence) among the subject captions in the upper left-hand corner.

Third-level references

Cosmic: Cosmos: Cosmology:

See Cosm

Cosmetry

Cosmic Accounting

Cosmically Bankrupt

Cosmic Bridge

Cosmic Coherence

Cosmic Communication Circuits

Cosmic Complementary...

(3)

The third-level cross-reference card recapitulates all the subordinate captions under the major topic.

0.14 SCOPE

The editor has attempted to be highly selective and discriminating in compiling this dictionary. Fuller's vocabulary is unconventional but consistent, in both its employment of invented words and its use of familiar words in a special way. Wherever possible both the most concise and the most all-embracing definitions are presented, always in the author's own words.

There are two main classes of entries (intermingled by alphabetical accident):

Definitions: The definitions are explicit statements of what RBF means by each word he uses. Some words in the Fuller litany are limited to the most graphic examples. In only a few categories does the file attempt to be exhaustive, mostly with abstract or philosophical concepts. In some cases there appears a fairly exhaustive record of the chronological evolution of the author's phraseology.

Metaphors: Sequences: "Metaphors" and "sequences" are the terms used to describe the many frequently recurring narrative passages employed primarily in RBF's oral discourse. These are captioned and indexed under a selected salient phrase, all of which are recapitulated under the file indicator Sequences. Sometimes as many as a half-dozen different versions of the same theme are included in the files where there appear to be significant variations.

0.15 FILE INDICATORS

The file indicators comprise a virtual fourth level of cross-references in an effort to make every aspect of Fuller's language available to the reader for easy access. See page xiii of this volume for a list of the principal file indicators with page numbers.

0.16 TOMOGRAPHIC EFFECT

To illustrate how the *Dictionary* allows for exploration of the full context of an entry, one of the file entries for *Periodic Experience* is reproduced below. The words for which there are cross-references have been italicized in this example and references suggesting further planes of meaning have been added vertically.

Periodic Experience: (1)

“Mathematical concepts of group phenomena may be acquired in principle by the willingness (*subjectively* initiated) of the *individual* to be governed by the integrity of progressive conceptioning principle—the *objective synchronizations* are implicit and unavoidable competence and comprehensive, realizable design will result. Let us pursue further the conceptioning in specifics of *group principle*.

“It is not difficult to understand that the trends to synchronization by *harmonic interval* of one collection of events can seemingly and sumtotally create an aspect of such superficial incongruity in respect to the sumtotal collected harmonic events of other phases of functional disposition, of the differentiable Universe, as to predispose us to assume that there might never be synchronization of one major collection with another. We obviously incline to this predisposition by virtue of the persistence of the familiar in our own *environmental close-up*—thought, which causes the *dynamic* interpenetrations to appear as a *static*, rather than as a *periodic-continuity* environment reality.

- Cite TOTAL THINKING, I & I. pp. 237–238, May 1949

0.17 ENTER WITH YOUR WORD: EXIT WITH FULLER'S

<i>Enter with</i>	<i>Exit with</i>
Helicopter	Sky Tug
Artificial Intelligence	No Mechanical Mind
Hell	Ultimate Entropy
Infinity	Nothingness
Politics	Social Economics
Words	Unitary Communications Tools
Amphibious	Omnimedium Transport

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A

AAB Complex Three-quanta Module:

See Mite (Minimum Tetrahedron)

A & B Quanta Modules:

See Modules: A &, B Quanta Modules

ABC's:

See Education (2)

Letters of the Alphabet, Jun 1966

Artist, Jun 1966

Aberrating:

"Human beings do not live at perfection, they do not live at aero— we are always aberrating."

Aberration:

"Only the tetrahedron can accommodate the otherness which is the aberration, otherness being essential to awareness and awareness being the minimum statement of the experience

- Citation & context at Tetrahedron as Primitively Central To Life 3 Mar 1977

Aberration:

"There will always be at least one other critical proximity-imposing aberration restraint focus."

- Cite SYNERGETICS text at Sec. 1009.54; galley rewrite 19 Dec'73

Aberration:

"Human apprehending demonstrates a large assortment of lags in rates of cognitions whose myriadly multivariated frequencies of myriadly multivariated, positive-negative, omnidirectional aberrations, im multivariated degrees...produce elusive off- center effects."

(Synergetics : 801.13)

- Citation and context at Apprehending. 22 Nov*73

Aberrations

"Orbits are all elliptical due to the fact that unity is plural and at Bini-mum two. There will always be at least other critical proximity aberration with both of Its diametric alterations of orbit."

(Synergetics: 1009.54)

A,rratlon..LlgU-

"See the 15° between the 45° and 60°. ...

"We had 7° spherical excess. It could be that the two of then add up to 15° • • • Approximately? This could be the maximum possible aberration,"

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun'72

Armion Unit?

See Asymmetric Limits

Catalog of Alternate Transformative Options Rotational Aberrating Limit

Sao Orbits Ar® Elliptical

Rotational Aberrating Limit Wave-Frequency Aberrations Principle vs. Aberration Skew-aberrated

Human Beings it Complex Universee, (15) See Apprehending, 22 Nov
73

Cheese Tetrahedron, 20 Jan*75

Field, 14 Feb'73*

Frame of Reference, 4 Oct'72

Individuality it Degrees of Freedom, (2) Intereffects, 23 Sep'73 Lag,
21 Jan»75 Life, 23 May'72

Omnirational Control Matrix, 12 May'75

Perception, 6 Apr*75

Physical 'lefility, 4 Nov'73

Positive & Negative: Four Kinds, 10 Nov'74 Sixty Degreeeness, 16
Dec'73 Spheric Domains, 6 Nov*72 Tetrahedron, 10 Dec'73 Thinking,
Zerophase, (1)

Time is Only Now, 19 Jul'76

Tetrahedron as Primitively Central to Life, 3 Mar'77*

Human Beings at the Center, (1)

Abhorrence

*75

See Nonstate, 11 Sei Vacuum, 11 Sep'

A-Bomb: Souvenir A-Bomb:

"You can now buy a souvenir A-bomb. It makes a flash.
a bang, and produces a mushroom cloud of smoke. It's
made in Japan, of course."

- Cite I SEEM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Abortion:

"A foetus is just physical life, a bundle of reflexes like a chicken running around with its head cut off.

'` Consciousness and identity begin not with conception but with birth. Awareness, that's the thing!...That's what begins with birth.

Wither the Oatholic Church survives or fails., depends on whether it can make this philosophic recognition,"

- Citation at Life Is Not Physical. 13 Jul'74

Abortion:

'` Without otherness there is no consciousness and no direction If there were only one entity--- say it is a sphere called *ae there would be no Universe: no otherness: no Awareness..,*

- Citation 4 context at Otherness. 28 May'72

See Life ie Not Physical, 13 Jul'74* Othernesa, 28 May'72* Woman is Continuous, 11 Aug'77

Abort & Below >

See "Out" ae the Containing <k the Contained, 5 May'74

Absolute:

"When people talk about 'abeolute* they always mean something physical--- the way they say 'an absolute gem!'"

(In response to query from EJA: why isn't 'absolute* metaphysical?)

- Cite RBF to EJA, 3200 Idaho, Washington De, 22 Jan '72.

Absolute;

"There appears to be an absolute of the acceleration vifcrd the speed of light and a slowdown toward eternity."

- Citation and context at Eternal Slowdown (2)_t 1970

HBF DiFINITIUNS

Absolutes:

"...There are no 'absolutes' *

**--- No 'ends' in themselves-- no 'things' --- Only transitionally trans-
formative verbing."**

Cite HOW LITTLE, p. 52. Oct '66

Absolute:

"The absolute would be

Nontransformable, /tatic, and weighable

Ergo, experimentally meaningless."

- Cite HOW LITTLE I KNOW, Oct. '66, p. 59.

See Spaceship Earth, 21 Jan'77

Absolute - Center:

See Lag, 21 Jan'75

Absolute Contraction:

Seo Vector Equilibrium, (1}

AI»81Mt».fin«rari

SM Time »a. Enargy, Dac'40

Ahflalutfl Expanalan:

See Vector Equilibrium, (1)

See God, 10 Feb»73

AbsfilmaJlaai:

See Heat

. Zero

"Experience is all temporary. Between experiences le the ever eternal netaphyaical, which cannot be converted into existent. Zerophase, i.e., the absolute integrity, is a metaphysical potential in pure principle but is inherently inactive."

- Citation and context at Zerophase. 4 Nov*73

Absolute Integrity:

See Design, 8 Sep*75

Absolute Interconnectedness:

See Einstein: Unified Field Theory, 31 Jan'75

Abaolws MYnttry-

See A Priori Myetery Integr ity Mystery

Sea Fireworks (3)

(2)

Omniinteraccommodation, May'72 Science, 1972

"The tetrahedral and vector equilibrium models in the isotropic vector matrix provide an absolute accomodation network of energy articulation, including the differentiated proclivities of...

together with the integrated synergetic proclivities of.

together with the intertransformative behavioral phases.

and the mensurablities elucidating the disciplines of..

explorations for comprehensive rational-number constants."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 201.11, 10 Nov'74

Absolute Network:

See Isotropic Vector Matrix

See Eternal Universe & Physical Universe, May¹72 Hanning Sheet Metal, (1)

Aboolute Relationehlg:

"Dlmenalon may ba unlveraally and Infinitely altered without altering the abeolute relatlonehln of the system."

- Citation at Dimension, Oct*5y

Absoluts ^sllsncs;

Sea Inertia, 20 Dec*7!5 6 Nov'73

See Absolute Velocity Terminal Speed Top Speed: Top Velocity

See Scenario vs. Absolute Symmetry

See Critical Proximity Threshold, 19 Jun*71

Abasluta Ting:

See Time vs* Energy» Dec'40

Absolute Velocity;

"The significance of Einstein's electromagnetic radiation's top speed unfettered in vacuo is that there is a cosmic limit accomodation point of complete regeneration by which Universe is the only and minimum perpetually self-regenerative system."

(Original context at Wow: The Last Wow (B)(0))

- Cite RBF rewrite of SYNERGETICS galley at Sec. 334, 30 Oct'73

"The apparently different velocities, or rates of acceleration of which the physicist speaks do not truly exist. • . . Velocity is always 186,000 miles per second."

w Citation and context at Shunting; Relative Motion Patterns

See Acceleration (Absolute Velocity}

A11-acceleration Universe

Charts: Rotate Our Charts 90 Degrees Dynamic Equilibrium

Energy Slower than Intellect

Eternity: Equation of Eternity

Intellect Seconds

Intellect: Speed Of

Minimum Lag

No Change

No Speed

Norm of Einstein as Absolute Speed

Radiation: Speed Of

Terminal Speed Top Speed: Top Velocity

See Eternal, 7 Nov'73

Intuition, 27 May*72 Omnipotence, 197« Relative Motion Pattern#
(!) Wow: The last Wow, (B)(C)* Zero, 19 Jul'71 Eyes, 1964

wiadaBi

See Conceptual Totality, May*72

AbfiolHt? Z.?F9?

205.02

251.02

427.01

443.02

See Heat vs. Zero

Zero Energy

See Vector Equilibrium: Field of Energy, (B) Water, 7 Nov*75

See Cold Valve of Absolute Time Cosmic Absolutes Dead Center of
Universe Exact

Hot Valve of Absolute Energy

Limit

Limit Case No Absolutes Number: Cosmically Absolute Numbers Pure
Principle Pure Science Events Ultimate

Minimum Limit Case Zerophase

See Angular Fractionation, 25 Sep*72 Equiangularity, 25 Sep'72 Eternal Slowdown, (2)* Pattern Cognisance, 20 Dec'71 Science. 1947 Truth, Jqn'72 Twilight Zone. 22 Jun'75 Principle, 6 Apr'75 Regular - Uniangular, 11 Dec'75

See Absolute Admirals Absolute □ Center Absolute Contraction Absolute Energy Absolute Expansion Absolute Generalisability Absolute Heat Absolute Integrity Absolute Mystery Absolute Network Absolute Order Absolute Relationship Absolute Speed Absolute Threshold Absolute Time Absolute Velocity

Absolute Wisdom Absolute Zero Absolute Silence Absolute Symmetry

Abstraction;

"Complete abstraction is a formidable force."

- Citation A context at Design Science A World Gama (B), 28 Apr'74

Abstraction:

"What the mathematicians have been calling abstraction is reality. When they are inadequate in their abstraction then they are irrelevant to reality. The mathematicians feel they can do anything they want with their abstraction because they don't relate it to reality. And, of course, they can really do anything they want with their abstractions but, like masturbation, it is irrelevant to the propagation of life.

"The only reality is the abstraction of the principles, the eternal generalized principles. . . Most people talk of reality as Just the after-image effects--- the realization lags, which register superficially and are asymmetric and off center. (The principles themselves have different lag rates and different interferences.) When we get to reality it's absolutely eternal."

"The inherent inaccuracy is what people call the reality. Man's way of apprehending is always slow: ergo the superficial and erroneous impressions of solids and things, which can actually be explained only in principle."

- Cite RBF to EJA, 3200 Idaho, 24 Feb »?2 Incorporated in SYNERGETICS at Sec. 220.10, 15 Nov'72

AJiaizajaiaa*

"Abstraction means pattern relationship independent of site. Shape being independent of size is abstractable."

- Cite SYNERGETICS, "Corollaries," Sec. 240.57. 1971

"Abstractions may be stated in pure principle of relationship." "Abstractions are conceptually shapable!"

"Different shapes, ergo different abstractions, are nonsimultaneous; but all shapes are de-finite

components of integral though nonsimultaneous, ergo shapeless, Universe."

- Cite SraSKGbTICS, "Corollaries," Secs. 240.58, 99, + 60. 1971

Abstraction;

"Vectors are not abstractions: they are resolutions."

(Synergetics: 62.40)

- Citation at Vector. 21 Dec*71

A,, Washington -06,-21

Abstraction;

"The imaginary 'abstraction' was so logical, valid and obvious in the pre-instrumental history of man that the mathematician assumed it was absolutely devoid of experience: he began with oversight,"

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

AfratracUoa-

"We cannot suggest that an abstraction could have a beginning and an end"

- Citation and context at Beginnings & Endings. Jun'69

AbftracUQP?

"...The negative weights are balanced by positive weights. The average of all the weights is therefore zero. This has extraordinary implications. We are dealing in a Universe of pure intellectual abstraction."

- Citation and context at Complementarity. Spring'66

Abstraction:

"By abstraction I mean an idealized empty-set, first- degree generalized statement such as one of my own, •Let's take a piece of rope and tense it.* This refers to any rope and is a first*degree generalization."

{N.B. This same context appears in HOW LITTLE I KNOW, pp. 28-29, Oct. 1966}

- Cite THE MUSIC IN THE NEW LIFE, U or O, p.14, 10 Dec'64

Abstractions:

"Only the old-time New Yorkers can know the great transforming dynamics and, more importantly, the city's myriad of rich abstract resources. Because pure abstractions such as love, hate, happiness, and inspiration are as invisible as they are nonmerchandisable, all the real meaning of New York is both invisible and nonmarketed."

- Citation A context at New York City. (fl); 1964

Abstraction:

"Abstraction Deane pattern relationship independent of else. Shape
ejrtna independent of size is abstractable.

"Abstractions may be stated in pure principle of relationship.

"Abstractions are conceptually shapable."

Cite COLLIER'S , p. 115, Oct'59

Abstraction:

"Abstraction has no pattern."

- Cite RBF marginalia in "Mathematics in Action " by O.G. Sutton. -
1955.

Abstract:

"All progressions are from material to abstract...

- Citation and context at Ephemeralisation. 1938

Atoractasn*

"Abstract thought dies with the thinker, but the mechanism was build-
ing for a long time.,."

- Citation and context at

In-vention. 19J8

RBF DEFINITIONS

Abstraction;

"There are no number 'abstractions.' There are pattern abstractions,
What is abstracted is the residual generalized pattern.*'

- Citation and context at Number Pattern. Raleigh, NC, undated

See Mathematics, 18 Apr'63

See Vector, 21 Dec'71

Abatrftct ra* Sanagrlal!

See Reality as Structural Interaction of Principles, 1y63

Abstraction of a Spacial Caaa:

See Vector, 16 Nay*72

See Centers of Abstract Truths Changeless Cipher City as Center
of Abstract Intercourse Conceptuality Independent of Siie & Time
Empty Set Mathematical Symbols Metaphysical Modelability of an
Abstraction Novent Timeless

See Advertising, 1964 Aesthetics of Uniformity, (3) Angle, 1938
Beginnings & Endings, Jun'69* Chord, 20 Feb'73 Complementarity,
Spring'66* Design Science i World Game, (B)* Ephemeralization,
1938* Eternal Principles, 22 Nov'73 Etymology, Aug*71 Experiential
Mathematics, 15 Oct'76 Generalized Principle, (B); May'68; 22
Jun'75 God, 7 Nov'75 Humans, May* 49 Intertransforms, 11 Sep*75
In-vention, 1938* Joyce, James, 1965 Line, 1938 Mathematics,
1965 New York City (8); 1964* Measurement Trends. 1938 How
Necessity, 1C Jan'50

See Number Patterns, undated* Platonic Solids. 12 Jul'62 Principle,
Jun'o9: (2) Relationships, 19oC Shape, Oct'59 Teleology, (1) Universe
(p.ljl) 1960 Vector, 21 Dec'71* Wave, b Nov* 73 Infinite, 15 Oct'72

See Abstract vs. Energetic Abstraction vs. Resolution Abstract vs.
Sensorial Abstraction of a Special Case

RBF DEFINITIONS

Absurd:

"Eddington's generalised science could look with equal validity for less economical orders. Thus was Boolean Algebra discovered by deliberate employment of the absurd. i.e., the nonexperience which would mean the deliberately noneconomical. Reductio ad Absurdum is often a powerful tool of scientific exploration."

- Citation & context at Environment Events Hierarchy (6), Jun'66

See Reductio ad Absurdum

Absurd:

(2)

See Boole, 1970 „

Environment Events Hierarchy, Jun'bb*

See Constant Relative Abundance Coordinate Abundance Ratios Plenitude Relative Abundance Interabundance

Topological Abundance Enough to Go Around

See Life, 22 Apr'60

Fighting, 7 Nov'67

AcMOWIC PlfttlPlllltf!

• Tou My it waa my ambition to integrate the disciplines in one grand system* I did not have any ambition about it. I simply assumed that Universe operates in an integrated way--and you can't understand it by isolating any of it or taking it apart."

- Cite RBF to EJA, 32 00 Idaho, Wash, DC; 11 Aug'76 Incorporated in COSMIC FISHING: MS. p. 11 -4.

^Acf4flinlc Disciplines:

See Self -discipline. 28 liar¹??

Professors, Jun'66

Academic Tenure:

See Tenure

Acceleration;

"...We must recall that what man has been calling 'linear is simply big orbit seemingly escaping at 90° from local orbit. There are only two kinds of acceleration: greater and lesser, with the lesser being like the radius of the nucleus of an atom in respect to the diameter of its electron shell.*¹

- Citation & context at Orbital Escape from Critical Proximity, (3), 29 Dec '73

Acceleration:

"...Angular accelerations are in finite package impellents which are chordal (not arcs)*.."

- Citation and context at Hexagon. Nov*71

Acceleration:

"The metaphysical works toward the eternal slowdown and becomes steadier, the physical alone accelerates and is fast. It is really only the destructive or negative things that accelerate. Popular music is getting more and more noisy, raising more and more of a row; it is purely physical. 1 lets physical is in exactly the opposite direction

- ClteHUr ne/aue 1'ni rum ft p, 9

- Citation and context at Eternal Slowdown (3), circa 1970

Accelerating Acceleration:

"The concept of accelerating acceleration was discovered by Galileo and later identified with gravity by Newton.*"

- Cite UTOPIA UR OBLIVION, p. 3 (Citizen of the 21st. Cent.)

1 Apr'67

AcceleratAng Acceleration:

See Antientropy, 20 Jun'66 Moment: Momentum, 22 Jun'72 Improvement, May'49

"There appears to be an absolute of the acceleration toward the speed of light and a slowdown toward eternity,"

- Citation and context at Eternal Slowdown (2), 1970

See Expanding Physical Universe vs. Contracting Metaphysical Universe

Syntropy A Entropy

^A GC Ale ration: Angular k Linear 8

"Release from angular acceleration appears to be linear acceleration but the linearity is only theoretical. Linear acceleration is the release from the restraint of the nearest accelerator over to the angularly accelerative or decelerative restraint of the integrated vectorial resultant of all the neighborly dominant forever-otherness restraints in Universe. Linear acceleration never occurs because there is never innocence of otherness,"

$C^1 J?H_{on} 2t^{htr^{naaa}} \gg \ll t Einpt.ir.i$

Orbits, (1) , 20 May *75

Acceleration: Angular &. Linear:

"Physics does not speak of motion; it speaks of acceleration* And physics has identified only two kinds of acceleration--- linear acceleration and angular acceleration. We are informed experientially that this is a misinterpretation of the data.

"There are indeed two kinds of acceleration but they are both angular. All accelerations are angular and cyclically complete There are no open endings in Universe. Physics has discovered only waves and no straight lines.

"The angular accelerations, however, manifest a vast variety of radii. The differentiation of physics into linear and angular occurred when the humans involved failed to realize the the diameter of the little circle is always a small arc of a vastly greater circle passing through it. The greater the radius the slower the total cyclic realization. There are no straight lines or 'linear infinities.' Realization of this is what Einstein spoke of as 'curved space. •"

- Cite SYNERGETICS draft at Sec. 1009.51,52,53, U Feb'73

Acceleration: Angular and Linear Acceleration:

"Angular and linear acceleration are discretely and descriptably identifiable with respect to one another and their intertransformability is precessionally accomplished."

- Cite RBF to EJA, Pepper Tree Inn, Sqnta Barbara, 11 Feb'73

KBF Dr.FIMTltf»ti

"Physics recognizes two, and only two, uniquely differentiable motion patterns:

(D Angular Acceleration: As when a weight on the end of a string is swung in a circular pattern arpun and above one's head; and

(2) Linear Acceleration: As when the string holding the weight in circular orbit is released and the weight flies a radial course' directly away from the weight' and string

operator.

The angular acceleration is circumferential. Linear acceleration is radial in respect to the acceleration generating operator oboerver."

- Cite ABF 19 Feb '72 re-write of 1? Feb citation.

AfiwXsmiMU Anadir &

"The angular acceleration is really circumferential. The linear acceleration is radial."

- Cite RBF to EJA + BO'R, 3200 Idaho, Wash DC, 17 Feb'72

Accelerations: Angular & Linear:

"Angular accelerations are in finite package impulses which are chordal (not arcs) and produce hexagons because the average of all angular stabilizations from all triangular interactions average at 60 degrees. . . "

- For citation and context see Pi, Nov *71

A&E&L&M&B: Angular and Linear Acceleration:

In Synergetics there is a total "correspondence of radial wave modular growth with circumferential modular frequency growth of the totally involved vectorial geometry." This means that "angular and linear accelerations are identical."

- Cite Ltr. to Prof. Von Hochstetter

18 Oct 1964, p. 4 and footnote.

Acceleration: Angular & Linear: (1)

"There is something else that I will draw for you now that is not in the pictures that I have shown to you and it has to do with the phenomenon I was talking to you about: the insideouting of the tetrahedron. I spoke about the physicists having two ways of classifying the movements of the Universe, what they call acceleration.

"They have angular and linear acceleration. The angular accelerations go around like this while they are restrained from a common center; and the linear, when you let go of it, let go Just like that. When we let go of a rocket we just see a point for a very few minutes. The it

is outside and we put radar on it and we can tell where it is. We can only really do it in terms of the angular direction--- where it is going--- ana watuning clockx suy: •! know what it's velocity is; I know how far it is.'

"What we are doing is using a clock, which is an angular acceleration; and we say it went one minute, and two minutes, and so forth--- these are linear increments. What we call size are some kind of linear increments which you could treat in"

- Cite Oregon Lecture #6, p.21O, 10 Jul'62

AcfiaXsjatlsn: Angular A Linear: (2)

"terms of first and second power. You would not have a linear increment until the cycle was complete. We use some kind of cycle. It may be a cycle of atomic oscillation. Or it could be of a clock. But it is some kind of cycle, and until the cycle is complete you don't have an increment.

"Therefore we discover that in angular acceleration--- I started at six o'clock to play the game and I have only gone this far and I haven't made a cycle, and yet this is measurable.

"V/e find that an angle is subcyclic. We said there was no size until the cycle had been completed. V/e find an angle is a priori of no size: it has nothing to do with the phenomena size. The length of the edges are the linears and have nothing to do with what this angle is. Angle has nothing to do with size.

"It was one of these qualities of the tpahedron with the 60-degreeness, synmetry, and so forth, which was completely independent of size. I found this a very important discovery. We see the tetrahedron turning inside-out, so now you know what that one was about."

- Cite Oregon Lecture 6, p. 211, 10 Jul*62

"In the inherently subjective language of physical transformation of an omni-interaltering and accelerating Universe there are only two fundamental kinds of observable transformational changes, i.e. angular, or subunity alterations, and linear, or plural unity (frequency modulated) accelerations. These subjectively viewed transformations of Universe are also objectively and locally controllable by man through designed angle and frequency modulations.

"In the Energetic/Synergetic Geometry's isotropic, vectorially triangulated, omnidirectional matrix initiations the angular and linear accelerations are rationally and

uniformly modulated, whereas, in the XYZ coordinate analysis of the otulus only the linear is analyzable and the angular resultants are usually irrationally expressed."

- Cite UMiDIRECTIONAL HALO, p. 156 I960

See Hanner Throw Radial-circumferential Synchrosystem

See Energy Event, 9 Jul*62

Fourth Dineneion, 1965

Hammer Throw. 11 Feb *73

Maes, 16 Nov*72

Pi, Nov'71*

Twelve Universal Degrees of Freedom (1)

Vector Equilibrium: Spheres & Spaces (1)(2)

XYZ Coordinate System, 1960

Movement, 10 Jul'62

Otherness Restraints & Elliptical Orbits, 20 May'75*

Acceleration of Change? I¹)

"There is no longer valid dissent to the concept of accelerated change in the affairs of man on Earth. The average USA family now moves out of town every four years. My present official address for passport taxation combination is in Carbondale, southern Illinois, the sixth state in which I have had successive voting privileges. Whether I am in residence or not, my land, my house, and I whirl constantly around the Earth's axis together at about 800 miles per hour. All the while our little Spaceship Earth zooms around the Sun at 10,000 miles per hour, while at the same time our solar system rotates in its nebular merry-go-round at hundreds of thousands of miles per hour.

"In all reality I have not left home, as it is usually said of me. My backyard has just grown progressively bigger. Since now, the world is my backyard. Where do you live and what are you are progressively less sensible questions. As of now I am a passenger on Spaceship Earth. I don't know what I am. I know I am not a category hybrid specialization. I am not a thing, a noun. You and I seem to be verbs in evolutionary process. Are we not integral functions of the Universe?

"In 1917 in the U.S. Navy I had intuited that our intermultiplicated acceleration of technical events was beginning and that" - ItiJF to B. Farrell; Bear Island; Tape 6A, p.15, 16 Aug'70

Acceleration of Change: (2)

"would bring about a fundamental reorientation of human life on the Universe. This concept of accelerating acceleration had been discovered by Galileo circa 1600 with respect to the first laws of motion. They were not conceived of, however, as accelerating ecological evolution up to the date of my intuiting and acting upon its arrival. Discussion of economic* and evolutionary acceleration does not begin in the intellectual publications until more than a decade later. Nor did

my 1922-27 discoveries that ever higher tool performance per units of pounds, time, and energy fallout from the weapons industry into the domestic consumer economy, when erstwhile weaponry-support contractors sought to exploit their advanced technological position after their war goods contracts were terminated by progressive obsolescence. It was resulting in doing ever more with less, ever more with ever less in the domestic economy. This domestic economy thought only in terms of more security only to be accomplished with more weight.

"This reversal of affairs seemed to me to suggest that the Malthus dictum that only a few could survive, might be wrong. It seemed that it could come to pass that all humanity might"

- HBF to B. Farrell; Bear Island, Tape 6A, p.16, 16 Aug'70
Acceleration $Q? \text{ } ^c b^a n r > s: ^{13}$)

"become both physically and economically successful in the foreseeable future. I identified this progression of doing more with less as ephemerization. Fortune magazine published my 1922 concept of ephemerization in 1940 in a prominent manner. Despite ephemerization having subsequently wrought epochal advancements in the standard of living for two billion previously deprived humans, ephemerization is a fact that, in 1966, is largely unknown to or overlooked by the world's professional economists. Nonetheless the concept of accelerating acceleration and ephemerization have now brought 40 percent of humanity into the paradoxical state of world success, ergo apprehensive physical and economic success.

"I decided in 1917 to contribute to the scientific documentation of the emergent realization of the era of accelerating acceleration of progressive ephemerization. I determined to do so by methodical and chronological inventorying of all the human communications

in which I was personally involved, all mention concerning me transacted by others. I have kept this lifelong file, which I call the dymaxion chronofile...which consists bo of 250 volumes containing 80,000 letters, 300-400 pages per volume. The first important regenerative effect upon me of keeping this active chronological record was, I learned, to see myself as other see me."

" RBF to B.Farrel, Tape 6A, p.17, 16 Aug'70

Of Chan_{fig}:

"Speculation and initiative in the acceleration of change are alltime forces, and are as essential in the scheme of realism as suffrage and socialization of essentials and plenitudes."

- Citation and context at Technocracy,. 193d

AggcleraUgn of Change:

See Newton vs. Einstein (1)(2) Future of Synergetics, 22 Apr*68

^AGGP1Pratlon * ^D?golfiratlQD:

"Angular acceleration is the local accumulation of momentum; angular deceleration is the local depletion of momentum*"

- Citation & context at Otherneaa Restraints ft Silintical Orbits. (iJ, 20 May *75

AgggcleraUgn ft Pcctlemign:

ⁿ...Special case Belf-retraneforminge of physical evolution tend ever to accelerate, differentiate, and multiply...while self-remodifyings of generalised law conceptionings of metaphysical evolution tend ever to decelerate, simplify, consolidate and ultimately unify?"

- Citation and context at Scenario Universe, 22 Apr'68
See Acceleration (Beolute Velocity) *k* Eternal Slowdown
See Metaphysical and Physical, 22 Apr*68

Otherness Restraints it Elliptical Orbits, (2)* Acceleration: Angular & Linear, 20 May*75

See Precession (b)
(D)
See All-acceleration Universe

Deceleration

Feedback: Self-accelerating Feedback Hammerthrow

Information Gaining: Acceleration Of Interaction

Linear Acceleration

Omniaccelerating

Omniinteraccelerating Radial-circumferential Accelerations Size: Angle, Acceleration & Cycle No Linear Acceleration

toflwatlrig: A£.£.gl.?.m>.ori:
(2)

See Absolute Velocity. 1955 Eternal Slowdown (2) (3)* Hexagon.
Nov'71* Lags (1)(2) Mass. 16 Nov'72 Physical, circa 1970 Resultant,
22 Jul'71 Scenario Universe, 22 Apr'68 Somethingness, 16 Nov'72
Synergetics, (p.J3) undated Tidal, May'72 Wow (j)

Progressions, May'49

Periodic Experience, (8) Modulations, 17 Jun'75 Womb of Permitted Ignorance, (2)

See Accelerating Acceleration

Acceleration (Absolute Velocity) i Eternal Slowdown

Acceleration: Angular & Linear

Acceleration of Change

Acceleration & Deceleration Acceleration: Direct vs. Indirect

Accessory:

See Politics: Accessory After the Fact

Accidental ThtttwtlOTr:

"Is the human an accidental theatergoer¹ who happened in on the 'play of life' a»--- to like it or not--- or does humanity perform an essential function in Universe? We find the latter to be true."

~~- Site Design Strategy (Ltr. to Downtown), Chap. 11, U. or O
p.310, 20 Jun'66~~

- Citation and context at Identity. 20 Jun'66

See Drama: Earthian Drama "Life"

See Identity, 20 Jun*66*

Man as a Function of Universe, 22 Jul'71 World Game (3); Jun'69

AsUtaUsl:

(D

See Inadvertent Surprise Error

See Eternal Orderliness, 15 May'72

Fail-safe, 13 Sep'77

AcgonartAtlQiP

"Only the tetrahedron can accountnode the otherness which is the aberration, otherness being essential to awareness and awareness being the minimum statement of the experience, life,*

- Citation 4 context at Tetrahedron as Primitively Central To JJXft, 3 har*77

it BE dtHKITIUKS

Accommodation:

'Action and interaction of events are accompanied by relative displacements and accommodations of other events. For example, when a stone is dropped into a tank of water, the stone does not penetrate the water molecules. The molecules are jostled; they 'accommodate* the stone, and in the process jostle their neighboring molecules, which, in turn, jostle their own border companions. Thus waves of relayed jostling are propagated, such relayed wave, although a composite of local actions, provides a synergetic continuity of those actions. The consequence is a pattern of events which has an integrity of its own, independent of the local accommodations (which are innocent with respect to the overall synergetic pattern). .

. .

"The stone thrown into the tank inaugurates a complex of accommodative events operative in pure principle. . .

"When radio or television waves pass through the walls of a house, when light waves pass through a window or a lens, there are always some comprehensively relayed local jostlings, some sets of submicroscopic eddies of force, that accommodate the push through ..."

- Cite HARKS, p. 20, 1960

Accommodation: $AccQ_m > d_{fltor}$:

(1)

See Absolute Network

Cosmic Limit Accommodation Point

Discontinuity Accommodation Model

Exchange Agent of Universe Interaccommodation Inter-insulator Accommodation Inventory of Proclivities, Phases 4 Disciplines Multidimensional Accommodation Omniaccommodation

Tetrahedron: Dissimilar Rates of Change Accommodation

**See Isotropic Vector Matrix, 9 Mar*73 Local Vector Equilibrium, 2
Hov'73 Tetrahedron, 10 Dec'73 Wealth, 28 Jan'75 Gravity: Speed Of,
21 Oct'72 Tetrahedron as Primitively Central to Life, 3 Mar*77***

See Cosmic Accounting

Deficit Accounting

Economic Accounting System

Energy Accounting

Epistemological Accounting

Frequency Accounting

Intert.ransformative Number-value Accounting

Life-hour Production

Fa thematical Accounting

Metabolic Accounting

Mortgagization

Negative Accounting

Quantum Accounting

Resource Inadequacy

Scarcity

Synergetic Accounting Advantages: Hierarchy Of

Topological Accounting

Trial Balance Inventory

Cosmic vs. Terrestrial Accounting

Structural Accounting

Vertexial Accounting - Spherical Accounting

**See Triangular Accounting vs. Quadrangular Accounting Know-how
Accounting vs. Physical Accounting Cubing: Cubic Accounting**

**See Synergetics, Oct*71 Artifacts, 28 Jan'75 Coranunications Hierar-
chy, (2) Photosynthesis, 9 Jun*75**

See Evolutionary Accumulation
Expansion-contraction System Accumulation Rates
Accumulator;

See Flywheel Celestial Radiation Accumulators

See Approximate Exactitude Indeterminate Measurement
Observation

See Relativity, May'49
Truth as Progressive Diminution of Residual Error.

1 Feb'75

Life, 25 Mar»71
Acres Per Individual Human Blni:
See Population Sequence, (3)

See Accidental Theatergoer Cooed 4. Tragedy of Error Play Acting
Drama: Earthian Drama "Life"

(2)

See Finite Event Scenario. (2) Vector Equilibrium, 11 Dec*75

Action:

"All actions are spirals because they cannot go through themselves
and because there is time. The remote aspect of a spiral is a wave
because there are no planes*"

- Citation & context at Spiral. 7 Mar'71

Action-reaction:

' ` While the human's actions are anti-entropic, his reactions are en-
tropic, ergo unpredictable."

- Citation & context at Individuality, May'65
AGtlon.-rgattlon

"...Improved designs" Incorporate " all previous experience in action-reaction juxtapositions called structure and mechanics..

- Citation & context at Improvement, May'49

See Future: Man Backs into His Future Feedback Structure & Mechanics

AcUan-rfffcUoQ-' frauU fc OPMAIU?
(2)
Seo Engineering, 13 Nov*69

Desovereignization Sequence, (1) Antipriority, 22 Jun*75 Improvement, May'49* Individuality, Kay*65* No Opposites, 12 Nov'75 Surface Strength of Structurea, Mar*72

Art lon-r w rt lon-rs gallant

"The twelve universal degrees of freedom...occur as four sets of three always interdependent and concurrent actions, reactions, and results."

- Citation & context at Twelve Universal Degrees of Freedom.
12 Jun'74

"Engineers have been proud of pointing out that the difference between engineers and lay society is that engineers know that every action has its reaction and that lay society thinks only of the actions. Before the speed of light was measured, light seemed, to all humanity, to be instantaneous. Since we now know experientially that neither light nor any other phenomenon is instantaneous, we may conclude that an

action and the vectors it creates are neither simultaneously occurring nor instantaneous. Because vectors have discrete length, whose dimension represents the energy mass multiplied by its velocity, every action vector has two terminals--- a "beginning¹ and an * ending!* at the end of its noninstantaneous action. The beginnings and the endings are nonsimultaneously occurring. Therefore the 'ending' terminal of an action's vector occurs later than its 'beginning.' Therefore, every action must have a reaction vector at its 'beginning' terminal and a resultant vector at its 'ending' terminal. The reaction vectors and the resultant vectors are never angled at 180 degrees to the action vectors. They are always angled precessionally at angles other than 180 degrees."

- Cite SYNERGETICS text at Sec. 511 .22, May*71

AfiUgivrJA fit 1 gn-r P?M ivant--

Every action has not only a reaction, but also a nonsimultaneously, but immediately subsequent, resultant."

- Citation and context at Engineering. 13 Nov'69

AcUwfariattlon-rwultant;

One energy event demonstrates the action, reaction and resultant of the open ended triangular spiral. This is illustrated by a diagram of a man jumping from one boat to another. The action is the link between the reaction and the resultant. (Adapted.)

- Citation at Energy Event. 1y67

"Engineers are always talking about action and reaction, but they oversimplify. We have reaction and action, but we also have resultants; and every event, then, is really a three-part affair." I find that the resultant and the reaction are never at 180 degrees, which is an approximate figure as there are always some odd angles."

"Reactions and resultants are always processional."

- Cite NASA Speech, p.53,52, Jun¹¹66

Action-reaction-resultant:

"... All patterns, for instance numbers or phonetic letters consist of physical Ingredients and physical experience recalls. The physical ingredients consist inherently of event-paired quanta and the latter's six- vectored, positive and negative, actions, reactions and resultants. . . "

—n Yi r i

- Citation and context at Number. Jun»66

"The number of all the lines-- which is to say the number of all the vectors--- in Universe, is always a number which is divisible by six. There are no exceptions. Now these six vectors are the six edges of the tetrahedron, which is the basic quantum unit, and consist as we have seen of two sets of three vectors each, each of which sets of three comprises one event, each event consisting always of action, reaction, and resultant."

- Citation at Quantum. Jun'66

AcUsn-rgacUon-rMuteafc *•

Since "neither light nor any other phenomenon is instantaneous, then an action and the vector it creates is not instantaneous. Therefore the terminal end of an action's vector occurs later.*¹ Therefore every action must have a reaction at its starting end and a resultant at its terminal end." (Adapted.)

- Cite NASA Speech, p. 52 , Jun*66

See Basic Event

Force Lines: Omnidirectional Lines of Force

Happening Patterns

Three-vector Teams

Tripartite

Z Cobras

Three-phase Vectors

See A. Prior*! Environment, May*72

Chord, 20 Feb'73

Energy, 16 Sep'67

Energy Event, 1967*5 9 Jul*62

Engineering, 13 Nov*69*

Life, 1 Jun'71

Minimum System. Oct*69

Morality, Oct'o6

Now, 25 Apr'71

Number, Jun'66*

Precession, 8 Dec'72; Oct*69

Quantum, Jun'66*

Structure, 25 Dec'68

Tetrahedron: Inside-outing Of, 16 Dec*73

Triangle, 1967; Nov*71

Twelve Universal Degrees of Freedom, 12 Jun*74*

Vector, Liar'71

Precession & Degrees of Freedom, (1) Star Event & Degrees of Freedom, 12 May*75

See Action-reaction-reeultant Alternatives of Action Domain of Action Fields of Actions Man's Degrees of Freedom of Action Reaction Resultant Twelve Alternate Options of Action Z Cobras Interaction: Interactions Thought t Action

See Individuality, May'65* Precession, 8 May'72 Sixty Degreeeneas, 8 Dec*72 Spiral, 8 Mar*71 Synergetics Calculation, 1971

As&ixiix=4nmixlsx:

See Zerophae, (1)

See Vector Equilibrium: Axes; 28 Jan'76

Time le Only Now, 1y Jul* 76 Cosmic Hierarchy, 23 Jan'77 Awareness, 28 Apr'77

Activation; Active: Activity;

See Activity-inactivity Operative Potential ve. Active Potential ve. Primitive Realization: Realised

Acute: Acuteneaa;

See Quantum Wave Phenomenon Sequence. (1) Cloud Chamber, Nov*71

Adan *k* Bye:

"Th® physical la still is th® saddle. At this critical sonant of man on Earth evolution has quite clearly been at work In a very powerful way trying to do things vary much an with Adam and Eve.

"Adam and Eve didn't know that the consequences of what they were doing was going to be Cain at all. This is typical of the real surprises of evolution. She really has it all underwritten by the principles themselves, whether you and I know it or not; so she can have you born ignorant, finding your way, driven by our hunger and reproduction urge to make mistakes and finally learn the big things...the principles...the circumferential and orbiting designs..."

- Cite tape transcript, p. 20; RBF to W. Wolf, Gloucester, Mass., 2 Jun'74

See Atomic Bomb, Geb'72
Parable, Feb'72
See Berry Picking, (D)

Intellectual Perspective, 1 Jul'62

Human Design, 5 Jun*75

Human Mind vs Physical Evolution, (1)-(3)

A.ddiUy* Ww

"The additive twoness is axial.**

- Cite RBF to W. Wolf, DSI Project, p.14, 2 Jun'74

Twntgg:

"The number of surface points of the system...always multiplies at a second-power rate of the frequency...times 10--- to the product of which is added the number 2 to account for the axial rotation poles of the system, which twoness at the relatively high megacycle frequencies of general electromagnetic wave phenomena, becomes an undetectable addition."

- Cite SYNERGETICS draft Sec. 223.74, 26 Sep'73

AdfiUyg Tyg:

"Polar vertexes extracted for neutral axis (synergetics separation of additive two to permit motion freedom from rest of Universe)."

- Cite revised caption to Col #11. "Table of Topological Hierarchies at Sec. 223.66, 21 Mar'73

Additive Two;

"Column -H accounts the extraction of the polar vertexes. All systems have axes of spin. The axes have two poles. Synergetics extracts two vertexes from all Euler topological formulas to function as the poles of the spin axis. Synergetics speaks of these two polar vertexes as the additive two. It also permits polar coupling with other rotative systems. TheiTore a motion system can have associability." *

- Cite SYNERGETICS at Table of topological hierarchies.
Sec. 223.66, 21 Mar'73

Additive Twoness:

"All systems have axes of spin. The axes have two poles. Synergetics extracts two vertexes from all Euler topological formulas to function as the poles of the spin axis.

Synergetics speaks of these two polar vertexes as the additive two. It permits system differentiation from the balance of Universe. It also permits polar coupling with other rotative systems. Therefore a motion system can have associability."

- Cite RBF dictation to EJA, 3200 Idaho. Was DCfor notes to "Synergetics Hierarchies" Column #10. 17 Feb `72

Additive Twoness:

"The additive twoness is one of the constants of relative abundance. The additive twoness derives from the polar vertexes of the neutral axis of spin."

- Cite SYNERGETICS draft, June 1971.

Additive Twonessi

"Euler's formula 'twoness' is an abstract arithmetical •accommodation,' and not an identification of neutral axis excess of two factual polar spheres in each layer.

- Cite Ltr. to Dr. Robt. W, Horne, 14 Feb '66, p. 1

Additive Twoneia:

"Thia number plus two is a very interesting kind of a number. The fact that it is second power and it is times tens Does this fact bother you? Not particularly, because we will find out later what the times ten is. Ten is a number made up of two primes, the prime numbers five and two. We will discover what its significance is. It has something to do with the fact that the vector equilibrium has twelve degrees of freedom, and we find that two of those degrees of freedom are always subject to being polarised...If you remember looking at the center core of the vector equilibrium system, you found six sets of lines leading in, , making 12 radii going through the ceneter. We found twelve fundamental degrees of freedom, so one of the degrees of freedom could be used for spin, and if you do, then you automatically have to assign two of the balls out of the 12 for the problem of spin. We find that there are always in any layer two left over in that layer to act as bearings for the spin. They could be isolated from anything else this does energetically. You have to have something that takes care of the axis; and they take care of the neutral axis,"

- Cite Oregon Lecture ;?7, PP. 241-242, 11 Jul*62

A441UYfi Twna.M;

See Heavenly Twine

Synergetics Constants

Twoness: Additive & Multiplicative

Unity as Two Spin Twoness

See Axle of Spin, 15) Constant Relative Abundance. 2y Nov*72 Gravitational Constant, (1H 2) Synergetica, 29 Nov*72 Periodic Table: Harmonics of 18. 22 May'75 Polarity, 12 Nov'75

See Geographical Identity Local Identification

See Planet Earth, , 12 Feb*72

Verb: I Seen To Be a Verb, 16 Aug'70

Adenine;

Seo DNA-RNA

Adequacy:

See Nice, 29 Jul*76

Adherence; Adhering:

See Coalescing Adherence

See Intereffecte, 25 Sep¹73

Ad Inflnltnu

See Infinite, 15 Oct'72

Adjacent:

Sea Onnladjacent

Admirals:

See Absolute Admirals

fajgetien ot the Ke, Only a» Last Reaort;

See Emergence by Emergency

Future: Man Backs into his Future

Adoption of the New Only >8 Laat Reaort;

(2)

See Dysaxion Artifacts, (2)

New, 28 Jan'75

See Elders: That Doesn't Mean Young Don't Like their Elders

Grownups

Older Generation: Old Life

Advance:

See Vacuumising the Advance

Advantage; Enlovnent of All Earth Without One Individual Being Advantaged at Expense of Another:

See Expense: Without Any Individual Profiting at the Expense of Another

See Adversity: Turn Adversity to Advantage Dwelling Advantage Energy Advantage Group Advantage Industrial Advantage Interadvantage Interexchange Advantage Survival Advantage Synergetic Advantage Synergetic Accounting Advantages: Hierarchy Of Vectorial Advantage Vertexial Advantage

^AdTftnturfl Stary of Thought:

See Nine Chains to the Moon, 28 May'75

AdYOrgltY! Turn Adversity to Advatage:

"Ignorance la the inherently diminishing negative residue, the obscuring Diet of the receding mental wilderness progressively dissipated by intellect, the inherent postive of Universe that may be inference of the record turn every adversity to ultimate advantage." '---i---ux.

- Citation and context at Ignorance (2), May*49

(D

See Force: Don't Oppose Forces; Use Them Mistake

Ad ver Bitv: Tam AdynraitY to ^AdYantotQ«

(2)

See Fleet of Sailboats, May'49 Force, 1946 Ignorance, (2)* Water,
May*65

Advertising:

"Advertising's progressive squandering and ultimately lethal abuse and misuse of the rich word tools of the second millenium Anno Domini's language wealth may be surprisingly one of those evolutionary 'blessings in disguise' that man is not looking for and does not realise has come about to interrupt his stumbling into extinction and to set him again on the path to successful fulfillment of humanity's functioning in Universe. The assassination of the meanings in the twentieth century word wealth of humanity by the corporatebusiness advertising may be Tennyson's fulfillment of Himself by God 'in many ways, Lest one good custom (our honored vocabulary—vocabulary) should "corrupt the world."

→HISI Fhinnr~wniiu no ur Tiñ in inn ~

H-mi, u, ei

- Citation 4. context at World-around Language, 28 Apr'71

Advertising:

"...The abstract function of shaping men's conditioned reflexes...advertising.*

- Citation & context at Madison Avenue, 1964

XS&llUn&:

"...It is extravagant to employ the beginnings of a scientific breakthrough, which may be of the first order, for the sake of piquing the skier's curiosity. It would be easier to satisfy the skier's psychological aloofness to a basketball by painting the boards alternately gold, red, and black-- suggesting it is a royal outpost of the Czar's winter palace.

"Advertising men are prone to shoot your atomic warheads at mosquitoes so that when atomic warfare comes-- all you have left is DDT."

Cite CULTIVATE THE POSITIVE, 9 May'57

Martialnt

(1)

See Madison Avenue

Public Relations

Advertising:

See Beatnik, 1961 Madison Avenue, 1961* News It Evolution, (1) ~
Politicians 4 Defense Budgets. 20 Sep*76 Technology; Enchantment
vs. Disenchantment, (4H5) World-around Language, 28 Apr• 71*
Womb of Permitted Ignorance, (1)(2)

See Pneumatic-hydraulic Structures, 22 Aug'70 Windmill (1)

Aesthetic:

"The only aesthetic for tomorrow is integrity.*

- Citation & context at Architectural School B, 1 Feb*75

Aesthetics:

"There have been lots of ideas¹ about aesthetics. Superficial aesthetics and ofay aesthetics. I'm really convinced that the great aesthetic of the coming moment is Just integrity. That's all that will count. If it's not integrity, it won't count: it will have no beauty at all. The only thing that has beauty is the truth.... Integrity is more than the truth; it is the integration of the truth, a very comprehensive truth."

- Cite transcript of RBF tape to Barry Parrel, Tape #2, Side B, p.5; Bear Island, 11 Aug'70

Affair with;

"Aesthetics are both subjective and objective. They're usually enjoyed subjectively and secondarily only as an accessory-after-the-fact, either of a human artist's or nature's harmonically complementary conception and realization. It is doubtful that any viewer or listener of, or to, an artist's work ever enjoyed that work as much as the artist enjoyed its original preaudience conception and realization."

- Cite ARCHITECTURE AS ULTRA INVISIBLE QUALITY, p. 160, Dec. '69

Aesthetics:

"Humanity experiences spontaneous . . . aesthetic pleasure in the presence of an abundant reproduction of the essentials.

- Citation and context at Life. 22 Apr'68

Aesthetics:

"The 'Expo 1967* environment valve., is the first time at a world's fair that a building was designed specifically for its scientifically demonstrable high performance per unit of invested weight, time, and energy. The aesthetics of such an undertaking take care of themselves. Not an ounce of excess weight goes into the design, building and outfitting of an America's Cup defender boat, but that boat's beauty, as with a rose or a human being, is inherent in the exquisite economy of an exactly adequate performance capability,"

- Cite RBF in Tel Aviv Address, December 1967. (Zodiac 19),

Aesthetics:

“/Geodesic dome architecture/ presents the first time in history that architecture has been presented exclusively in terms of efficiency of weight, energy and time units of resource investment* The aesthetics of such an undertaking take care of themselves. Not an ounce of weight goes into the design, building and outfitting of an America's Cup defender. That boat's beauty, as with a snowflake or a human being, is inherent in the exquisite economy of an exactly adequate performance capability.**

(Adapted)

- Cite 'HAT QUALITY ENVIRONMENT , 24 Apr'67;

"When a structure is finished, and I find myself unhappy looking at it, then I know that it is a failure. But up to the time my structures (of any kind) are finished what they are going to look like has never been a tactical factor. My kind of work deals with the hows of mathematics

the howa of industrial production and distribution and assembly and service and with how man finally finds out the ecological problems themselves and how to solve them hoping thereby to bring total success to all men at the earliest possible moment. I don't even consider how any structure that I am evolving is going to look, until' after it is finished. If. finished, the structure seems beautiful, I know it is all right."

- Cite MEXICO, p. 94, 10 Oct '63

"I have often pointed out on the platform that the aesthetic of the now world is 'inte°rl. '

"It is because 99.9 per cent of the new electromagnetic- spectrum reality is invisible to humans" that the discovery of the laboratory is essentially aesthetic, but the motlofetion is rarely a desire to create beauty. "Reality is invidble to humans. So the visible aesthetics give way to the sense of design integrity of Universe."

« Cite RBF marginalis at Cyril Stanley Smith article, NY Times, 24 Aug*75» done by RBF, Wash. DC, 8 Sep»75

See Aesthetics, 1 Feb*75 Intuition, 11 Aug'70

Aesthetics of Uniformity: (1)

"I must caution you that you will be confronted constantly by the statement that mass production of houses eliminates the aspect of individuality which is so cherished by humans and without which they are afraid they will lose the identity of their personality, therefore, mass production houses will never gain popular acceptance.

"My answer to that is that reproduction or regeneration of form is a fundamental of nature and that it is neither good nor bad in itself. However, reproduction of originally Inadequate or awkward forms, or poor mechanics or wasteful structures, either by the hand of man

or by the regeneration of the biological species, tends to amplify the original characteristic. If the original is annoying, reproductions become increasingly annoying; if the original is highly adequate to its designed purpose, reproductions become increasingly pleasing in the consignment of adequacy. In the latter light, we continuously admire a fine species or cultivated rose or nature's wildflowers--- the more frequently repeated, the more beautiful. Conversely, the more frequently we see a maimed soldier, the more disheartening becomes the repetition. There would be even less virtue of the so-called individuality in the discovery*

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.218), 1946

"of soldiers¹ sons born with a half a face blown away* or with three legs.

"Individuality goes far deeper than these surface manifestations with which people have sought to deceive one another as to the relative importance of their status and in the bitter struggle to validate one's right to live. Those who were powerful but ugly and lousy paid for fine clothes and fine surface architecture, and a superstition has persisted that people who could afford to pay must be superior individuals. The powerful have whipped the weak for centuries on end to instill that superstition. As long as might excelled over right that superstition had to continue. Now that we propose housing to be produced by an industry in which right makes might at less than a pound per horsepower the superstition is obsolete.

"There is no individuality in conventional houses. They are all four-square boxes with varying lengths of rotting wood Greek column, nailed on to the front, every house so similar and the streets so similar that without signboards the stranger cannot tell the difference between one American town and another,

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.21g), 194.6

"let alone detect individuality in the separate and pathetic homes*

"On the other hand, it has been discovered that the more uniform and simple the surfaces with which the individual is graced, the more does the individuality, which is the abstract life, come through. Trained nurses in uniform working in a hospital are notoriously more attractive as individuals than the same girls in their street clothes when off duty."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.219)» 1946
AgattittlGfl gf VnlfCTltT

"There is that sameness that makes twins, or even brothers and sisters of different ages, oft times indistinguishable to strangers; that makes whole races indistinguishable to the members of another race, yet which, with familiarity, becomes suddenly inconceivable of existence. That kind of sameness embodying character and harmony through repetition is not unhappy. There is the even greater sameness of a flotilla of destroyers, far more accurate in duplication than the human, with inspiring rhythm of appeal when seen in formation under way or moored. Without visible distinguishing mark to the stranger, the destroyers have almost living individualism to their crews."

- Cite 4-D, The Time Lock, Chapter 10., May, 1928

See Aesthetics of Reproduction Prototype Regenerative Design: Law Of Reproducible Standardisation

See Beautiful, 1938

Invisible Architecture, (F) Life, 22 Apr'68 Mass Production, 22 Apr*68
Simplicity, 1954; 1968

See Architectural Aesthetics

Beautiful

Form Follows Function

Intuition & Aesthetics

Invisible Aesthetics

Fuller, R.B: His Aversion to Artistic Exploitation

Of Synergetics Models

Objets d'Art

Obnoxious

Harmonic: Harmony

Ugly • Incompetent

Beautiful " Most Efficient

Aesthetes:

(2)

See Airport, 11 Feb *73

Gravity, 16 Feb*73

Invent!one, y Feb*64

Life, 22 Apr *68*

tian as Local Problem Solver, (2)

Mass Production, 22 Apr*68

Proton & Neutron, 22 Apr*68

Star, Dec*72

Industrial Design, 13 Jun*74

Distribution, 25 Jan*75

Architectural Schools, 1 Feb*75*

Hydrogen Atom, Jan*72

Human Design, 5 Jun'75

Airspace Technology Environment Controls. (3)

Critic, 29 Sep'76⁷

Culture, 27 Jan*77

Children as Only Pure Scientists, (1)(2)

Affection:

See Monopoly of Affection

Affluence:

"When people get affluent they stop thinking."

- Cite RBF to EJA, 3200 Idaho, Wae DC, U *y»73

AffgFd: (1)

"I've been fighting--- many of us have--- to stop sulphur going into the sky. The Edison electric generating stations all around the country are bad culprits about this. As you fly over the different cities you see smog and you look where it comes from and a dozen chimneys provide the whole damn thing, primarily Edison chimneys. I was the speaker three weeks ago in Hartford at the National Edison Institute of America, all the executives...The host was one of the large engineering manufacturers of boiler equipment. And while talking with engineers and research men I found that the equipment exists and is highly perfected to take all the sulphur out. The cost it would add to the production of electricity would be only thirty percent and you'd have no fumes in the sky."

' "Thirty percent?"

"Yes, practically nothing.

"Isn't that kind of high?" I ask.

Fuller has been looking out toward the bay. But at this he snaps around, claps his hands together sharply, and glares at me."

- Cite Rasa Gustaitis in WHOLLY ROUND (HR&V,NY) p.154, Feb'73

' "High? High for what?" he shouts. There's fury in his face.

"High for what, dah'lin', high for what?*" he repeats, straining to speak more calmly.

"The company would think it high," I stumble.

"High for death or high for life?"

"I understand you, Dr. Fuller, but..."

"To take the fumes out of the sky would cost thirty percent more," he interrupts. "The Edison men think it's so high that the industrial companies which could generate their own electricity but buy it from them would start generating their own. So they don't want to put the price up.

"I was thinking they would think it high." All I meant was that under current conditions a thirty percent rise was unrealistic."

But later, when I reflect upon that incident, I decide he was the realist, not I. I reflect that Cliff Humphrey, head of

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W,NY), pJ55, Feb'73

Ecology Action had said he was engaged in 'changing what was politically feasible,' That's what Fuller was doing too. And the obstacle for both of them was the sort of timidity of expectation I had just manifested.

Fuller spoke radically, that is, from the root of the thing.

He assumed that people had the right to expect industry to stop poisoning them. And the right would be recognized only when enough consumers and citizens stopped believing industry's propaganda about what was politically and economically feasible."

- Cite Rasa Gustaitis, WHOLLY ROUND, (HR&W,NY), p,155, Feb'73
Afford;

"The Universe is not operating on a basis in which the Star Sun opines ignorantly that it can no longer afford to let Earth have the energy to keep life going because it hasn't paid its last bill: 'We Stars have got to make a profit!'"*

- Citation and context Economic Accounting System. 29 Jun'72

Afford:

"And the norm of sustainable success

Of all humanity

Will be realised

By the computer-confirmable information

That humanity can afford

To gratify handsomely

Whatever of its needs

And growth requirements

Can be satisfied

By what can be produced

Out of the as yet untapped resources

Employed in yesterday's

Now obsolete and scrapped Technological devices,"

- Cite INTUITION, p.65 May *72

Afford:

"Anything man needs to do he can afford to do."

- - Cite RBF Quoted by Lee Dembart. Hew York Post

26 April T97T

Afford:

"The young realise, as their elders do not, that humanity can do and can afford to do anything it needs to do that it knows how to do.

See Buy or Die

Doing What Needs to be Done Earning A Living Money Metaphors

Spending

Success

Soo Economic Accounting Syaten, 29 Jun*72* Heartbeat Magnitude Sequence (2) Mind as Reality, 2? Mar'73 Television, Feb'73 Yesterday's Textbooks, 13 Nov'69 Young World, Oct'70* Success, Jan'72

RBF DEFINITIONS

Afterimage:

"Only the afterimage gives a sense of motion--- as in the butterfly."

- Cite RBF to EJA, 1970

Afterimage Im:

"This is only a relative observation, a set of local sequences of experience as the brain."

- Cite RBF marginalis 20 Dec*71 at SYNERGETICS draft Sec. 529.06

See Double Take

Motion Apprehension Scenario

tfwUit Uta: ifiirtan:

(2)

See Abstraction. 24 Feb*72

Brain, 22 Jun'72

Congruence. 25 Jun*72

Eccentricity, Jun'6b

Formulations, 1y63

Invisible Tetrahedron, 13 Nov'6y

Motion, 4 Mar*by

Physical is Always the Imperfect, 14 Feb*72

Sight, 1 Apr'49

Thought, 31 May*71

Time, circa 1y70; Dec»7l

Conceptuality, 6 Nov*73

Afyep Ljfy:

"...Finally there was so much know-how, and so much tooling, and so much resource development that they said, "You know we ought to be able to take care of the pharaohs and the nobles but the middle class. That's where you really watch history opening up. With Greek and Roman history we have a rich middle class --- also with its mausoleums getting ready for the after life. Finally there's so much accumulation of know-how in the present life that we finally have a Buddha, and A Christ, and a 1-lohairmed saying, "We have enough now to take care of the after life of everybody.' That really is a significant moment when everybody is in on the after life. That begins the whole era of all the

great cathedrals, looking out in every way to help those people get ready for the after life. Everybody's in. This exerts a very powerfully operative effect. You see the figure in a black shawl in those great cathedrals and there's fantastic pathos, and her eyes light up with ecstasy to think of joining her lost ones..."

- Cite Univ, of Alaska Address, p.6, 20 Apr '72

See Immortality

Pharaoh

Aft.T Lira 8

(2)

See Pyramid Technology, Dec*71 Buddhas Christ: Mohamed, (1)

*«alaitams

See Atheism, Feb*72

Age:

"A new age is unpredicted. An age is an unpredicted aspect of universal environment.**

- Cite RBF to EJA, 3200 Idaho, Wash DC, 25 May*72

IKS:

"Each age 18 characterised by its own astronomical myriads of new special case experiences and problems to be stored in freshly born optimum capacity human brains-- which storages in turn may disclose to human minds the presence of heretofore undiscovered, unsuspectedly existent, eternal generalised principles."

- Cite RBF Front Paper for SYNERGETICS, draft 26 May *72

AM of gybtraftlgfls

"We are moving from the Industrial Age into the Age of Cybernetics. This is the most difficult transition in history because it has to be accomplished consciously, whereas the other transformations through which mankind has passed have been accomplished inadvertently."

- Cite RBF to ALDEN HATCH in "RBF: At Home in the Universe p. 252, probably from tape transcript. 6 Jun'74

AW Unpredictable Axes:

See God, 26 May'72

Agents;

See Promote: I Don't Promote

(2)

See Intuition as Remote Cosmic Transleelion, 29 Jan¹75

A»eloBer«tinjt; AmlsatSSSlaiP

(1)

See Bubbles

Closest Packing of Spheres

See Vector Equilibrium, 22 Jun¹72 Colloidal Chemistry, 1938
Nucleus, 13 Nov'75

Aggregate: "Points are energy event aggregations. //hen they converge beyond the critical fall-in proximity threshold, they orbit coordinately, as a Universe precessed aggregate, as loose pebbles on our Earth orbit the Sun in unison, and as chips ride around on men's shoulders."

(Compare Point. 19 Jun¹?!)

- Cite HBF Karginalis 20 Dec. *71. incorporated in SYNERGETICS Draft at Sec. 519.01.

HDF DEFINITIONS

Aggregate:

'Aggregate

means aum-totally but non-unitarily

conceptual

as of any one moment

Cite RBF marginalia, Beverly Hotel, Newyork 28 Feb *71

||W£|!<E- S<ToT)

Aggregate :

"Aggregate ie used Instead of sumtotally when we don't know whether it's all of them."

- Cite RBF to BJA, Sarasota, Fla., 7 Feb'?1

Aggregate + Continuum:

See Su«bvisible Discontinuity, 19 Oct'72

See Human. 22 May*73 Local, 23 May'73

See Colloidal Chemistry

Historically Synchronous Aggregate Nebula Prestressed Concrete
Spontaneous Aggregate

No Absolute Enclosed Surface or Vaolume

See Domain *i.* Quantum, (1}

Energy Involvement of 92 Elements, (1) Generalised Principles. 1
Jul*75 Geodesic Sphere, (1)(2) Island, 9 Nov*73 Object, 28 Feb'71
Point. 19 Jun*71 Starting with Universe, 31 May'75 Constellar, 3
Oct'?2 Environment, 28 Ear* 77; 29 Mar* 77; 12 May*77

Aggressiveness:

» Aggreasiveneaa ia an essential of intuitive curiosity

- Citation & • Context at Fighting. 7 Nor*67

See Hunan Tolerance Limita, (2) (5) » (A)-(D) Anger, (1)-(3)

Aging:

See Complementarity of Growth and Aging Growth

Ako?

See Away & Ago

Agrarian Metabolics:

Man goes from guarding the local roots of his originally exclusive agrarian metabolics life support into world-around ...industrialllation.”

- Citation and context at Sovereignty: Elimination Of. 29 Jun'72

A_Krarjan Met,abgU<;j: AffTICUlytral MnafrQllCP =

See Economic Accounting System, 29 Jun'72; (B) Sovereignty: Elimination Of, 29 Jun'72

See Agrarian Metabolica

Agriculture Planarity of Civil & Agrarian Law

Agricultural Accounting System:

...the ignorantly perpetuated

Exclusively depreciative agricultural accounting system . . .

Had been aopropriate only

To the inherently perishable

Short-term energy conservations

And ecological energy exchangings of bio-organics

Accomplished exclusively by photosynthetic impoundment.

On planet Earth, of Sun and star radiation.

Agricultural economics accounts only

The strictly physical, short term realizabilities.

Agricultural metabolics differ from industrial metabolica

Which deal exclusively with the eternal metaphysical principle#.”

- Context and citation at Economic Accounting System (A)(B), Jul»72

See Economic Accounting System

Industrial vs. Agricultural Accounting

Seo Copper, (2)

Copper Sequence, (I)

Debt, 1944

Depreciation, 22 Jun'72

Economic Accounting System. (A}{B) Industrialisation, 1 Aug*7*

Scarcity, 28 Jun*72

Agriculture:

(1)

See Agrarian Food Production Vegetable Crop Harvesting

See China. (A)-(C)

Civil War, (2)

Colonialism, 26 Jan'72

Cosmic vs. Terrestrial Accounting, (4) North-south Mobility of World

Man, (2)(3) Unsettling vs. Settlements, 20 Sep*76 Human Unsettlem-
ment, (1)

KBF USFIKITIUNS

Alisn; £cnr*4 Alhsn-

"Hi# problem as a poet is that he was preoccupied with turning inward--- the feeding of the ego--- a completely monological poetry, just at a time when this great revolution of world man and concern for otherness 1b breaking through. Thomas Wolfe and "You Can't Co Home Again, it's the same situation. ...Of course, the time will come again when we will swing away again from the group situation and can afford again to be interested in turning inward."

- RBF to EJA on Northeast Airlines Flight to Boston, 14 Feb *72. after reading Mark Schorer piece on Aiken in January Atlantic.

Um

See Interaimod

Air

"We take on 54 pounds of air a day out of which we identify seven pounds of oxygen."

- Cite RBF at Penn Bell videotaping session, Philadelphia, 22 Jan'75

Air:

I'm just going to throw in some figures I find very startling. Have any of you any idea about the weight of air? Do you have any feelings about the weight of air? I have a 100-foot sphere full of air, 10 stories high. Somebody tell me quickly the weight of air in a 100-foot-diameter sphere. Everybody avepges about three pounds of food a day; some way overdo that. We take on also about eight pounds of water and every one of you breathes and combines with that food and water 84 pounds of air a day. This is your really big food. I think it's simply astonishing. The sphere full of air--- there's seven tons of air in it. Air weighs plenty."

- Cite RBF in "The Lisner" transcript by John Doaat, 26 Sep'68

See Dynamic Air Conditioning

Wind Stress & Houses

Ghana Dome: Self-chilling Machine

Air Delivered City;

"The building industry is the last holdover of the archaic craft system. We are going to have to revise our building technology. The Lockheed Corporation already has drawings for an aircraft holding ten thousand passengers. There is no reason why you couldn't build a New York skyscraper along similar lines. It could be built horizontally under mass production conditions and flown in horizontally to minimize drag, then upended. In this fashion we would be able to deliver a whole city in one day by air."

- Cite RBF quoted in New York Magatine, p.26, 30 Mar'70

Air P-ollyYW-A SMbaarlM n)

"You asked me how much should go into air transportation or to building new harbors.... Well, as for carrying passengers, ships have gone out--- 100 percent--- no longer a way to get from here to there; not even as local ferries. The main tonnage on the sea is going to become the ore carriers; I think they will probably do extremely well. They don't have loads that are going to pollute our Earth.

"I have often pointed out the factor that if you double the length of a ship you get four times the surface and eight times the volume and twice as much payload-per-skin surface, which is the critical factor. So it might seem that it would also pay for airplanes to get bigger and bigger, but they found that they would have to get the runways longer and longer-- which approaches the point of no return. Obviously, the next phase is vertol, but the United states is not doing much about

that as there are too many people making money in the airplane runway business. So we got hooked, into a pattern. The English are the only ones who have carried vertol into being--- I know the Russians did too; but the English are the ones who have shown that vertol is completely practical. One could have very large airships and"

- Tape #2 transcript, pp.6-7; RBF to W.Wolf, 15 Jun'74

Air Delivery &. Submarine Cities: (2)

"and we could have vertol tugs to get you into altitude and then start you horizontal. I want you to understand that that is a very practical art and it will come.

"So then we are going to have all those container ships going by air--- particularly as we cut down on the weights of materials. I first began to talk about freight by air in the mid-1930's when we didn't have any transoceanic yet--- flying boats, yes, but there was no land for landings. You first got freight by air with the Ford tri-motors moving mining gear into places you could never go before except by air. Well, I'm simply saying that we're moving into the miniaturization of everything; we are going to get into the great containers and they are going to contain less weight goods and this is all going by air.

"With design science we can work out what we can do by water with the sea as a resource. The sea bottom could not be more important. You could not dock ships at sea, one with the other, due to the rolling of the sea. The great tonnage is in there, but the mass attraction would chew them to pieces. You have to always go to harbors; and there are not many harbors around the world so you have to go enormous distances to transfer your"

- Tape #2 transcript, p.7» RBF to W. Wolf, 15 Jun'74

Air Delivery &. Submarine Cities:

(3)

"cargoes. And that gets us into a solution with the great big submarines going 70 knots, three times the speed of any surface freighters. They are very fast as they are down below the turbulence. Thus it is a very practical matter to transfer cargo below the turbulence. This brought me into the development of submarine cities where you can have an enormous caisson going down through the turbulence. You can make helicopter landings on it from above and the submarines are going to just nestle right up to it from below and that's where we'll have the cargo transferring. The sea surface phase will go with the interface between water and air and man fighting all that turbulence: nothing could be more illogical. I hope I've given you a clean simple insight to the questions you asked. And as for how this influences the politicians, I'm just never going to try to influence the politicians. They are just going to get themselves more and more into trouble and you have the solution waiting for them. That's called emergence by emergency."

"I don't try to influence. I have standbys ready when they get into trouble. That's exactly why the geodesic dome came in. That's why they were used for the DEW Line, for instance."

* Tape #2, transcript p.8; RBF to W. Wolf, A 15 Jun'74

See Helicopter: Sky Tug Horizontal Skyscraper Dwelling Service industry

See Airspace Technology Environment Controls, (1)

Dymaxion Artifacts, (1)

Now House, (5)

Dome House Grand Strategy: 1927-1977, (1)0)

Mobile Rentability vs. Immobile Purchasing, 20 Sep*76

Disarmament, (1)(2)

Old Man River Project, 20 Sep*76

Airframe Dwellings:

See Dwelling Machines, 1946

North Face Domes, 20 Sep*76

See Dynaxion Airocean World: Airocoan World Two

Airocean World Man:

See Dymaxion Airocean World Map Transformational Projection

Airplane:

"...The complex of synchronized convergent principles called airplane*..

- Citation 4c context at Improvement. May*49

UrPlftflgfl: far Apart in the Skv But Slowed Down When Close (1)
Ia«thcr on th? land?

See Ships: A Fleet of Ships Needs More Room at Sea
Than When Docked Side by Side
Slow: The Slower We Get the More Crowded We Get

Airplanes: Far Apart the Sky but Slowed Down When Closer (2) Together on the Land:

See Balloon (C) Thinking, Jun'66

Airplay: F_{Wr} Alrplneo in the sky-

See Stable 4 Nonstable Systems, 2 Nov'73

AXrpl^anpfl staged UB for Landing-

See Thinking, Jun'66

Airplane Flight aa Lift

¹¹ It appeared and as yet appears to follow, in conventional, state-licensed structural engineering, that if tension is secondary and local in all men's structural projections, that tension must also be secondary in man's philosophic reasoning. As a consequence, the popular conception of airplane flight was, at first and for a long time, erroneously explained as a compressional push-up force operating under the plane's wing. It 'apparently' progressively compressed the air below it, as a ski compresses the snow into a grooved track of icy slidability. The scientific fact remains, as wind-tunnel experiments proved, that three-quarters of the airplane's weight support is furnished by the negative lift of the partial vacuum created atop the airfoil. This, is simply because, as Bernoulli showed, it is longer for the air to go around the top of the foil than under the foil, and so the same amount of air in the same amount of time had to be stretched thinner, ergo vacuously, over the top. This stretching thinner of the air and its concomitant greater effectiveness of interpositioning of bodies (that is, the Airplane in respect to Earth), is our same friend, the astro- and nucleic-tensional integrity of dynamic inter patterning causality."

- Cite SYNERGETIC text at Sec. 640.03, 4 Oct'72

Airplanes vs. Railroads:

See Human Unsettling, (5)

See Equilibrium, 1965, Jun'66

See Jet Engine

More with Lees: Sea ft. Air Technologies Space Technology

Tracer Bullet Sequence Weapons Technology Wright Brothers

Airspace Technology

See Discontinuous, 10 Feb¹73

Dome: Rationale For, (I)(II)

Dwelling Service Industry, (2)

Environment Control Valve, 1954
Industrial Lag, (2)
Point: Outbound Point. (1)
Ruddering Sequence, (3J
Safety Factor, 25 Sep*72
Wichita House, (1)
Mines Above Grade, 30 Jan*75
Dwelling Machines, 1946
Dome House Grand Strategy: 1927-1977, (2)
Human Unsettlement, (2)(3)
TEXT CITATION
Airplane:
Mexico '63, p.6, 10 Oct '63
Synergetics, Sec. 040.03, 4 Oct'72
Flight: 640.03
Design: 723.06
Landing Gear: 1061.12
Speed & concentration: 763.02
Propeller Blades
Flight
Flight: Fixed Formation Flight
Tracer Bullet Sequence
Vertol

See Boeing 747 Bullet: Synchronisation of Bullets through Airplane

**See Lecturing (2) Trim Tab, 8 Jan¹66 Anglo-American, 28 Apr'74
Trails 4c Wakes, 8 Apr*75 Improvement, May*49* Everybody's
Business, (1)**

See Airplanes Far Apart in the Sky but Slowed Down When Close Together on the Land Airplane: Four Airplanes in the Sky Airplane Flight as Lift Airplanes Stacked up for Landing Airplane: Stalling Airplane Airplane Technology Airplanes vs. Railroads

Airport;

"Having been commissioned to design a prototype international domestic airport (sic) enduringly suitable to the next two decades of human evolution on our planet in the face of accelerating-acceleration of technological evolution, it is a commission which cannot be realized simply by adequate money, good will, cooperation, etc.. If it can be realized at all. it can only be realized by the most daring employment of fundamental wisdom thus far accorded to humanity. For the transportation communication at the astronautic level not only millenniums ahead of the strictly landed and urban arts, are accelerating at many fold the rate at which the landed arts are accelerating. The airport is where these two- millenniums-apart, astronautical and ground arts are to be wedded."

- Cite RBF draft Ltr. to Karan Singh; above paragraph omitted from passage incorporated in SYNERGETICS at Sec. 260, 13 Mar*73

Airport:

"If anyone were to ask you, "How did you like the airport?" the best answer would be: "What airport?" An airport should work so well that you wouldn't know it's there. The idea is not to make something pretty."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb'73

Airports:

See Human Unsettlement, (5)

Air la fogjfrllld:

"There is so much air for man to breathe that it has always been socialised."

- Citation and context at Design Science (1), 29 Jun¹⁷³

Air 1B SoclAllMdi

"Man can only go two mlnutaa given any options about air. air is everybody's." without air; so he wasn't

Air is socialized. The

- Cite RBF remarks at Design Science Institute press conference N.I., 28 Jun*72

Air U sgsiflUMd?

"Humanity has so much air available that no one has even thought of putting meters on air and trying to make money out of it. But there are times, for example, in a great theater fire, when humanity, completely unused to competing for air, finds itself suffocating and goes mad. • .

****It seems perfectly clear that when there is enfeh to go around man will not fight any more than he now fights for air."**

- (11LU TT?r mn 1000. sII Jase FUH GM legs

a Citation and context at Politics (1)(2), Feb'67

Air, la Socialxted •

See Human Tolerance Limits, (4) < (C)

Air Space: .

"While earliest hunting men were linear, agricultural/ and trade-center colonizing men began to deal in planes. The crisscross, right-angle grid of the 'plane' is apparent in civil and agrarian law. A realistic geometric progression is disclosed in the transformings of legal evolution.

Building vertically as he became crowded, three-dimensionality entered man's law governing, for instance, multiple occupancy buildings, and the like. Now legal prospecting attempts to deal statically (and futilely) with dynamical fourth-dimensionality air space, outer space, and so forth.

' 'Here the laws of man will have to conform eventually with Einstein's relativity, which will bring about an omnidynamical symmetry marriage of social and natural law. The airs flow continually around the Earth, so the air above any one

point does not stay there. Because of the Earth's revolutions and orbiting, as well as the other astronomical motions, geometrical relationships continually change above any point on Earth. Ergo, neither the air nor the starry frame of reference remains the same. So we ask what the properties are of their 'air space' which men, cities, and nations, assert to have been violated. How violate nonexistence?"

- Cite RBF in AAU'.V Journal, p. 177, Nay *5

Airspace Technology:

"World War II took humanity's technology into the sky and deep into the ocean and eventually into outer space. These latter arts required an enormous step-up in doing more with less in order to make all logistics flyable, rocketable, or electromagnetically transmittable."

- Citation & context at Human Unsettlement. (3), 20 Sep*76

"Nonscientific architecture became obsolete in the 1920s and was central to the crash of 1929- By guaranteeing mortgages in 1933, the United States Government underwrote this obsolete, nonscientific building activity often erroneously spoken of as the 'building industry.' It is the antithesis of industry. It is a 'one-off' craft.

"The United States is now gone into debt to the extent of three-quarters of a trillion dollars. About half---a---trillion of that is in government underwritten mortgages. No longer can the government pay even the interest on this debt and the end of the world-around subsidising of the obsolete building craft is near at hand. If humanity survives it will do so by cessation of its \$200-billion-a-year investment in the preparation for war and the production of armaments. If humanity survives, the metals of those armaments will be melted up to be turned to high advantage as the airspace weapons technology in general converts to production of environmental-controlling facilities and services of humanity. When that time comes, science, technology, qnd industry whole, air-deliverable, scientific, environment-controlling apparatus. Whole cities will be air-delivered in a day and removed in a day, in the"

- Cite RBF Ltr. to Ms. Anne Sayre, 2 Sep'75

"same manner that great fleets of ships can come into harbor in one day and vanish the next. Yona Friedman's return to the science of architecture is not only intuitively sound but very practically sound. He writes in a way that should be very understandable in general and should help prepare for this severe reorientation in human affairs,

"The architects of the Boeing-747 have produced a 400-occupant. sky-dwelling device able to move through the air at 10 times

the velocity of hurricanes. The atmospheric resistance increases as the second power of the speed, which meand. in this case, 10^2 - 100, ergo the ferocity of the interaction of the Boeing 747 and the air is a hundredfold the energetic ferocity of a hurricane.

"When the captain of a Boeing 747 tells the passengers over the intercom to fasten their seat belts because it is going to be a little bumpy, the plane travelling at 10 times the velocity of a hurricane may be about to pass through vertical thermals, one outbound from the Earth at 100 miles per hour, the other inbound toward the Earth also at 100 miles per hour. The stresses the 747 endures going through opposing thermal shears"

- Cite RBF Ltr. to Ms. Anne Sayre, 2 Sep'75

"at these speeds is equivalent to taking the S.S. Queen Mary over Niagara Falls so successfully as only to provoke passengers saying, 'It is a little bumpy today.'

"The captains of Boeing 747s land their craft weight 150 tons at 150 mph. often in a foggy night, and do so with such competence that, with the music going, people think no more of it than steering an automobile to the curb. That is scientific architecture which has been evolved from millions upon millions of scientific measurements and on billions of flying hours' experience. The silver ship going through the sky is a thing of great beauty, but in no way was its structural design arrived at by arbitrary shape preferences. The shaping came out of the wind tunnels. The shaping of the wings came out of the Bernoulli principle of atmospheric pressure differentials. The aesthetic of scientific architecture derives entirely

from both comprehensive and incisive integrity and from faithful adherence to science and technology's discovery of physical laws."

- Cite RBF/Ltr, to 14s. Anne Sayre (MIT Press), 2 Sep*75

See Space Technology

alls vs. Airspace Technology Airplane Technology

See Human Unsettlement, (?) * Building Industry, (1)

See Planarity of Civil 4 Agrarian Law

See Up & Down Sequence, (1)(2)

See Atmosphere Biosphere Sky Oxygen

See Ecological Pattern, Sep'64 Human Tolerance Limits, (A)-(D) Sub-conscious, 20 Feb'77

Alira Slatin'

(D

See Brain's Alarm Clocks

So* Invented Periodicities, Kay'49

Alcohol; Alcohol as Fuel:

See Grand Central Station of Energy

See Wind Power Sequence. (3) Wood Technology, (2)* No Energy Crisis, (A)(B)

See Income Energy, (1) Photosynthesis, (1) Precession, (II) Culture, 11 Aug*76

Algebra:

"I like algebra

Positives

more powerful than negatives

() x (-) - (-)

minus wins

(+) X (+) - (+)

plus wins only by default

(-) X (-) - (+)

plus wins

The game ie over —

Plus wine two to one.

Cite HOW LITTLE, p. 46

Oct^f66

Algebra:

"The conceptual modeling" of synergetics "does not contradict ...but complements the exclusively abstract algebraic expression of physical Universe relationships which commenced approximately one century ago with the electromagnetic wave discoveries of Hertz and Maxwell" whose "electrical apparatus experiments made possible their algebraic treatment without being able to see or conceptually comprehend the fundamental energy behaviors. The permitted discrete algebraic statement and treatment of invisible phenomena resulted in science's comfortable yielding to completely abstract mathematical processing of energy phenomena. The abandonment ...of conceptual models removed from the literary men any conceptual patterns with which they might treat in attempting to communicate the evolution of scientific events to the non-mathematically-languaged public."

__ Cite Ltr. to Prof von Hochstetter, p.4, 28 Oct'64

Algebra:

The Arabs "in their mathematical coursing...invented algebra which derives, etymologically, from al.jebr. the reunion of broken parts, or jabara. reunited, in effect teleology."

- Cite NINE CHAINS TO THE MOON, p.141, 1938

See Mathematical Symbols

Algebra;

See Multiplication, Apr*71 Progressions, May*49

Alive:

See Life: Concept of Being Alive

"The normal speed of universal formulations and transformative events is 700 million miles per hour, but its thus-far-attained top speed of physical selftransport is 15,000 miles per hour. Normal speed is 46,000 times man's rocket speed. Therefore, man is---

relatively spaeaking--- almost as immobile as death. On the other hand his environmental facilities may be so organized by design science as to give some appreciably large percentage communication advantage by radio which operates normally at 700 million miles per hour."

- Cite DOXIADIS, p. 321, 20 Jun»66

RBF DEFINITIONS

"...The Newtonian assnaption that 'at rest' is normal for the universe . . . has been annihilated by Einstein's contnual evolution norm of an all-energetic physical universe with a normal speed of 186,000 m.p.s.

"Einstein's norm proved to be true as it explained elegantly the amounts of energy released by fission from a given mass of chemical matter."

- Cite HOW TO MAINTAIN MAN AS A SUCCESS Utopia or Oblivion, p. 225

18 Mar'65

All-Acceleration Universe; ,

(1)

"We have come to the realization that we are in an all-dynamic Universe, that the old concept of 'at rest' is not normal. When we lie down to go to sleep we do not shut off the valves and freeze into rigid statues. Our billions of atoms take on a myriad of constellation activities in lieu of a few galaxy motions of the day's routine regimentation of the body's subassemblies.

"All our curves of measurement of man's earthly doings show and acceleration 'upward,' that is, with 'at rest' regarded as normal, the curves of man's doings have taken the shape of a ski (reading from heel to toe). The curves have ascended now into almost vertical abnormality. Is this race schizophrenia? No! It is just that our standards of reference are cockeyed.

"Obviously we must now abandon the unrealistic 'at rest' and refer all our affairs to the realistic yardstick of energy and its velocity aspect, as recently and universally adopted by science from Albert Einstein's work. To do so we need only revolve our charts /` ` through 90-degrees of angle, so that we may see the curves descending precipitously from the old heights"

- Cite PREVIEW OF BUILDING, I&I, p.201, 1 Apr'49

All-Acceleration Universe: (2)

` ` of ignorance and abnormality and tending to level off into dynamic equilibrium with the all-motion Universe, infinitely normal about us. Thus quickness replaces static death as the normal of both life and Universe. Life is no longer exceptional to, but inherent in, the Universe."

- Cite PREVIEW OF BUILDING, I&I, p.201, 1 Apr'49

All-acceleration Universe:

See Absolute Velocity All-motion Universe Top Speed

"I use the term regenerative because in an all-motion Universe (which Einstein posited and the physicists in due course found to hold true), all the patterns of the Universe are continually but nonsimultaneously affecting all other patterns of Universe in varying degrees and are continually reduplicating themselves in unique local configurations."

- Citation and context at Structure Sequence (1), 19&5

Sea All-acceleration Universe

Instant Universe vs. A11-motion Universe

AlinenB:

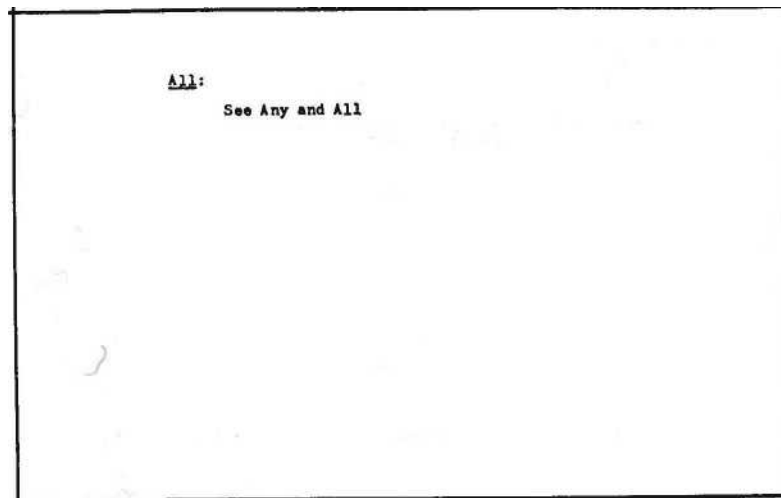
See Integer, 15 Oct'72

**See Competition: Elimination Of Survival Sequence Utopia or Oblivion
You and Me**

AH ar Nana-

12)

See Industrialisation, 120 Nation, Oct*70



Allays t

"All the four unique frequencies of occurrence of the 92 chemical elements are uniquely different yet many are intersynchronizable in overlappingly occurrent alloys, whose unique sets of interattractive interrelationriips produce the synergetically unique behaviors of thoseL specific alloys

- Cite SYNERGETICS, 2nd. Ed. at S_ec. 530.13, 30 May'75

AXLfX:

"It 1« characterlatic of metals that an alloy la stronger whan the differ-ent metals' unique, atonic, constellation symmetries have congruent centers of gravity, providing mid-edge, mid-face, and other coordi-nate, Interspatial accommodation of the elements' various symmetric systems."

- Cite ABF rewrite of SYNERGETICS galley at Sec. 9J1.62, 19 Dec*73

AUfX:

"...That la synergy--- behavior of a whole un predicted by its parts. We have to explain thia. To begin with, chains in metals do not occur as open~ended lines. In the atoms the ends of the chain come around and fasten the ends together--- endlessly--- in a plurality of concen-trically coordinate circular actions."

- Cite RBF marginaliB at old Chap 2, "Synergy," 1.3, 18 Mar'69

Alloy: "We must explore further for clues to the strength of this chrome-nickel-steel alloy--- and, if possible, of all the alloys--- for strategic purposes.*

- Cite RBF marginalia at old Chap. 2, "Synergy," 1.2, 13 Mar'69

Alloy:

"Alloys ar® synergetic."

- Citation and context at Synergy. July'59

See Chain Stronger than its Weakest Link Ketel Tensile Strength of Chrone-nickel-steal Strength is Invisible

See Coherence, 10 Feb'73 Dome: Rationale For (I)(II) Gravity, 7 Feb*71 Pollution Control (2) Synergy, Jul'59* Copper. 15 Aug'70 Generalite, 9 Feb*76

Plaint'

This was a tala-calcs in ®y letter to Stave Baer--- ey Idea of a particular allspaco-filling hexahedron. What I was really talking about in the letter to Steve Baur was the Mito.

I just had it confused*”

/□Compare substantial revision of Synergetics draft at Sec. 950.10,28 Aug'73._/

Cite RBF to EJA, 3200 Idaho NW, 25 Sep'73

Allege Fillip*;

"Speaking externally, either 'prime* or complex 'frequency tetrahedra and octahedra may interagglomerate with one another close-packingly to fill allapace while icosahedron may never do so. The icosahedron may be face-associated to constitute an ultimately large octahedrf >al structure."

- Cite SYNERGETICS draft at Sec. 17 Feb'73

AXlgP*St

"Allepace filling in a scenario: the eternally selfregenerative ecanario of cosmic integrity."

- Citation and context at Field. 2 Nov'72

mungt

"When we apeak of allapace filling, we refer only to a conceptual set of in-time local relationshippe. This is what we mean by tunability."

- Cite SYNERGETICS text at Sec. 780.13, 22 Oct'72

Allspace Filling:

"Because the cube is the basic three, if we assess space in terms of the cube as volumetric unity, we will take three times as much space as would be occupied by the tetrahedron as volumetric unity. The arithmetical-geometrical coordination in terms of cubes is threefold inefficient for we are always- dealing with physical experience and the structural systems whose edges consist of events whose actions, reactions and resultants consist of one basic energy vectors; therefore the cube requires threefold the energy to structure it as compared with the tetrahedron. We thus understand why nature uses the tetrahedron as the unit of energy, as its energy quantum, because it is three times

as efficient. All the physicists' experiments show that nature always employs the most energy-economical tactics."

- Citation at Cube, Jun'66
 FIUing?

"When we try to fill all space with tetrahedra, we are frustrated because the tetrahedra won't fill in all the voids above the triangular based grid pattern. So we say, 'What can we do to negotiate all space filling with tetrahedra? What is the complementary form needed to do so?'"

~~---Cita_Carroll's Draft- jiewm-te Kedeability, p. V---i-~~

- Cite NASA Speech, p. 68, Jun'66

Ulpftso HIUni;

"If I put a little one-eighth octahedron to the corner of each of the eight triangular faces of the vector equilibrium it becomes a cube. Therefore, when I bring vector equilibria together in masses, it leaves a little space on each of these corners, but you remember that eight cubes always come together around one point. Therefore, there will

be eight of these one-eighth octahedra on each of the corners which come together at this point. Therefore the eight of them together would make one octahedron. We find then that the vector equilibrium plus the octahedron on the outside of each of the triangular faces would fill all space.

When we bring the vector equilibria up to each other we find that two of their square faces match together. Within a square face we had a half octahedron, so that brings two of the square faces together and I get an internal octahedron between the two of them. The external octahedra are intervened between the vector equilibria on their triangular faces and there is an internal set of octahedra between the square faces.*

- Cite Oregon Lecture //7, pp. 254-255. 11 Jul'62 *S EC LHO-OZI*

SYSTEM-

AUggag? HlUng:

. .To fill space the octahedra and tetrahedra must pack together."

' 'The tetrahedron will not fill all space."

' 'One thing very nice about cubes was that they account all space, without any other device."

". ...We can fill all space with tetrahedra and octahedra.*

Mature*^e Coordination_r-p»- VI. f 2---

- Cite Oregon #6, p. 213, 10 Jul'62

"The rhombic-dodecahedron is an all space filler like the cube."

£4r-earVui«alTr-&r»r»

Nature¹gOoordlnation, p, VI,30.

OFBguii #6|~>,J34| HTJlgrrt-./

- Citation & context at Rhombic Dodecahedron_r 10 Jul'62

Allepace Filling:

"The tetrahedron will not fill all space. If we take an equilateral triangle and bisect its edges and put three little tetrahedra on the three corners of the triangle and put a fourth tetrahedron in the center, we find that there is not enough room for other $\frac{1}{8}$ tetrahedra to cone down in the crevices between the peaks of the tetrahedra. So you cannot fill all space with tetrahedra. What you do is fill all space with tetrahedra and octahedra. They complement one another. But if you were looking for a monological explanation this wouldn't be nice for you. If you are willing to go along with the physicists, recognising complementarity, then you would say that this method of accounting, which is coming out nice and rational, is a * perfectly

good way of accounting. "Tcould talk tetrahedra even though i am using different forms. Now we have tetmrahedra being agglomerated with octahedra and we have a very interesting kind of condition."

- Cite OREGON Lecture #6, p. 216, 10 401*62, mcopporated in SYN-ERGETICS at Secs. 950.01 +• 950.J4, 14 Nov'72

llegace-rimne Linlta:

See Nondefinable, 22 Oct'72

Octah edrfl ; & Tetrahedron?

Filling*

"All omni-closeBt-packed, complex, structural phenomena are omni syme trie ally componentated only by tetrah edra and octahedra. icoaa-hedra, though symmetrical In themselves, will not closepack with one another or with any other symmetrical polyhedrA" icosahedra will, however, face-bond together to form open-network octahedra."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 910.01, 19 Dee*73
A11BP*Cfl rilling: SttfehgdrQn Tfttr»bflidr9n:

See Coupler. (1)(2) laotropic Vector Matrix, 19 Dec'73 Twinkle Angle,
19 Dec'73

Filling: Octahedron * Vector Equilibrium:

"The complementarity of the vector equilibrium with the octahedron permits us to get down to the local and not be afraid of missing the rest of Universe, because we know the fundamental complementation of macro tetra and micro tetra."

- Citation in context at Trigonometric Limit. 22 Jun'72

Filling*: Octahedron and Vector Equilibrium "Concave octahedra and concave vector equilibria pack together to define the voids of an array of closest packed spheres which, in conjunction with the convex spherical vector equilibria fill all space. This array suggests how energy trajectories may be distributed through great-circle geodesic arcs from one sphere to another always passing through the vertexes of the array, which are the vertexes of the vector equilibria and the points where the spheres touch each other."

---sCite Synergetics Illustration #55. caption, 196?

cjn.J/ C***4 X, ,
r/Kr«sec, ioJZ.3'/

"We find that in closest packed spheres there are only two shapes spaces: what we call the concave octahedron and the concave vector equilibrium. . . . One is an open condition of the vector equilibrium and the other is a contracted one of the octahedron. So we begin to discover something fascinating, which is, if I take vector equilibria and contract them, as I showed you with internal-external octahedra, each one of those vector equilibrium packages, ...we find that the triangular faces are occupying a position in closest packing of a space

and the square faces are occupying the position of a sphere. Between them we had the internal and external octahedra; that is, the spaces between are either concave vector equilibria or concave octahedra. We could take the original vector equilibrium and bend the edges inwardly to make it concave or we could bend them outwardly and make spheres. In the first degree of contraction from vector equilibrium, it becomes a sphere or a space. If it bends inwardly it becomes spaces and if it bends outwardly they become spheres. We can then begin to call a space a concave vector equilibrium and we call a sphere a convex vector equilibrium, or we can call a space a concave octahedron which is one of the other kinds of transformations."

S&C *70.0/

- Cite Oregon //7, pp. 257-258, 11 Oct '62

"Half octahedra can be pulled out of the square faces of the vector equilibria. This goes on in atoms joining one another and they are able to lend something to one another sometimes, they are able to lend electrons. We can lend out of the square faces without in any way jeopardising the structural system which was dependent upon the triangulation of the tetrahedral parts. We can lend up to four without bothering it."

- Cite Oregon Lecture #7, p. 255, 11 Oct *62

SrsTLH- set. WTO?67]

Allapace Filling - Scenario:

See Field, 2 Nov*72

Filling folf-PftCkXM:

"There are to my knowledge now six unique, all space filling geometries. Any one of them can be ∞ amplified upon in unlimited degree by high frequency permitted aberrations. For instance, the cube can reoccur in high frequency multiples with fundamental p rectilinear aspects--- with a node on the positive face and a corresponding dimple on the negative face--- which will fill all space simply because it is a complex of cubes.

"The six fundamental all space fillers are:

- (1) The cube (six faces), discoverer unknown.
- (2) The rhombic dodecahedron, discovered unknown (twelve faces). This all space filler is the one to occur most frequently in nature. Rhombic dodecahedron crystals are frequently found on the floor of mineral rich deserts.
- (3) Lord Kelvin's tetrachideca (14 faces).
- (4) Keith Critchlow's snub-cornered tetrahedron (16 faces).
- (5) My own— Fuller's asymmetric tetrahedron (4 faces).
- (6) My own— Fuller's asymmetric hexahedron (six faces).

- Cite 4 May 1966 addendum to RBF letter to Steve Baer of 19 April 196b

- Rewritten in SYNERGETICS at Sec. 950.10, 28 Aug*73

AllSpace Filling: Space Filling with Tetrahedra:

"If I make five separate tetrahedra of four spheres each-- one in each corner--- with spheres closest-packed this way you can fill all space with tetrahedra. The fifth four- sphere tetrahedron Just has to be inverted and placed between the first four four-sphere tetrahedra. The atoms are not linear and they are not planar. All you would have to have is tetrahedral assemblies to fill all space."

- Cite RDF to BJA, 3200 Idaho, Wash DC, 7 Oct. '71.

Seo Bubbles

Interagglomerate

Mite

Self-congruence Packing

Self-packability

Spherics

Syte

Rhombic Dodecahedron

Tetrakaidecahedron

Omnitertangency

Coupler

Unitary Conceptuality of Allspace Filling

Spheres Spaces

Clear Space Polyhedra

Modules: A & B Quanta Modules

Octahedron & Tetrahedron

VE a. Octahedron

MANpftco rUIXnK:

(2)

See Cube, Jun*66*

Field, 2 Nov'72* Hexagon, 2 Nov'73 Infinite, 15 Oct'72 Rhombic Dodecahedron. 10 Jul*62* Tetrahelix, 10 Sep'74 Space, 20 Oct*72

Convex 4 Concave: Law Of, 2? May'72 Vector Equilibrium Involve-
ment Domain, 24 Apr'76 Crystallization, 29Apr'77 Kites & Quarks as
Basic Motes, (1)-<3) Wave Pattern of a Stone Dropped in Liquid, 22
Jun'77

Min-max Limits, 8 Aug*77

AIUlaa Force:

See Acceleration of Change, 1938 Technocracy, 1938

Alltlme:

See Universe, 15 Jan'74

fi)

See God

See Mistake, 19 Dec'71

(2)

Time, 1940 Eternity vs Energy, 2 May'78

Alphabet:

See Letters of the Alphabet

See Environment: Altering The

Epigenetic Landscape

Rearranging

Life Alters Environment & Environment Alters Life

Alteration of face Couples:

See Cheese Polyhedra, Nov*71

See Heisenberg-Eliot Pound Sequence

Environment: Altering The

Epigenetic Landscape

Rearranging

Experience Alters Previous Experience

History: Considering History Alters History

Life Alters & Environment & Environment Alters Life

Measuring Alters the Measured

Observation Alters the Phenomenon Observed Truth: Thinking About
Truth Alters the Truth Local Alterability

(2)

See Metaphysical & Physical, 12 Jun*69; 1\$ Nov*74

RBF DEFINITIONS

AAAtsrpakv

"Each vector is reversible having it# negative alternate.

- Cite SYNERGETICS Corollaries, Sec. 240. 1970

See Degrees of Freedom

Twelve Universal Degrees of Freedom

See Octet Truss, 24 Sep'73 Geodesic Domes, 24 Jan'5®

So® Fall-aafe Alternate Circulta:

See Fall-eare, 17 Oct'72

Game of Cosmic History, 27 Dec'73 Hunan Tolerance Limits, (2)

Alternate Dead Centers:

See Vector Equilibrium, 1 May'71

TEXT CITATIONS Alternate: Alternatlona:

240.19	• 267.03
240.26	• 466.14
1024.24	• 466 ,15 • 527.25
	=537.06

See Charting Alternating Experiences

Catalog of Alternate Transformative Options Complementary Alternates Degrees of Freedom Electable: Elective Frequency: Alternate Wavelength Frequency Inventory of Push-pulling Alternations Opposite Options: Optional Twelve Alternate Options of Action Radiantly Alternate Vertexes Reciprocal: Reciprocity Fail-safe Alternate Circuits

See Basic Event, Dec'71

Cube It VE aa Wave Propagation Model, 23 Feb*72 Epigenetics, May*72 Humanity, 3u Oct*73 Pattern, 195t Packaged, 19&9 Regularity. 2 Nov'72 Rhombic Dodecahedron, 12 May¹77 Sixness, 9 Nov*72

RBF DEFINITIONS

Altitude:

"Altitude" is the "radius distance from the Earth's spherical surface."

Cite Undated Sheet: DYNAMION AIROCEAON WORLD FULLER PROJECT IVE-TRANSFORMATION

Altitude;

See No Altitudeless Triangle

Aluminum;

See Scrap Sorting 4 Mongering (1) Neutral, 1 Feb'75 Now House, (2) North Face
Domes, 20 Sep*76

Alwsn fc STirywh :

See Twelve Universe! Degrees of Freedom, 25 Dbc^f6S

See Coexisting: Always fc Only

Complementarities Omnicoexisting

Amateur:

See World Game, 12 Jun'69

Ap)ba_{gg}adpr:

**"An ambassador was just someone who might be the king's brother;
he really was a hostage.^{1*}**

- Cite j»75 videotaping session, Philadelphia

Ambiguity:

**See Misunderstanding, i.e., Being Misunderstood Rule of Communi-
cation**

Ambition:

See Artist, 24 Jen*72

^AmbiYflance«

See Six Motion Freedom & Degreee of Freedom, (5)

Amen:

**"At the end of 'Ever Rethinking the Lord's Prayer,' my latest version, I
always put 'Amen.' It's at the end of the prayers of all Western reli-
gions, not just Christian. But nobody knows what it means."**

- Cite RBF to EJA & JZA, 3200 Idaho, Was.,DC, 9 Sep'74

KBF UtFIhlTluNb

America:

"Because of the evolutionary requirement for the integration of all men around our planet, I would like to point out what I feel is the reason why America seems, for the moment, to be an active field of creative capability. In the five and a half million known years of man's presence on Earth, with man born naked, helpless, without any information, with beautiful equipment, but ignorant, but. gradually gaining in experience and gradually finding his way. Well there has been a pyramiding of such experiences and America happens to be in the midst of these waves that have gone around the world, it's a cross-breeding world man here. And the developing world man here is beginning to export and become part of the world. There is a tendency of the crowd to be excited by the nan who makes a score on the football playing field, by the man who makes the touchdown. But I feel that America has been thrown a forward pass by all of humanity. Therefore, it's spectacular--- making the touchdown, but it's part of the great team of all humanity. Ana I want to be sure not to try to develop in any way--- or to curry an unnatural ego.' "

- Cite R3F at SLEb, U. i.ass., Amherst, 22 July '91 lalk 12, p. 5.

America:

"The discovery of the new clean slate of the American continents was, incidentally, a complete inadvertence so far as society's volition was concerned. ('Inadvertence' is now a specific factor known in science as the 'random element.')

If they had sustainable mechanical refrigeration in Europe at that time it is possible that the Americans would not have been discovered unl much later."

- Cite NINE CHAINS TO THE KOON, pp.141-U2, 1938

iffiSXISS.-

(D

See Anglo-American

Cross-breeding World Man

Capital Worth of U.S.

Census of 1810

Labor: American Labor

United States

Forward Pass: America Has Been Thrown a Forward Pass

See Success, (1)

War: Official k Unofficial, (1) Democracy, 10 Sep*75

Amino Acids:

See Enzyme

Amoeba »e Bwldlnt Block:

**See Darwin: Evolution May be Going the Other Way. 24 Mar'71; 5
Jun»75 Twenty Questions, (2)**

Aflorphowa .-ynataMj:

See Triangle (I}; Nor'71

Amorphous:

See Foralese Shapeless Amorphous • Unstable

**See Comet: Around Cones the Coset Again, 19 Jun*71 Curvature:
Simple, (1) Point, 19 Dec*73 Sphere, 1971 Universe, 26 Sep'73; 4
Jan*70 Integrity, 4 Jan*70**

AwphiblouB:

See Omninediuiin Transport

A»PllfC*Uon: Aapllfrlnr:

See Velvng, 13 May>73 Pointe, 22 Mar* 76

Amplitude A Frequency Interexchanging:

See Tetrahedron: Dissimilar Rate of Change Accommodation 9
Nov'73

Awtorg BnulMero:

See Dymaxlon House, 13 Jul'74

See Accidental Theatergoer

Pleased or Displeased: We Are Not Here to Be

XQ Aft Hot Hjr.

12)

See Man as a Function of Uniteria, (2) Mind as Reality, 2? Mar*73
Prospects for Humanity, 2 Feb*75 Desovereignisation Sequence, (4)
Humane City, (1)

· Social Pdcncn-

See Social Sciences: Analogue to Physical Sciences

Precession: Analogy of Precession and Social Behavior Circuitry:
Thermionic & Political Analogy Evolution: Analogy of Circuitry

Analysis:

See Accounting

Linear & Spherical Analysis Relationship Analysis Synergetics Calcula-
tion Pattern Analysis

Analytical Geometry:

"Our operational construction method employs the constant radius and Identifies every point on the circumference and every point on the internal radii. This is in contradistinction to analytical geometry in which the identification is only in terms of the XYZ coordinates and the perpendiculars to them. Analytic geometry disregards circumferential construction, ergo is unable to provide for the direct identifications of angular accelerations

- Cite RBF dictation to BJA for Synergetics, "Operational Mathematics," Wash. DC, 7 Oct. '71.

See Boats at Anchor Retard the River's Flow

See Lever, (b)

Angel:

See Plastic Call-girl Angels

Anger: {1)

"I don't have belief about anger. /` ` You ask if anger has a shape .J I have my own analysis of the experience and I will point out my mother used to be very upset because I would not get angry. She wanted me to resent it If somebody did something to my younger brother or my sister; she wanted me to get angry about it and fight, and finally, to gratify her, * would find compassion for my younger brother if somebody were brutalising him, but I did not go out and battle the other kid,

"I'm convinced personally today that anger and the aggressiveness is a secondary phenomenon---what we call fall-safe alternate circuitry. The very basic proclivity is to handle things without anger. Anger tends to destroy a very great deal---cuts off, and is very single-tracked and anything but comprehensive.

"Today, in order to recapture my sensitivities, I deliberately never pretend to myself that I don't have a sensitivity as I might feel if there is a beautiful girl. I might think how nice it would be to go to bed with her. I don't try to say

- Transcript p.4 of RBF tape interview with Dr. Michael Druwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

H3F DEFINITIONS

Anger: (2)

"to myself, 'I don't feel that way.*— 1 immediately get it under control. I don't say I'm not angry...I am glad to have these devices that we have that put us on warning...

Q: "How do you get it under control?"

HBF: "Because I have had so much experience in It. I know how destructive it is. I can say this is preposterous behavior on my part, very destructive behavior. And experiences have taught me that— how many times people around me who love me used to me being gentle—how shocked they are when they see me get angry."

Q: "One of the major feelings in psychiatry is that anger causes a tremendous or large number of problems because * people get angry and deny to themselves that they are angry."

HBF: "I do it just the other way, sir...It is debilitating."

- Cite transcript pp.4-5 of RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Anger:

"When anger gets stored up...that's when anger gets so destructive. It prevents the constructive conceptioning * going on. Anger must be very paralysing to the subconscious.

- Cite transcript p.9, RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Anger:

See Emotion, May'65

Law, May'65

Human Tolerance Limits, (A)-(D)

Angle: "An angle is a ainua, an opening, a break in a circle, a break in the integrity of the whole individual.*

- Citation k context at Sin. 7 Nov¹⁷⁵

Angle;

"He /Euler_7 did not treat with the Internal nuclear concept; nor did he treat with angles, either surface or internal which provide powerful insights to scientific exploration and synergetical analysis."

- Cite SYNERGETICS draft at Sec. ! 006747, 30 Nov'73

RBF DEFINITIONS

Angle;

"Angles are eternally transcendental to time-size limits. The angle is a subdivision of one cycle quite independent of the length size (time) of the angle-defining radii edges of the angle."

- Citation and context at Time-Size. 2 Nov'72

Angle:

"Because angles are parts of only one cycle, they are inherently subcyclic. Because size must be predicated Einsteinianly upon local-experience time cycles, relative size is measured in cyclic units. Therefore, angles, which are less than one cycle, are inherently less than one unit of size. Angles are inherently 'subsize' consideration.

Because angles are subcyclic. they are 'subsize.' Therefore we are permitted to think independently of size in respect to triangles, which consist of three separate angles.

- Cite SYNERGETICS text at Sec. 515.101, draft of Jun'71

"An angle is an angle independent of the length of its sides. An angle is inherently a subdivision of a single cycle and is conceptually independent of linear, areal, and volumetric size considerations. A triangle is a triangle independent of size. A tetrahedron is a tetrahedron Independent of size."

- Cite SYNERGETICS text at Sec. 516.02; draft of Apr'71

Angle:

"An angle Is an angle Independently Of the relative lengths Of the lines which converge And cross to present The angular aspect."

- Cite GENERALIZED PRINCIPLES, p.4, 28 Jan'69

Angle;

"Shape is exclusively angular."

- Cite SYNERGETICS, "Corollaries," Sec. 240.55. 1971

Angle:

"An angle is * central sinus fraction of circular unity,--- the opening in a circular birthday cake, as the triangular wedges are cut radially from its center. Circular unity is conventionally divided into 360 degrees. The site of an angular sinus is Independent of the length of the radius of the circle. An angle's site is not affected by the length of the edges between which it occurs."

Cite NEHRU SPEECH, p.14, 13 Nov'69

Angle;

**An angle is inherently a subdivision of a single cycle. Therefore an angle is sub-size. Size begins with one specific cycle's completion. Angles are conceptual independently of size."

- Cite "Word Meanings," Ekistics, Vol. 28, Oct '69

Angle:

"No angle can exist until two vectors coexist and interact in critically significant proximity to permit an observed crossing of their action paths to form an angular aspect."

- Citation and context at Triangle (A), 18 Mar'69

Anxle:

. an angle is an angle independently of the length of its sides. We may say experimentally that an angle is conceptual independent of linear, areal and volumetric size considerations."

- Cite NASA Speech, p. 99, Jun>66

Angle:

"We find that an angle is subcyclic. We said there was no size until the angle had been completed. We find an angle is a priori of no else: it has nothing to do with the phenomena since. The length of the edges are the linears and have nothing to do with what this angle is. Angle has nothing to do with else.**

- Citation 4 context at Acoloration: Angular k Linear (2) 10 Jul'62

Angle:

"...Omnidirectional relationships are only angularly configured..."

- Citation and context at Omnidirectional. 1960

"Angle is sub-cyclic, one cycle.

fractionation of

"Angular relationships and magnitudes are sub-cyclic ergo sub-frequency ergo independent of size."

- Cite Collier®, P. 115, Oct'59

Angle:

"...The angle.♦♦ is an abstract unit of a whole, abstract because it is the space between the converging lines..."

- Citation & context at 1938

Angle of Disagreement

"The degree of self deception is proportional to the width of the angle of disagreement."

- Citation at Self-deception. 26 Sep'68

ba»3r-traxxacr±pviiy-dohn Donat, 26

Amiga A

"I will give another example

Of always and only co-occurring phenomena.

Physicists today observe

That the proton and neutron Always and only co-occur.

While they are not 'mirror' images of one another.

And have different weights,

They are transformable

One into the other,

And are thus complexedly complementary, as are isosceles and scalene triangles.

None of the angles and edges of either need be the same To produce triangles of equal area.

And the sums of the three angles of each

Will always be one hundred and eighty degrees."

- Citation & context at Proton & Neutron (1), May'72

Aa&lsa.

See Trigonometry: Spherical Trigonometry Structural Functions

See Proton & Neutron (1)* Structural Functions, Oct'73 Triangle, Aug'72 Trigonometry, 18 Jul'76

See Angle of Disagreement Sin: Angle of Error

See Cybernetice, 7 Nov'75

Feedback, 7 Nov'75

Anal* ft Frequency Design Control:

"When man employs nature's basic designing tools, he needs only generalised angles and special-case frequencies to describe any and all omnidirectional patterning experience subjectively conceived or objectively realised."

"For how any cycles of relative-experience timing shall we go in each angular direction before we change the angle of direction of any unique system-describing operation?*"

"(□ Footnote: Now that we understand this much, we may understand how man, consisting of a vast yet always inherently orderly complex of wave angles and line frequencies, might be scanningly transmitted from and here to any there by radio.)"

+13

- Cite SYNERGETICS text at Sec. 515.12, draft of Jul'71.

See Viral Steerability: Angle-frequency Design Control

See Animate A Inanimate Sequence, (1)(2) Eplgenetica, (p.83) May'72

Angle A Frequency:

It is a discovery of synergetics that "the addition of angle and frequency to Euler's inventory of crossings, areas, and lines is the absolute characteristic of all pattern cognisance

- Citation at Synergetics. 20 Dec*71

"All designing of Universe is accomplished only through angle and frequency modulation. The DNA-RNA codes found within the protein shells of the viruses governing the designing of all the species of all biological organisms in Universe consist only of angle-and-frequency-modulated instructions."

- Citation A context at Feedback. 7 Nov*75

"We've been looking for the right word for a line— a trajectory It is circuit. It takes care of the wave. It is a round-trip circuit because the Universe is closed. We open or close the circuits. That's all we can do* That's what frequency modulation is. The circuits are the angular modulations." a Citation at Circuit. 25 Jan'72 "The frequency and magnitude of event occurrences of any system are comprehensively and discretely controllable by valving, that is, by angle and frequency modulation.

Angle and frequency modulation exclusively define all experiences which events altogether constitute Universe."

(Later context at Vector Equilibrium: Field of Energy. (D)(E))

- Cite RBF draft for SYNERGETIC!, See Sec. 208., Oct. »71.

"There are only two possible covariables operative in all design in Universe: they are the modifications of angle and of frequency."

- Cite SYNERGETICS text at Sec. 516.01; draft of Apr'71

k

"All the designs of any conceptually comprehensible phenomena are subjectively (metaphysically) definable or objectively (physically) articulatable in the terms of angle and frequency modulations as these two are

referred, respectively, the first to the axis of any two given event foci and the second to any one given cyclic experience."

- Citation at Design. 22 Apr»6ff

~~—frTV~~

AiuJLft fc Frequency

"All bodies of Universe are affecting the other bodies in varying degrees and all the intergravitational effects are processional angular modulations and all interradiation effects are frequency modulations."

- - Citation & context at Precession. Oct¹66

"When man employs nature's basic designing tools he need employ only generalized angles and special-case frequencies to describe any and all omnidirectional patterning experience conceptually subjective or objectively realized."

- Citation & context at Description: Jun'66
iBHI AngJ^a and Frequency Modulation:

"Angle and frequency modulations, either subjective or objective in respect to man's consciousness, discretely define all events or experiences which altogether constitute universe."

- Citation & context at Synergetics. Jun¹66
ay Mh/X J T^*t a F . y* S' /

Sea Circuitry

Design Covariables: Principle Of

Relay System of Angle t Frequency Modulation

Generalized Topological Definability

Nature's Basic Designing Tools

Space as Nontuned Angle t Frequency Information

See Brain's TV Studio. 1960

Circuit, 25 Jan*7**

Covariablefl, 20 Jun'66

Description, Jun*66*

Design, 1969; 23 Sep'73; 22 Apr'68*

Fourth Dimension, 19 Dec'73

In, Out, t Around. 1968

Intereffectfl, 23 Sep'73

Newton's First Law of Motion: RBF Restatement Of, 4 May'57

Omnidirectional, circa 1970

Polar Vertexes, 19 Feb'72

Precession, Oct*66

Pattern Integrity (1)-(5)

Synergetics, 14 Kay*73; 20 Dec*71*; Jun*66*

Valving, 1900

Transformation, i960

Radiation-gravitation, 15 Nov'74

Vector Equilibrium: Filed of Energy, (D)(E)* Feedback, 7 Nov*75*

Angle: Pumping Fraction Factors:

"When in the priority of relative magnitudes of problems I can afford to tackle it. full exploration should be made by aid of modern calculating machines, of the present function of angle tables and root tables, etc., carrying all to many more places and then documenting the now 'insignificant' nuances of angles at the levels of seconds and 'trix' (my invented word for a sixtieth of a second of angle or time.)

"I am already aware of 'pumping fraction factors' in angles which have been accepted as congruent but into which nature may have built pressured or tensed fit."

- Cite RBF holograph, 15 Mar*48

Anglo-American:

"...We are indeed familiar with the Anglo-American words one two, and three...

- Cite SYNERGETICS text at Sec. 1231.01, 12 Jan'74

AnfilQ-Amertcan:

"Proud men say what kind of language are you to take on...thinking of English as some kind of national affair. It isn't, that language that came into England comes from Sanskrit. It came from the enormous crossbreeding of world fighting men. It had to be something more or less understandable by...Many, many roots...The palace, and so forth, had to get some common words.

"It seemed as though you had to have some common words so that pilots, for instance, could pilot airplanes through all kinds of languages. So through the airplane, once again, evolution is bring about a world language. We have the names for each of the letters and they are Juliet and Romeo and Coca Cola, things that are highly recognizable. I see nature working out the universal languages.'*

- Cite tape transcript, p.18; RBF to W. Wolf, 28 Apr»74

See People's Language

(i)

See English, 26 Jan'75

Angstrom:

See Invisibility of Macro- and Micro- Resolutions, (1)

Angular Change:

' 'Shunt is an angular change."

- Citation

at Shunt. 12 Mar'71

See Necklace Shunt

See Precession, Oct'66

Unique Frequencies, y Jul*62

(1)

See Constant Angle Angular Invariability

See Coemic 1 Local, 3 Oct*72

Angular Field:

See Tetrahelix: Continuous Pattern Strip, 1y Dec*73

Angular Fractionation:

”Angular fractionation is absolute.”

(Synergetics: \$15.14)

- Citation i context at Equiangularity. 25 Sep’72

See Jitterbug

See Quanta Loes by Congruence, (2)

Angular Invariability:

“Stability aeana angular invariability

- Citation at Stability. 3 Oct*73

See Constant Angle

Stability

Angular Invariability:

(2)

See Necklace, (A)

Angular law:

See Energy, 19 Hoc'73

Twinkle Angle, 19 Dec'73

-Anmltr HM> « Ot the Tetrahedron:

See Unity is Plural, 28 Oct*73

See Shunt Shunting: Relative Motion Patterns

Andujar

See Relativity, May’y

Aaaiar Sorting:

See Manifest: Two, 1y73

RBF DEFINITIONS

Angular Sinus Take-Out

"Absolutely straight lines or an absolutely flat plane would, theoretically, continue outwardly to infinity. Intellectual comprehension occurs when patterns of experience return upon themselves in all directions. The difference between infinity and finity is governed by* the taking of angular sinuses, like pieces of pie, out of surface areas around a point in an absolute plane. This is the way laAnshades and skirts are made.

Joining the sinus ends together makes a cone; if two cones are made and their open, ergo infinitely-trending, edges are brought together, a finite system results.

It has two polar points and an equator. These are inherent and primary characteristics of all finite systems."

ci.r

2 Cite TENSEGRITY (Portfolio; Art News Annual), pp. 119-120

SYATFM- src. <4 00.1.5/if D.c'61

See Returning Upon Itself: Systems Returning Upon Themselves Takeouts

See Functions: Theory Of, 1970

RdF DEFINITIONS

Anujaf. Tapping:

"Synergetics introduces angular topology as both central angle and surface angle phenomena, with the surface angles accounting for concavity and convexity and the thereby derived structural integrity of systems."

- Citation at Structural Integrity 21 Dec*71

RdF DEFINITIONS

Angular Topology:

Synergetics "introduces a new conceptual aspect of topology which is the description of a structural system in the form of the sum of all its surface angles.**

- Cite NASA Speech, p. 63. Jun¹66

«BF DEFINITION

Angular Topology: Equation:

$$S + 720^\circ - 360^\circ X^n$$

where:

S « the sum of all the angles around all the crossings (or vertexes)

Xⁿ « the total number of crossings (or vertexes)

'71

- Cite as redefined by RBF to EJA, Beverly Hotel, New York, 8 Lay

Angular Topology; Principle of:

"The sum of the angles around all the crossings (or vertexes) of a structural system, plus 720 degrees, equals the number of crossings (or vertexes) of the system multiplied by 360 degrees/'

- Cite as redefined by ItBF to EJA, Beverly Hotel, New York

8 Kay 1971

Angular TQM IQKY- Synergetic, Principle Of;

"...The sum of the angles around all the vertexes of all triangularly faceted (i.e., structured) systems, always adds up to a number always divisible by 720 degrees, i.e., by whole tetrahedra, all local structural systems of Universe consist of whole tetrahedra or whole quanta--- one tetrahedron or one quantum less than finite but nonconceptual Universe, which is to say that each tetrahedron is thus proven experimentally to be one quantum unit. This eliminates N + 1 to infinity, and substitutes therefor the metaphysical but nonponderable Universe, which equals exactly N + 1 (period, and I mean Period!)."

- Cite Ltr. to Dr. Robt W. Horne, H Feb '66, p. 5

nbF bbFINI'fIUhb

Angular Topology: Synergetic Principle Of:

"My work shows that 720 degrees, which is the sum of the angles of either regular or irregular tetrahedra, is always the exact difference between the physically demonstrable local systems of Universe and the (only mathematically demonstrable) metaphysical Universe, which difference consists of two abstractly conceptual tripartite 'vector events,' i.e., six fundamental degrees of freedom vectors; or two one-half spins; or two 'quarks,' or two one-half quanta (i.e., one quantum unit). Physical Universe plus one quantum equals metaphysical Universe, i.e., metaphysical Universe is also finite."

14 Feb '66

- Cite Ltr. to Dr. Robt. *rf. Horne, p. 5,

RBF DiFIhTIOLJS

Annular Topology: Principle of:

"I made the original topological discovery that all local or closed systems in universe (which includes all geometrical forms, asymmetric or symmetric, simple or complex) are always accomplished by nature through the elimination of 720 degrees of angle. That is to say: the sum of the angles around all vertexes of all systems will always add up to 720 degrees (or two times unity of 360 degrees) less than the number of vertexes of the system times 360 degrees. This is the way in which nature takes two complete 360° angular tucks in infinity to render systems locally finite."

- Cite RBF Letter to Dr. W.D. Robertson, 3 Oct '63

Annular Topology: Synergetic Principle Of: (1)

"Absolutely straight lines or an absolutely flat plane would, theoretically, continue outward to infinity...The difference between infinity and finity is governed by the taking of angular sinuses, like pieces of pie, out of surface areas around a point in an absolute plane. This is the way lampshades and skirts are made. Joining the sinused fan-ends together makes a cone; if two cones are made and their open, ergo infinitely trending, edges are brought together, a finite system results, it has two polar points and an equator. These are inherent and primary characteristics of all systems.

't.an has employed the convention of subdividing the unity of encirclement around a point into 360 degrees, formed by the sum of the radial segmentations around a point in an absolute plane. If we call 360 degrees 'unity,* I may state my discovery of the synergetic principle of angular topology as follows:

"If we subtract the sum of the convergent angles around all the vertexes of any system from the number of vertexes times 360 degrees, the difference will always be 720 degrees, which"

- Cite TENSEGRITY (Portfolio: Art News), pp. 119-120, Dec'61
Annular Tonolony: Synergetic Principle Of: (2)

"is exactly two times unity; this is to say that the difference between infinity and finity is always exactly two.

"This principle explains many of the previously uncomprehended aspects of topology. Its philosophic implications are startling."

- Cite TESSEGRITY (Portfolio: Art News), pp. 119-120, Dec'61
Angular Topology: Principle op

"The precessionally regenerative concentricity of structure is antientropic, and evolutes towards optimally economic local compressibility and synwetry" /This principle of angular topology/ "omnioptimally-economic, omnitriangulated point system, symmetry relationships and relative abundance of frequency-modulated multiplicative subdivision of unitary local systems..."

- Citation fit. context at Prime Number Inherence 6- Constant Prinelp~Or.

1959

RBF DEFINITIONS

Angular Topology: Synergetic Principle of.

"We can state that the number of vertices of any system . . . minus two times 360° equals the sum of the angles around all of the vertices of the system."

- Cite OMNIDIRECTIONAL HALU, p. 152, 1960

"In resume: By our systematic accounting of angularly definable concave-convex local systems we discover that the sums of the angles around each of every local system's geodesically interrelated vertices is always two vertexial unities less than the universal nondefined finite totality."

"We call this discovery the law of finite Universe conservation. Therefore, mathematically speaking, all defined conceptioning always equals finite Universe minus two. The indefinable quality of finite Universe inscrutability is exactly accountable as two."

- Cite Omnidirectional Halo, p. 157. 1960

Angular Topology. Synergetic Principle of.

"The difference between the sum of the angles Around all the vertexes of any finite system

And the number of vertexes of the system times 360 degrees,

Is always 2×360 degrees.

This is to say

that the difference between finite systems
and infinity

is the sum of the planar angles around two points each of which lies
in its separate plane, Parallel to the other."

- Cite MARKS, P. 13b Cartion to Figure I «

1960

See Corollary: Principle of Angular Topology Invisible Tetrahedron Mi-
nus Two Tetrahedron: One Tetrahedron Halo Concept

See Sphere, Jun'66; 1960

Zero Condition, 14 Feb*66

Prime Number Inherency i CRA of Structural

Systems: Principle Of, 1959*

Geodesic Sphere, (1)-(3) Twelve Pentagons, Aug'71 Triangle, Jun*71

See Topology: Synergetics & Eulerean
Vectorial Topology

See Central Angles t Surface Angles, 21 Dec*71 Convergence, 16
Nov*72 Structural integrity, 21 Dec*71* Seven Minimum Topological
Aspects, S Feb*76

Antular Unity:

See Cyclic Unity

See Acceleration: Angular & Linear Central Angle

Central Angles & Surface Angles Constant Angle Dihedral Angle

End Must Come to an Angle Euaiangularity

Focus □ Angular Shunting Interangular Proportionality Internal Angle

Neutral Angle Right Angle

Seven Minimum Topological Aspects Subunity

Surface Angle

System Constants

Trisection of an Angle

Twinkle Angle

Topological Aspects: Inventory Of Nuances of Angles Time-angle-size Aspects

See Uni-angular Uniform Angle Unused Angle Unzinping Angle: Tetra-helix Wave-angle Oscillation

Sea Fix, 25 Mar'71 Generalised Topological Definability, (1) Infinite, 1955 Omnidirectional, 1960* Sixe, (1)(2) Time-eixe, 2 Not'72* Triangle, (A); 18 nar*6y* Ware, 6 Nov'73 Halo. 1933* In, Out & Around, Nov*71 Sin, 7 Nov'75* Frequency i wave, 19 Dec*74 Ice, 29 Apr'77 Vector, 17 Oct'77

See Angles & Edges

Angle-frequency Design Control Angle & Frequency

Angle & Frequency Modulation

Angle: Pumping Fraction Factors

Angular Change

Angular Constancy

Angular Field
Angular Invariability
Angular Law
Angular Name of the Tetrahedron
Angular Precession
Angular Sense
Angular Sorting
Angular Sinus Takeout
Angular Topology
Angular Unity
Angular Fractionation
Angle of Error
Angle of Disagreement

Angularly Hinged Convergence

Animal_T Vegetable_T or Mineral'

See Twenty Questions

Animal:

See Animate &. Inanimate Creature Dead Animal Pets Flesh: Animal
Flesh

Animate:

"Aninete is not physical,"

- Citation & context at Ketaphysical *k* Physical. 22 Jan'75

ttBF DhFiNTlUNb

Am. pate:

"The biological corpus

Is not strictly animate* at any point

- Cite HOW LITTLE, p. 72. Oct*66

Animate & Inanimate:

"Atoms are inanimate systems. Physically we consist entirely of atoms. When we die all the atoms are there. Whatever life was, it was not the inanimate atom systems which persist after death. At the virus level of professional concern the scientists say you can identify all the physical substances present as either inanimate crystals or living cells. Biological science began with the whole-- obviously living organisms consisting of protoplasm and viruses, but they misidentified the viral substances as physically •animate' when life is not physical."

- Cite RBF rewrite of SYNERGETICS, 2nd. Ed., at Sec. 931.04 as rewritten by EJA it RBF, 11 Dec'75

KBF DEFINITIONS (POSSIBLY RUST. W. IJRES)

Animate and Inanimate:

"The limits of the visible spectrum did not represent the threshold of change between man-devised structures and nature- devised structures. There was, in fact, no threshold."

» Quoted by William Kuhns in PUST»INDUSTRIAL PROPHETS (Harper-Colophon) p.240. 1971. Attributed to Robt. W. Marks.

RbF DEFINITIONS

Animate and Inanimate:

"Very, very slow changes humans identify as inanimate.

Slow change of pattern they call animate and natural."

- Citation & context at Change. Oct*70

"Today's hypersocialization in socio-economic functioning has come to preclude important popular philosophic considerations of the synergetic significance of for instance, such historically important events as the discovery within the general region of experimental inquiry known as virology, that the as-yet popularly assumed validity of the concept animate and inanimate phenomena have been experimentally invalidated.

"Atoms and crystal complexes of atoms were held to be obviously inanimate. The protoplasmic cells of biological phenomena were held to be obviously animate. It was deemed to be common sense that warm-blooded, moist, soft-skinned humans were clearly not to be confused with hard granite or steel objects. A threshold between animate and inanimate was therefore assumed to exist as a fundamental dichotomy of all physical phenomena. This seemingly placed life exclusively within the bounds of the physical.

"The supposed location of the threshold between the animate and inanimate was methodically narrowed down by experimental science until it was confined specifically within the domain of virology.

- Cite NEHIT SPEECH, pp.37-38, 13 Nov'69

Animate and Inanimate Sequence:

"Virologists have been too busy, for instance, with their DNA-RNA genetic code isolations, to find time or to see the synergetic significance to society of the fact that they have found that no threshold does in fact exist between animate and inanimate.

"The possibility of its existence vanished because the supposedly unique physical qualities of both inanimate and animate have persisted right across yesterday's supposed threshold in both directions to permeate one another's, previously-conceived-to-be, exclusive domains. Subsequently, what was animate has become foggier

and foggier, and what is inanimate clearer and clearer. The inanimate alone is not only omnipresent, but is alone experimentally demonstrable. Belated news of this threshold elimination must be interpreted to mean that whatever life may be, it has not been isolated and thereby identified as residual in the biological cell, as had been supposed by the false assumption that there was a separate physical phenomenon called animate within which life existed."

- Cite NEHRU SPEECH, pp.37-38, 13 Nov'69

Animate and Inanimate Sequence: (

'There seem to be phases where you and I automatically check in and say, 'That's a man.' 'I can see that's a living organism.' And another might say, *I can see that's a crystal.' But we've learned now that there's no threshold between these two. They used to be called animate and inanimate, and then we found that that is not true. Xs we got into virology the distinction was no longer there.

We found that all the descriptive attributes of the crystals permeate--- go right across the threshold--- so you'd have to call everything that is physical, just physical. Man used to think that he could identify life all within the physical. At one end of the physical was the thing we'll call animate organisms; at the other end of the physical was something called inanimate. So, he called it that, and was kind of satisfied that these two qualities were all within physical.

"It's not just the chemists dealing in molecules, but the biologists and the physicists. All the lines have broken down, the instruments and everything. The investigator would take everybody right across all those borders, genetics, and so forth, DNA running through it. and getting down to virology where we discover DNA and RNA and all the design**

- Cite RBF to Wortld Game, Jun-Jul'69

RBF Db-FI NITI OKS

Animate and Trvtnimar.p Sequence: (2)

` ` controls, and found that right there that whatever was originally called physical as the atom--- the atoms go right on combining. So it's physical all the way; there's absolutely no threshold.

"I-.an is so specialized that he didn't notify society that he had found no threshold between animate and inanimate. This is simply to say, then, that whatever we really are, whatever life is, there is no identity of any threshold between or within the physical. And I'm saying to you very powerfully that I'm confident that our communication, everything you and I do, is absolutely weightless. The only thing that counts between you and me is thinking. The difference between human and other physical organisms is always the metaphysical, the thought."

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69, Saturn Film transcript #327, pp.4-6.

Animate and Inanimate;

"Mortal physical human bodies have the function of providing a regenerative succession of fresh physical vehicles for the mortal--- because entropic--- articulation of metaphysical immortality. The long-held popular conception of the existence of two kinds of physical substances--- one called animate and the other called inanimate--- the first rather mysticdly maintained and the other subject to stark chemical analysis, was altogether invalidated as science closed in on the assumed threshold between the animate and inanimate at the virus level only to find that there is no threshold and that all the phenomena followed strictly inanimate physical laws. So we find the real separation of the life and the inanimate when humans die and no weight is lost. Life is metaphysical and anitentropic. The inanimate is physical and entropic.**

- Cite KBF at benate Hearings, p.33, 4 Mar*69

Animate and Inanimate:

. . It is logical to hypothesize that all of nature's structuring both 'animate' and 'inanimate' may be tejpahedronally coordinate. I put animate and inanimate in quotes as their previously assumed identification with life and non-life respectively has been experimentally discovered to be invalid as the two overlap throughout the virus structures. The viruses may be described as entirely animate or as entirely inanimate."

- Cite NASA Speech, pp 57,Jun'66

Animate and Inanimate;

"It is the area /~DNA_7 where the chemistry could be called crystallography, it could be called metals or it could be called animate. You could call it animate or inanimate: it is the complete threshold of the two. Because it is the threshold people who like to be prosaic and like to make man feel so small can say everything is just going to turn out to be inanimate chemistry, and you are all the consequence of ? robabilities, and you might as well go jump in the river.

his area, then, of the threshold is where the DNA is found and the controls of the patterning of life are down to four compounds of chemistry which somehow or other develop a code, and out of this code of these four letters are all the designs that occur."

- Cite OREGON Lecture #4, p.1J5, 6 Jul'62. Context at DNA.

See Burial of the Dead

Dead Animal

DNA

Inanimate

Human Beings 4 Hard Machinery

Life 4 Death

Life is not Physical

Nonbiologicals

Organism

Quick 4 the Dead

Transcendental

Twenty Questions

Threshold of Life

Viral Steerability

Biologicals vs. Nonbiologicals

Morphology: Living Morphology vs. Corporeal Morphology

Organic 4 Inorganic

No Chemistry of Life

See Change. Oct'70*

Crystallography, 6 Jul*62

Generalization: Fifth Degree, 28 Jan'69

Life, 13 Nov'69» 9 Jun*75

Organism, 3 Jun'?2; 12 Feb'72

Robin Hood Sequence (2)

Cormunic at ion Hierarchy, (1)

Fuller, R.B: On Christopher Morley. 22 Jun*77 Human Beings & Complex Universee, (9H14)

Anlmiaw:

See Twenty Questions, (3)

Annihilation!

"Annihilation is temporarily discontinuous but self survives in the complementarity,"

- Citation k context at Emrlnatina. 22 Jun(75

Annihilation:

**..,We can have annihilation and have no energy lost; it is only locally lost."

- Cite SYNERGETICS text at Sec. 501.13; RBF galley rewrite of 6 Nov'73

ARlhila Uan:

"Entropic dispersal,, and syntropic association...work very much like the rubber glove. There really is an annihilation into eternity with no time and dimensioning- these are only in our temporal relativity....

"But every time we have annihilation into eternity, it is not lost in principle; it is only lost in the relative inaccuracy which we must have to differentiate and have awareness."

- Citation 4 context at Eternity. (1J, 23 Kay'72

Annihilation-

"Complementarity require® that where there is conceptuality there must be nonconceptuality. The explicable requires the inexplicable. Experience requires the nonexperientiable. The obvious requires the mystical. This is a powerful group of paired / `` concepts../ generated by the complementarity of conceptuality. Ergo, we can have annihilation and yet have no energy lost,"

- citation at ConnloMntaritr, 12«.p<71

• r~t" " nng r,l i n' I ieljr Hntfil v«*.i* y 13 gypry—

LOMCK/'XLITT 5 fl J. 13 i

Annihilation:

"Only the tetrahedron is insidqjoutable."

"The tetrahedron is the only structural system that □ can be turned inside out."

"The octahedron is infoldable, or innestible— hemihedrally.

"The icosahedron dimples locally."

- Cite RBF holograph and sketch on "Annihilation."

Somerset club, Boston 22 April 1971.

KBF DfeFlKITIOUS

Annihilation:

"Annihilation i: the reverse of synergy because you have exactly the same number of parts of the same length---

But you are just not predicting them."

- Cite RBF to EJA

Beverly Hotel, New York Feb 1971

KFF DEFINITIONS

Annihilation:

' "When physics finds experimentally that a unique energy patterning--- erroneously referred to in archaic terms as a particle--- is annihilated that annihilation is only of the rubber glove kind. The positive becomes the negative and the positive only seems to have been annihilated. V/e begin to realize conceptually the finite yet non-sonorial, outness which can be converted into censorial in-ness by the inside-outing process."

- Cite I.IHKU SPhbCH, p. 12., 13 Nov'69 iPtCi TY * SETC S'* 1.]

RBF DEFINITIONS

Annihilation YB> SYOWKYS

"Annihilation is the reverse of synergy,"

- Cite RBF to EJA, Beverly Hotel, NYC, 28 Feb'71

See Invisible Hole Invisible Tetrahedron Locus of Vanishment Novent
Other Side of the Universe Rubber Glove
Self-annihilation
Synergy: 2+1-4 Tetrahedron: Inside-outing Of Time Cancellation
Unpredicted
Volumetric Annihilation Octahedron as Annihilation Model Decreation
Lost Energies

See Complementarity. 12 Sep'71*
Eternity (1)*, (2)
Fourth Dimension, 6 May'48
Metaphysical, 14 Feb'72
Knot. 7 Nov'73
Evaginating, z2 Jun'75*
Quantum Jump, 26 Aug'76
Nuclear Domain &. Elementality, (1)(2)
Annual Accounting Sy, t_{TO} :

See Agricultural Accounting System Fiscal Year

Miiwi Rotation of Crop-

See New York, 1970 New York City, (1)

KBF DEFINITIONS

Anonymity:

"I published '4-D' anonymously to cope with the innate selfishness of humans--- including my own.

My name wasn't there to avoid all the jealousy or resentment from others-- to make it more receptive to others. I was always delighted when people stole my ideas. It seemed a good way to get ideas around,"

- Cite Dt RBF to Steve Baer in from 3200 Idaho, Washington

New Mexico by telephone DC, 19 Dec, '71.

AMJOT.UX=

See Coincidental Articulation

**Fuller, R.B: His Decision He Must Not Be a Persuader But a Doer
Idea Stealing**

Answer - Interrelationship;

See Comprehension, 29 Sep*7b

See Chaos of Thought Reduced to an Answer

Excluded Answer Resources

Question: Largest Answerable Question Unanswerable

Unit Answer

Why: The Unanswerable Why

Answer i AnAMfiCAklfl

See Bits, (2)

(2)

Anfrhrgposgntrlap:

See Man's Conscious Participation in Evolution

AnUbgslYi

See Beatnik Computer as Antibody

Anticipate:

"Women and their clothes are like poets. They anticipate.

All options are open."

- Citation at Option, May'70

Anticipatory:

"Principles and intellect are alike anticipatory. That is, nature is never caught unprepared. . . Intellect is anticipatory . . while man is inherently limited."

* Cite RBF quoted by R.C. Nelson in interview in Christian Science Monitor, "Nature's extraordinary Order, 3 Nov '64

RBF DEFINITIONS

Anticipatory:

"I propose that architecture and engineering become completely anticipatory."

- Cite RBF quoted by R.C. Nelson in interview in Christian Science Monitor, 3 Nov '64: "Nature's Extraordinary Order

Anticipatory;

"What we are discovering also is that these principles are anticipatory. There is nothing we can do which nature is not ready for us."

- Cite Oregon Lecture #4, p. 12g. 6 Jul'62

Anticipatory:

"The synergetic anticipatory capabilities of intellect (in respect to conceptual formulations of evolutionary

transforming potentials of Universe and the anticipatory stratagems evolved by intellect to test such hypotheses) imply the possibility of a velocity transcendence of omniscient functioning over omnipotence functioning which could mean an intellectually regenerated evolutionary extension of Universe in generalized synergetical integrity."

- Cite Omnidirectional Halo, p. 163. 1960

See Stock Market, 1964

(1)

See Design Science

Divide i Conquer

Omniscience Transcendent of Omnipotence

See Athletic. 6 Jun*74 Capability, 1963 Intellect, 6 Jul'62 Intellection, 1960 Option, May'70* Self-debiaeing, May65 Generalized Principle, May'68 Poets, 28 Apr'71

Antlcoataolcglcal;

See Education, May*72

Antientropy:

"By antientropy. I refer to the omniaccelerating- acceleration of the clarifyingly differentiated and intercommunicated, experience-derived pattern cognitions of the human mind which progressively disclose the orderly complex of omni-interactive, pure, weightless, and apparently eternal principles governing the intellectual design and operation of the-- seemingly and 'suggestively' only--- infinitely self-regenerative universe.*

- Cite DOXIADIS, P. 310, 20 Jun'66

AnUcnWQPYS (A}

"What is the complementary or opposite of the expanding physical Universe that grows progressively more diffuse, complex, chaotic, and disorderly? Is there a phase of Universe equal in magnitude to that of the physical, but which is contracting and becoming ever more orderly? This question moved the astronomers to look for black celestial bodies in the heavens to balance the radiant stars. While the astronomers have as yet found none, our own Spaceship Earth constitutes one such important black body.

"The cooling Earth is a contracting phase of Universe, Our Spaceship Earth is continually receiving radiant energy from the Sun and other stars. One finding during the recent International Geophysical Year indicated that Earth probably receives 100.000 tons of stardust daily. These physical receipts impinge randomly upon our spherical spaceship. On Earth the biological organisms go to work on these random receipts and continually rearrange them in giant but orderly molecular chains. Biological life impounds the Sun's radiation in many orderly ways, e.g., through photosynthesis."

- Cite hBF in Merg-'s & Acquisitions, Vol 1, No.3, p.45, Spring'66
AnUMtrQjg;
(B)

"Together, the vegetation and the ecology gradually bury the impounded energy deeply within the Earth and we call these energy deposits the 'fossil fuels.**

- Cite RBF in Mergers & Acquisitions, Vol 1, No.3, p.45, Spring'66
RBF DEFINITIONS
Anti/Entro]

"Entropy is the name given by the scientists to the inherent loss of energy by machines or local systems of universe in general. The scientists speak of entropy as the 'law of increase of the random element.' Nature balances positive matter by negative matter. Differentiative and integrative intellect, anti-entropy present in man. operates to coordinate entropy and anti-entropy within the comprehensive inventory of non-simultaneous, complementarity of interrelatedness, of an evolutionarily transforming, physical universe."

- Cite MEXICO 63, p. 16 , 10 Oct *63
Antientropy:

"The precessionally regenerative concentricity of structure is antientropic.

and evolutes towards optimally economic local compressibility and symmetry."

- Cite INTRO, to UMiDIRECTIONAL HALO, p. 126, 1959

Antientropy: (1)

"We know scientifically that all local physical systems are continually giving off energies. We call this entropy.

Due to each of the local systems' unique periodicities, etc. the given-off energies are diffusely and randomly released in respect to other systems. Thus the physical Universe is continually expanding and increasingly disorderly. Fundamental complementarity requires that there must be some phase of Universe where the Universe is contracting and increasingly orderly.

"We look at all the stars and find that we 'see' them only because they are giving off energies in increasing disorder. We call this radiation. We find only one place in the Universe where we know energies are converging, collecting, and being stored, and that is our own spaceship Earth.. our planet. In the International Geophysical year, world-around measurements indicated that approximately 100,000 tons of stardust are accumulated daily at our Earth from other stars. Thus energy is being collected here as matter. We also are collecting an enormous amount of radiation from the other stars,"

- Cite WORLD GAME (3), Oct'69

"primarily from the Sun, but also as cosmic radiation from myriads of other stars. The energy either as stafoust

or radiation increments, arrives in a very random frequency pattern. We may state it to be experimentally proven that our special space vehicle Earth is at least one mobile energy collecting center in contradiction to the stars which are energy distributors. The Sun's radiation is not being reflected off Earth as from a mirrored ball. It is refracted, or angularly deflected, by the atmosphere. Thus the Sun energy as heat is impounded in the atmosphere to produce weather changes. Thus also are the waters refractionally heated by the

Sun's radiation. Thus by a series of relay stages is energy impounded aboard our spaceship Earth to regenerate life by the photosynthesis of the vegetation, which is a beautiful process whereby the random energy receipts are transformed chemically into beautiful orderly molecules which are beautiful structures. Here you see the turnaround from disorder to order--- from entropy to antientropy. All the biologicals are converting chaos to beautiful order. All biology is antientropic."

- Cite WOLD CAM! (3), Oct'69

RBF DEFINITIONS

Antientropic:

"All the biologicals are antientropic. A baby couldn't grow to be entropic; the child would shrink, getting smaller and smaller. But a child get's bigger, so it's antientropic. . . "

- Citation and context at Order. Jun-Jul'69

Antl£Qt£2£Xi

"Fan's function in Universe

Is metaphysical and antientropic.

He is essential to the conservation of universe '•/hich is in itself

An intellectual conception.' '

- Cite DOIIA9IS, p. J11, 20 Jun'66

RBF DEFINITIONS

AaU.mr.2pl9 or?grins Principles:

"I think the antientropic ordering principles are both subconsciously and consciously developed by humans as conventions of understanding of, for instance, how we can prosper without getting into trouble. 'The Law and the Citizen' relates to this consciousness. Laws are conventions, working agreements, often different from the experimentally discovered principles governing physical Universe behaviors. There is usually a deal of difference between yesterday's erroneous assumptions and today's scientific findings."

- Citation at Law. May'65

See Fossil Fuel Sequence Industrial Principle Irreversibility: Principle Of Man as a Function of Universe Man as Local Universe Technology Man as Local Problem Solver Order Sorting Syntropy Syntropy &. Entropy

See Generalixation: Degrees Of, Spring'66 Local System, 1960 Order, Jun'69* Pattern Integrity, (5) Proton 4 Neutron, 22 Jul'71 Law, May'65* Sphere, 15 Oct'64 Technology, 1946 Teleology, Oct'66

Antigravitational Valving:

See Ecology Sequence, (C)

Antimatter;

"Clearly it is seen that the metaphysical is to the physical as antimatter is to matter, i.e., as the electron is to the positron,"

See Matter &. Antimatter

Matterleenees

Negative Matter

RBF DU*'IN IT IONS

Anti parallel:

"Parallel and antiparallel are precession."

- nir Rnr marginal 11 rintrd 5 npt in "Thn ?r-irnt.i'i-~

bndeavur,>*(1963)* page 12»---

- Citation at Precession. 5 Sep'65

See Nonparallel

Torque

Convergence & Divergence

See Rope, 1 Apr'4y Nature in a Corner, 12 Nov*75 Dimensionality, 30
Mar*75 Equals, 24 Apr'76

Antipathy:

N.Y. Times. 15 Kay*72, H.M. Schroeck. Jr., "Immunology: A Code
Spelling Life or Death": "It is widely suspected that T cell antipathy
to the foreign is an important bulwark against the cancer cells in the
body..." (Underlining by R.B.F.)

R.B.F. barginalia: Antipathy: "Strufcural redundancy or deficiency.
See 29-strut icosahedron."

& May'72

- <ite RBF marginalia presumably

Antiprlority:

"Every priority has to have an antipriority because every action has a reaction."

- Cite RBF to EJA, Paganao's Rest., Phila., PA., 22 Jun'75

/inti-priorities:

' 'ill priorities have anti-priorities."

- Cite R!JF to i.JA

Beverly Hotel, New York 13 karch 1971

Antipriorities:

"rfe find that during wartime, the housing, the environment controlling arts, become the antipriority arts."

"Housing and architecture are antipriority phenomena in the great economic patterning; its kind of advances lag way behind those of the others."

- Cite ORaGBON UNIVERSITY Lecture #1, pp, 16, 18, 1 Jul'62

"Wherever you have actions you have reactions, and where there is priority there is antipriorlty□ So in wartime you pick

your primest young people to send to the front, helping to keep the front away from home and you are taking scarce resources and scarce braini that know how to work them and scarce tools with which they can be worked on high priority to make the weapons to Implement your boys you send to the front. The idea of someone taking some of the high capability, high priority resources to make themselves a finer home during the war would be a most immoral kind of thought. . . Any kinds of sheds that will keep the rain off will do. . . We find that during wartime the housing, the environment controlling arts become the entipriority arts.. . . You find that you go from pretty nice looking

spigots on the sink down to lead spigots. You find the housing arts in
gei eral are what we call the antipriority arts and this holds true in the
peace time . . . because in peace time the high priority is with produc-
ing foods . . . tending the metabolic processes so you could survive.
. . When winter was coming on and the harvest was in you have a
little more time and you get some more wood and you run it over to
the chimney so you get yourself covered in for the, winter and that is
more or less the fortuitous way in which housing gradually occurred."

- Cite Oregon lecture pp 15-17, 1 Ju '62
See Building Business: Building Industry

See Architecture, 2 Jul'62 Fire, (B); 20 Apr'72 Desovereignliation Se-
quence, (1) Doing What Needs to Be Done, (jj)

See Tenaegrity: Unlimited Frequency Of (2)
Antisynergetic:

"Selfishness is inherently antisnergetic.*
- Citation & context at Unselfishness. Jan*72

Antiavnergetic: AnUarnami.

See Desynergize

AntAixuszmls: ftr.tiaratrgv-

(2)

See Education, May¹72

Specialization, (p.4.1) May'72; 28 Apr'?1

Unselfishness, Jan'72*

Democritus, May*72

RBF nanons

Antitetrahedron;

"The tetrahedron is the only system that can be turned inside out---
to be antitetrahedron.*

- Citation at Tetrahedron; Inside-outing Of. 5 Sep*65

Sac Invisible Tetrahedron

Negative Tetrahedron

Star Tetrahedron

See Tetrahedron: Inside-outing Of, 5 Sep'65»

RBF DEFINITIONS

Anti-thinking:

"I see our society as yet very powerfully conditioned with anti-
thinking and fixations that are racially suicidal. The social reflexes
are so debilitating that humans may not be able to persist of our
planet.*

- Cite MuseumMs Keynote Address Denver, p. 6. 2 Jun¹71

See Nonthinking

See Belief, Oct'71

(2)

Anti-Univerae:

See Belief, Oct*71

Any and All:

See Water, 20 Sep*76

In, Out & Around, 1? May*77

RBF DEFINITIONS

Anvdirectional:

"Out is non-directional because it is anydlrectlonal."

- $x \leq 3t$ » yapginar7)yi»rusLxw 19 June 1971, a»n

- Citation 4 context at In 4 Out. 19 Jun*71

iaxdlrsslXansl:

See In &. Out, 19 Jun*71

In & Out: Go In To Go Out, 16 Dec*73

Line, 7 Nov*72

Conceptual Phyeice, (1)12)

In, Out A. Around, 17 May*77

Anyone. Anywhere, Anytime:

(1)

See Origin: Re-originatable by Anyone, Anywhere, Anytime

Anyone_r Anywhere. Anytime:

(2)

See Words, 17 Jul'73

Anything:

See Degrees of Freedom, 13 Dec'73

Anwhen:

See Vector Equilibria® Frame, 3 Nov*73

AaxHiuaa:

Sea Manywhere

(D

See Center, 16 Nov*72

Isotropic Vector Matrix, 16 Not'72 Vector Equilibrium Frame, 3

Noy*73 Words, 17 Jul'73

HBF UiFIHITlUhb

Apart:

"But the astrophysicist says that no matter how far things come apart. they come further apart fundamentally than proton and neutron which always and only coexist."

Asac£s Ajannsaas:

(D

See Between

Coming Apart 4 Holding Together Coming Apart Phase

See Degrees of Freedom, 1 Apr*72

Triangle, 5 Jul*62

A PftrUclo:

See Module: A Quanta Module

Apex;

See Central Angles k Surface AngJ.ee, Aug'71 Convergent ve. Parallel Perception,
13 Nov'75

iiBF DEFINITIONS

Apolitical •

"Do you believe planners should be apolitical?"

RBF: "I don't believe anything. All I can say is that
my experience leads me to be apolitical. My hand is an artifact."

- Cite RBF to World Game Workshop'77; Phila., PA: 22 Jun*77

See Fuller, R.B: I an Apolitical

Apolitical: U)

See Technology: Enchantment vs. Disenchantment, (1)

Apparent Motion:

See Tetrahedron: Coordinate Symmetry, Nov'?1 Universal Joint:
Tetrahedron, 9 Nov*73 Cheese Polyhedra, Nov*71

Appetence:

See Teleology, (3)

See Hunger

See Photosynthesis, (2) Hunger! Stones Do Not Have Hunger, 20 May'75

Apple:

"You don't start with half an apple; you start with apple. You don't look for four quarter-apples to make one apple. You have to have the wholes before the parts.

- Cite RBF to Colloquium at Goddard Space Flight Center
NASA, Greenbelt, MD; 24 Sep'76

Apple:

"With such structural insights we can comprehend the structure of an apple in terms of noncompressible hydraulic compression and critical proximity cellular wall tensioning. Synergetics identifies teneegritty with high-tension alloys, pneumatics, hydraulics, and load distribution."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 764.02, 10 Nov*73

See Reflection Sequence: Apple

See Coring, 11 Jul'62

Pneumatic Structure, (3)

Vegetable Crop Harvesting, Jun'69

Applewhiter E.J.: Cosmic Fish;

"Sonny Applewhite and I meet deliberately and premeditatedly, and thereafter find ourselves spontaneously, Inadvertently hauling in word-netted shoals (schools) of cosmic fish, i.e., epistemological pisces.

"Sonny handles the ship, opens the holds, and heads our catch for the commonwealth harbors of humanity, while my task is to cast the nets of prescient apprehension in discrete directions of the omnidirectional ocean of Universe to be hauled in only upon unpremeditated

observational embracements of ever-more-stably-generalized systems of ever greater and more incisive comprehension with which we may classify and sort our cosmic fish catch of ever- multiplying Universe's special-case experiences."

- Cite RBF holograph, Pepper Tree Inn, Santa Barbara, *8 Feb '73*
Applewhite, E_tJ: (1919-) : RBF References to EJA;
See Cosmic Fishing, (A.) (C)

Cosmic Fish Sequence, (1)-(4)

Fluidity, 18 Jun'46 j

Intuition! Second Intuition, 14 Oct'72

Promote: Promotion, 6 Oct'7<

Skin Pigmentation, 14 Feb'72

Applied SslencM-

"Plunges in depth involve unique sub-complexes of the whole. These generate the applied eciencea."

* Citation and context at Education Revolution (1), 29 Jun'72
Aaallad Selanea;
See Science: Pure & Applied
Appreciative YD... Pepriciatlve Commonwealth:

"We must advance from an inherently depreciative to an inherently appreciative commonwealth."

- Citation & context at Economic Accounting System. 29 Jun»72
Apprehending:

"Whereas reality is eternally now, human apprehending demonstrates a large assortment of lags in rates of cognitions whose myriadly multivaried frequencies of myriadly multivaried positive-negative, omnidirectional aberrations, in multivaried degrees, produce such elusively off-center effects as possibly to result in an illusionary awareness of an approximately unlimited number of individually different awareness patterns, all of whose relative imperfections induce the illusion of a reality in which 'life*' is terminal, because physically imperfect..."

- Citation and context at Senses (1), 22 Nov'73

Apprehension:

"The human brain apprehends and stores each sense- reported bit of information regarding each special case experience. Only special-case experiences are recallable from the memory bank."

- Cite Dreyfuss Preface. "Decease of Meaning" 28 April 1971, p. 5

KBF DtFIMTiuNb

Apprehension:

"Apprehension means information furnished by those wave frequencies tune-in-able within man's limited sensorial spectrum."

- Cite STCLRGuTICS, "Universe," Sec. 302. 1971

RSF DEFINITIONS

Apprehension;

"...Those wave {equencies which are directly apprehendable exclusively within man's very limited sensorial spectmrum frequency bands. . . "

- Cite NO MORE SECOND HAND GOD, p. 86

9 Apr'40

Apprehended & Conxunjcated:

See Universe, 1965; Dec'69

See Subjective & Objective

Teleologic Conversion of Information Brain 4 Mind: Distinction Between

Apprehending fc Comprehending:

(2)

See Design. 13 May'73; 13 Mar'73 Education, 20 Jan'75 Evrnal & Temporal, 4 Sep'77 Experience, <9 Nov'74 Intellect; Equation Of, 1968 Intuition, 26 Dec'74 Otherness Point, 24 Sep*73 Synergetic Integral, 1960 Teleology, 1938 Understanding. May'67J 30 Sep'76 Universe: All the Known, 15 Jan'74 Womb of Permitted Ignorance, Oct'70

Apprehension + Comprehension - Awareness:

"Apprehension is the physical brain's coordinate storing of all the special case, physically sensed information of otherness (integral---the thumb sucked by the mouth; or separate---the mother's udder, ditto..). Comprehension is the metaphysical mind's discovery of meaningful interrelationships existing between the special case informations that are neither implicit or inferred by any of the special case informations when taken separately---the meaning discovered by mind being the generalized principle manifest exclusively by the interrelationship variable and constants.

"Awareness means apprehending while also intuitively comprehending that the incoming information is significant because pregnant with meaningful principles."

(Sec. 61053.824)

- Cite RBF Holograph, 3200 Idaho, Wash., DC; 26 Jan'76

Apprehension Lags:

"The apprehension lags automatically Impose off-center human cognition which occasions the sense of time in a timeless eternity...• Inherent in the lgs is our intimate knowledge only of self,"

- Citation & context at Time & Cognition. 11 Sep*75

See Step-up, Step-down Transformations, 22 Jan*75 Time & Cognition, 11 Sep'75* Eternal & Temporal, 4 Sep'77

Apothndable: Apprehension:

See Apprehending & Comprehending

Awareness

Dynamic Apprehension

Motion Apprehension

Prehending

Instrumentally Apprehensible

Perception

Acprffhpndt>J.<: Aoprohenalon:

(2)

See Design. 13 May'73

Integrity. 25 Jan*72 IntellectLona, i960 Life, Jan'72 Packaged, 1969 Reality, 24 Feb'?2 Senses, (1)* Tactile Sequence, (1)

Universe: All the Known, 13 May*73

Model vs. Form, 8 Apr*75 Limit Speed, 11 Sep'75 Frequency Islands of Perception, 13 Nov'75 Sensings & Eventings, 28 Apr'77

1

RBF DEFINITIONS

"We could Add the word <IUUMXljaLtflIX everywhere to sake the everywhereeaa coincide with the sodular frequency characteristic of any set of randoa Multiplicity."

- Cite RBF Ltr. To Dr. Ursaton, 8 Uct. '64, pp. 1-2,

Approximately Impossible:

See Trees, (A)

ApprOKiffiAtflIT iBTlalblQ:

See Invisible Architecture, 10 Apr'70

KBF DEFINITIONS

Approximately One:

"approximately one."

(employed at blackboard while describing, a sphere center to Sll-b Seminar.)

- Cite KBF, U. i-iass. Amherst, 22 July 1971.

KBF UuFlt.ITIUM.

Approximately On*:

. .A sphere is an aggregate of anergy event foci approximately equidistant in all directions from approximately 'one¹ energy event focus."

- Citation &. context at Focus. 22 Jul*71

Approximately One:

See Focus, 22 Jul'71

See Communications Theory

Identical

Indeterminate

Physical Is Always the Imperfect

Truth as Progressive Approximation of Residual Error

Tolerance Sequence

Inexactitude

Uncertainty Principle

Inaccuracy

See Point, 19 Dec'73

Sphere, 1967; Jun'66; 14 Feb'66; 10 Dec*64

Tenaional Integrity, 1970

Triangle, 6 Oct*64*

Geodesic Sphere, (1)

Light on Scratched Metal, 9 Nov'73

Form Cannot Follow Function, 20 Sep'76

A. Priori:

"The number one a priori characteristic of the entirely myseWious life is awareness . . ."

- Citation and context at Awareness. 13 Kay»73

A Priori-

"rfhat the scientists have always found by physical experiment was an a priori orderliness of "nature" or "Universe" always operating at an elegance level which made the discovering scientists' own working hypotheses seem so crude by comparison to the discovered reality as to seem relatively disorderly."

- Cite Synergetics Draft, "Symmetry," Sec. 532.01, July 1971

A Priori:

"I think the conscious part of all this is very meager in relation to the sum total. All the recording that went on in the brain, a fantastic number of documentations which suddenly make it possible for the mind to say: I've done that many times before. . . The main part would be, though, that the conscious part of total history in the Universe, man's consciousness, is so meager in relation to the a priori, namely the 92 chemical elements, and all the fantastic things that have been going on for billions of years. The a priori is that there are organisms before us, and that there is gravity holding us on the Earth. All these are a priori."

- Cite JATTS TAPE, pp. 20-21, 19 Oct '70
A Priori;

"...Generalized principles, all of which, like leverage, are, of course a priori to man. They were not Invented but were discovered by human intellect and are, therefore, a priori."

- Cite Arts & Letters GOLD MEDAL, p. 10

May • 68
A Priori:

"We cannot design metaphysical; we can only discover metaphysical. It is a priori."

- "Ante-F. Pearce & C. McKelvey for J. F. Terzani. 1967 •

- Citation at Metaphysical. 1967
 See Design: * A Priori Design »s. Deliberate Design

a. m?rl:

"I am convinced that creativity is a priori to the integrity of Universe and that life is regenerative and conformity meaningless."

- Citation & context at Subconscious Coordinate Functioning. 10 Oct
- 63
- Cite MEXICO, p. 103, 10 Oct'63
- Same sentences appears in I SEEM TO BE A VERB, p.6

RUF DEFINITIONS

A Priori Cognition:

"The number one characteristic of life is awareness. The child has access only to a priori cognitions. The perception of children is innately naive: they explore and experiment spontaneously..

- Citation & context at Children as Only Pure Scientists. (1);
22 Feb'77

A Priori Environment:

"In addition to the inherent duality of Universe
There is also and always
An inherent threefoldedness and fourfoldedness
Of initial consciousness
And of all experience.

For in addition to (1) action, (2) reaction, (3) resultant There is always
(4) the a priori environment, Within which the event occurs, I.e., the
at-first-nothingness around us Of the child graduated from the womb,
Within which seeming nothingness (fourthness) The inherently three.
Fold Local event took place."

- Cite INTUITION, p. 14, May '72
- A Priori *W-dip?n?ippal Rlly: (1)

"Fourth Power In Physical Universe: While nature oscillates and palpates asymmetrically in respect to the omnirational vector equilibrium field, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrinous state, ergo, omnirationally conn.ensurable to the fourth power, volumetrically, which order of powering embraces all experimentally disclosed physical volumetric behavior.

"The minimum set of events providing macro-micro differentiation of Universe is a set of four local event foci. These four 'stars' have an inherent sixness of relationship. This four-foci, six-relationship set is definable as the tetrahedron and coincides with quantum mechanics' requirements of four unique quanta per each considerable 'particle.'"

- Cite SYNERGETICS text at Secs. 966.10 & 966.11 as revised on galley by RBF, 20 Dec'73

"In synergetics, all experience is identified as, a priori, unalterably four-dimensional. We do not have to explain how Universe began converting chaos to a 'building block' and therefrom simplex to complex. In synergetics Universe is eternal. Universe is a complex of omniinteraccommodative principles. Universe is a priori orderly and complexedly integral. We do not need imaginary, nonexistent, inconceivable points, lines, and planes, out of which non-sensible nothingness to inventively build reality.

"Reality is a priori Universe. What we speak of geometrically as having been vaguely identified in early experience as 'specks' or dots or points has no reality. A point in synergetics is a tetrahedron in its vector-equilibrium, zero-volume state, but too small for visible recognition of its conformation. A line is a tetrahedron of macro altitude and micro base. A plane is a tetrahedron of macro base and micro altitude. Points are real, conceptual, experienceable visually and mentally, as are lines and planes."

- Cite SYNERGETICS text at Sec. 966.12 as newly drafted by RBF on galley, 20 Dec'73

See Interaccommodative, 22 Jul*71 Synergetic Integral, May'72

See God

Integrity

A Priori Intellect (i)

"If one realizes that Universe is aum-totally an evolutionary design integrity, then one may be prone to acknowledge that an a priori Intellect of infinitely vast considerateness and competence is everywhere and everywhen overwhelmingly manifest,

"In view of a number of discoveries such as the ecological regeneration manifest in the mammalian-vegetation interchange of gases, we can comprehend why responsibly thinking humans have time and again throughout the ages come to acknowledge a supra-human Omniscience and omnipotence.

"The self-regenerative scenario uni- so is an a priori, design integrity. The Universe is everywhere, and continually, manifesting an intellectual integrity which inherently comprehends all macro-micro event patterning and how to employ that information objectively with omniconsideration of all intereffects and reactions. The Universe manifests an extraordinary aggregate of generalized principles, none of which contradict one another and all of which are interaccommodative, with some of the interaccommodations"

- Cite RBF Introduction to V. Papanek book, 9 Apr'71

A Priori Intellect:

(2)

''exhibiting high exponential levels of synergetic surprise.

Some of them involve fourth-power geometrical levels of energy interactions."

See Chees: A Priori Intellect Invents a Game Called "Life"

Objective Intellect

See Generalization Sequence, 13)44)

A Priori Mystery:

"The unknown a priori mystery manifest as a cosmic source by all the knowna experientially, unpredictedly, and successively harvested from the a priori unknown, which succession of discoveries discloses that no discovery has yet proven to have exhausted the a priori and only mysterious source."

- Cite VERY FUGGY OUTSIDE, 8 Mar*73

A Priori Mvaterv:

"For the a priori Comprehensive and permeative Mystery of Universe Is approximately unknown, Or is deliberately side-stepped, Or is Just overlooked By most educators, And is politically acknowledged Only as orthodox religions.

"And again

Society's lack of knowledge Of the a priori mystery.

And its pragmatic conditioning of its reflexes By leaving to its priests What manner of response They should make To the innate intuitive awareness Of the a priori mystery. Permit the persistence Of such ignorant cerebrations As that which for instance Invents atheism."

- Cite INTUITION, pp.50-51 May *72

A Priori Jiystery:

"Thera is an a priori mystery that 1 will not try to break into. . . for my amusement, enlightenment, or excitation. You shouldn't use your mind for what it's not designed to do. Ky thinking capability is designed to treat with the perishable, the recognition lags.

The a priori is inherently mysterious."

"I don't deny that there is a cosmic intelligence; I just think there are inherent limitations of human access to it."

- Cite KDF to George Besch, of international Holographies, at J200 Idaho, UC, 24 Feb »1/2

A Priori Mystery:

"Mass attraction ...is a relationship, not a thing.

The why of it is an absolute mystery. Man can discover these relationships and behaviors, but he is utterly unaware of the a priori mystery. We don't have any disclosure and never will have of what the a priori mystery is."

- CTrF-ftBT~nr~Barrv fmiill Pla>liiiy-UftfcJ.vtc.wp—| ilmflu |i¹ .

- Citation & context at Mass Attraction, 1972

KBF DtFIMTlufcS

A Priori Mystery:

"If we had Isaac Newton here and we asked him what mass attraction is, he'd say I cannot tell you because there is nothing in one of the bodies which indicates it's going to attract or be attracted by--- it is a behavior between and not of. Now this is to say that science, at its beginnings, starts with a priori absolute mystery, within which absolute mystery there looms these beautiful behaviors of physical Universe, where the reliabilities are eternal. . . I find given the fact that this a priori mystery exists has been really lost by the public today, and so many who studied science just really technically learned some rules and learned how to operate some instruments, but really missing this mystery. I'here could be no atheism, for instance, if you really Knew about synergy and mass attraction."

- cite kBF at Students' international meditation Seminar, U. iass.,
Amherst, 22 July ¹

See Cosmic Synergy Invisible Reality Life's Original Event Mystery Un-
knowable Why: The Unanswerable Why

See Integrity, 25 Jan'72

New Universe: Disclosure Of, 27 Mar'73

Space, Feb'73

Whole Universe, 16 Jun'72

Mass Attraction, 1972*

Conceptual Physics, (2)

TEXT CITATIUNb

A Priori Mystery;

Intuition, p.39 May '72

See Design: A Priori Design vs. Deliberate Design Primitive Primor-
dial Triangle as A Priori Two Unknown: A Priori Unknown Synergetic
Integral Not A Priori Invention vs. Discovery Prime Conceptuality

See Awareness, 13 lay'73*

Complex & Simplex, Fay'72

Design, (1)(2)

Eternal Principles, 22 Nov'73

Genetic, 14 Feb'72

Geometry. 1960

How Little I Know, 8 Far*73 Ignorance, Fay*49 Metaphysical, 1967*

Subconscious Coordinate Functioning. 10 Oct'63« Time, Fay'72

Thinks, 10 Sep'75; 11 Aug'76

Pronouns: I - We "Us, (2)

Sea A Priori Environment

A Priori Design

A Priori Four-dimensional Reality

A Priori Great Design

A Priori Integrity A Priori Intellect A Priori Mystery A Priori Cognition

Arbitrary:

See Infinite Systems, Jun¹66

Local, 1 Oct*71

General Systems Theory, 1fl Dec*74

Synergetics Constant, 10 Dec*75

RUF uiFIMTIuLS

Arc

"The shortest distance is the chord. . . Arcs are the things that make it come out 360° around the point.**

- Cite Univ, of Alaska Address, p.30, 20 Apr *72

W1F DLFIKITibhS

Arc:

"Arc is a term we need no longer employ. We can say central angle."

- RBF to LJA, 3200 Idaho, Washington, DC, 21 Dec. '71.

rtJF JFltltTIUhL

Arc:

"3elng shorter, chordal distances are more economically traversed than are the detouring area."

~~- Unit Synthesis Draft, Sec. 31.2, "Compound Curvature,"
U. Mass, Amherst, 22 July 1971.~~

- Citation t context at Chord. 22 Jul'71

Arc:

"As a chord turns into an arc the radius contracts."

- Citation and context at I Vector Equilibrium: Spheres and Spaces.
31 May *71

Sea Central Angles & Surface Angles

Chodd

Chords & Arcs

Circumferential Field

Great Circle Arcs & Chords

Local Radius

Local Radius vs. Wide Arc

Tetrahedron: Visible or Invisible Chordal Arcs

Tetra-arc

See Chord, 22 Jul'71*

Vector Equilibrium: Spheres k Spaces, 31 Fay'71*

See Curvature: Simple (1)

Tension 4 Compression, 1944

Archaeologys Archaeological Heearch:

See Museums, 9 Jan'75

Archimedes:

"...Archimedes discovered

The generalized principle
Governing displacement—
Of all floating bodies
In respect to the flotation medium
In terms of their respective volume-weight ratios.
- Citation 4 Context at Generalized Boat. May*72

Architects:

"Architects constitute the last species of professional comprehensivists for they try to put things together while the vast majority, the specialists, have been concentrating on taking things apart. The trend of world students will henceforth be toward becoming architects, that is, comprehensive and cooperative design-science artists."

- Cite THE PROSPECT FOR HUMANITY, WDSO Doc. 3, p.70, Aug'64

Architects:

"Architects constitute the last species of professional comprehensivists for they try to put things together while the vast majority, who are specialists, take things apart."

- Cite MEXICO '63, p. 98, 10 Oct '63}

(1)

See Exterior Decorators

Soleri, Paolo Wright, Frank Lloyd

See Dwelling Service Industry, (1)-(7) Scrap Sorting & Mongering (2)
Design Science, 1 Jun'49 Telephone, 26 Jan'75

ArghUttwal AcetrmK?: six S's:

"The architectural aesthetics of yesterday dealt almost exclusively with the six S's: the sensorial, sensual, symbolic, superstitious, symmetrical, and superficial."

Cite ARCHITECTURE AS ULTRA VISIBLE REALITY, Dec. '69

Architectural Aesthetics:

See Fortress Mentality, 12 May'77

Architectural Schools:

"Architectural students are being graduated and many of them are not even able to get their licenses. They are not being educated in the architectural schools.

I have always said they should be thoroughly trained in aeronautical engineering."

- Cite RBF to EJA; Nicholas Restaurant; N.T. City;

? Oct'76

Architectural Schools;

"Architectural schools are like the tail end of the tailoring business. They have a certain amount of excitement and romance yes. But we really had better start all over again. The only aesthetic for tomorrow is integrity. I have always emphasised this. Don't ask whether it's beautiful until it's finished."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb'75

Architecture;

'The old world of architecture was simply self-expression.

we have the task of making man a success."

- Cite I SrxM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Architecture:

"Modern architecture is just so many fancy nozzles on the invisible sewer system."

- Cite RBF in "The Listener," transcript by John Donat, 26 Sep'6S

Architecture:

'•Inasmuch as humanity on the land has not been thinking of what buildings weigh, it certainly has not been operating its construction industry on a performance per pound basis. Architecture has been superimposing millions of tons of superficial appeals to aesthetic applause to that already overbuilt land structuring."

- Cite AHaT QUALITY ENVIRONMENT 24 Apr'67

Archive Wgs

"The profession of architecture as practiced today, ie a slave function, exercising good taste in purchasing and assembling industrially available components, a superficial veil to cover the steel or concrete frames which are completely conventionalised and organised by the engineers*

"This slave profession only goes to work when it is hired and told what to do. The client says. 'I am going to build a building on such a corner; this is its purpose; this is what it is to cost; this is what it should look like; this is what the building codes and labor unions tell you you are going to do; I want my relative's equipment used.' The architect plays his game with those dominoes. Under such conditions all you can do is arrange a few beautifully laid brick panels between the columns. That world of archi

tecture is completely superficial and is going out. There are going to be individuals who do not assume a client knows what he wants or a society knows what it wants to do, but examine potential environmental controls, human needs, world resources, and iddustry's capabilities."

- Cite RBF in "Architectural Forum," pp.66-67; Nov'66

Architecture:

"I often hear it said in our technical schools, and by the public, that architects build buildings out of materials. I point out to architectural students that they do not do that at all. That kind of definition dates back to the era of men's thinking of matter as solid. I tell architecture students that what they do is to organize the assemblage of visible modular structures out of subvisible modular structures. Nature itself, at the chemical level does the prime structuring. If the patterning attempted by the architect is not inherently associative within the local regenerative dynamics of chemical structure, his buildings will collapse. The kinds of spans man builds, the sizes of his columns, and the ways in which, in the end, man must enclose space, are governed by the fundamental principles of structuring preconceived in a priori structuring laws of nature. The principles governing structure not only prescribe what man can put together, but they are operative at the molecular level, at the atomic level and at the nuclear level. They are also operative in each of man's life cells and throughout principles of structure in the starry heavens."

- dte CONCEPTUALITY W FUNDAMENTAL STRUCTURES, Ed. Kepes, 1965, p. 68. > r 1

Architecture:

"An inconsequential profession of interior and exterior house and building decorators."

- Citation & context at florid BfloUn SfiXfincO PQCado, 13 Aug'6

Architecture:

"...Pan has ignorantly classified the whole gamut of non-sensorial module structuring by nature under the illusion evoked designation of 'solid'¹ matter. Consistent with this illusion man traffics in various solid substances known as 'materials.' Kent do not, however, in real-

ity build structures out of materials. Ken build visible module structures out of subvisible module structures. There are generalized laws governing structure. The generalized laws of structure are oblivious to the special threshold existing between the man-tuned sensorial spectrum and the vast ranges of Universe structuring infra-and ultra-sensorial to man's narrowly tuned conscious reception faculties."

- Cite, Isol, DOMES, Pp. U6-147. 1963

Architecture:

"In 1927 ...it was very clear to me that the building world was the antipriority world and that it was run by ignorance. This was in contrast to the extraordinary new ability that was going into the building of navies . . . and into airplanes, into a new kind of navy of the air. The very highest capabilities of man were being invested in these and nothing was being invested in the direction of the house. I didn't find any scientist working on the plumbing. The architects were getting some purple tile or some pink tile, and so forth, but no one was concerned with what goes on behind the wall. There have been no changes back of the wall for at least 3.000 years! Our hole's are serviced today by the same sewerage system invented before the time of Christ. I felt that this kind of inattention to our home was responsible for the fact that our first child died. . . ^B and I felt the conditions could have been controlled if the same kind of capability had been going in the direction of our life to make life a success, it might have been a success."

- Cite Oregon Lecture #2, p. 51. 2 Jul'62

RBF DEFINITIONS

Architecture:

"This low priority art which w[®] will call architecture in a sense paces the visual sense of our experience and the kind of life that we might call our cultural life. So our cultural life is one that is lagging way behind the very important events that are reorganizing our total relationship to Universe through our technology and science."

- Cite Oregon Lecture #1, P. 19. 1 Jul'62

Architssfur.fi:

"In architecture 'fora' is a noun; in industry, 'fora' is a verb. Industry is concerned with doing, whereas architecture has been engrossed with making replicas of end results of what people have industrially demonstrated in the past.*

- Citation and context at Noun. 1938

KBF DEFINITIONS

Architecture:

"...then in time ideas materialize sufficiently to be called architecture they are inevitably dead. Architecture is finite--- life infinite, maybe life is an idea--- an idea that truth is progressively delightful."

- Cite H3F in Article for Architectural Record, p. 11, Jan '34

See Airport Crystalline Asparagus Bauhaus School: Remoteness Of Domes Dymaxion House Environmental Designing Environment Enclosing Arts Form Cannot Follow Function International Style: Architecture Invisible Architecture Permanent Wave Architecture Walls vs. Airspace Technology World Design Science Decade Skyscraper Miniature Castle Building

See Anticipatory, 3 Nov'64

Chemistry. Jan'59

Design Science, 1 Jun'49

Empty, Pay*70

Initiative, 10 Aug'70

Materials. 7 Nov'67

New York City, 13 Mar*75

Noun, 1930*

Obnoxica, 29 Aug'64

Space Technology, (3)

Three-way Weaving vs. Two-way Crisscross, CT > --- (3>

Aesthetics of Uniformity, (2)

Airspace Technology Environment Controls, (2)(3 I Domes, 12 May'77

"A_reaB are supradifferentiable systems; i.e., macroavstems of event points too far apart to resolve."

- Citation *k* Context at Minimum Awareness Model. (1), 9 Jun*75

Archimedes: (2877-212, BC) Archimedean Pplyhedra;

Intuition, p.21, Hay '72

223.01

251.22

430.04

623.10

623.14

953.50

1053.20

See Generalised Boat, May*72*; (A) Xtea Mak* All Regular Polyhedra,
27 ifcy'72

Area:

"...Shape is what you see areally and until there is closure there is no area of otherness."

- Citation and context at Shane Awareness. 20 Feb'73

Area:

"There are no domains of areas because the areas are the domains. Maybe there is area and nonarea."

- Citation and context at Domain. 11 Feb'73

Area:

"Areas do not have omnidirectional domains at all.

An area*8 domain is the area itself; it is a superficial one that man has looked at all these years."

- Cite RBF tape Blackstone Hotel, Chicago, 31 May 1971 P. 37.

Area:

"Our definition of an opening is that it is surrounded, that is framed, by trajectories. Every trajectory in a system will have to have at least two crossings. These are always as viewed, because the lines could be at different levels from other points of observation."

- filfre RDF LU EJr/SomePAfiE Cldb_T Boston, ~22 April 1971

- Citation at Opening, 22 Apr*71 Ec. 52H.33?

"An area" is defined by "2nd power point aggregate quanta."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, 1967

Area:

"When three or more lines <• each cross two others

we have enclosures or areas."

- Cite NASA Speech, p. 59, Jun»66

--CHe CAk&OiiDALb DftA Pfr-TYr/H-

>»ve"T__ Jgc. 51M311

Area :

"There are, of course, no 'planes.' It is experimentally demonstrable that an apparent plane is a 'surface' area of some structural system

' 'There are no experimentally demonstrated continuums.

"All that has been found is discontinuity as in star constellations or atomic nuclear arrays. Areas are discontinuous, by constructional definition. Areas, as system 'faces' are inherently empty of actions or events, and therefore are not'surfaces.

- Cite NASA Speech, p. 60 f Jun*66

Arcag - QpgninKg:

See Openings, 22 Apr'71

Areal Pointal Frequency?

'•Arithmetical two dimensionality ia identified with geometrically with areal (openings) growth rate.*

Sec. 240.43

- Cite RBF Ltr. To Collier's, Oct'59

See Circle: Synergetics Formula for Triangular Area of a Circle Circumferential Field Constant Relative Abundance Face Nonevent Nonvertex Novent Opening Points, Areas & Lines Powering: Second Powering Sphere: Synergetics Formula for Area 4 Volume of a Sphere Superficial Surface Two-dimensionality Windows of Nothingness Domains of Areas

Ajas.⁵

(2)

Sea Domain, 11 Feb'73*

Opening, 22 Apr'71

Shape Awareness, 20 Feb'73*

Tetrahedron. 11 Oct'71

Background Nothingness, 2 Jun'75

Self & Otherness: Four Minimal Aspects, 22 Jun'75 Minimum Awareness Model, <1)*

Infratunable & Ultratunable, 8 Feb'76

See In & Out, 7 Nov'72

Arithmetic:

"The very character of simple arithmetic of mathematics indicates that all progressions are from material to abstract

- Citation and context at Ephemerization. p.256 *38

ArUhircti<=

See Fouth Dimension, 28 Oct'73 Three-dimensionality, 28 Oct'73 Progressions, May'49

See Disarmament

Military

War Weapons Technology

Weaponry

See Child Sequence, (3)(4)

Detente, 20 Sep*76

Man, {1J

Might Makes Right, 20 Apr*72

Politicians & Defense Budgets, 20 Sep'76

Society: Control Of, 1938

Mobile Rentability vs. Immobile Purchasing, 20 Sep*76

Army:

See Buy

Die

Arounding: "Velocity can be inward, outward, or around, and the grounding will always be chordal and exactly equated with the inwardness and outwardness time expendiDilit1as

- Citation at Velocity.17 Nov'72

AZSSfflM: Aroundn«»g:

**See In, Out, & Aroundness Omniaroundness Three-way Great Circling
Turnaround**

**See Nonpolar Points. 2y Nov'72 Vector Equilibrium. 18 Nov'72 Veloc-
ity, 17 Nov'72 Time-aie, 20 Dec*73**

Arrangement: Arranging:

See Design, 28 Mar'77; 29 Mar'77

See Dynamic vs. Static

**Unstructurlngs it Restructurings Unbonding-rebending Cosmic
Discontinuity k Local Continuity**

Interference a. L'oninterference Tuning-in a Tuning-out

**See Vector Equilibrium: Unarticulated VE, 2 Nov*73 Communication
Hierarchy,**

See Absolute Network
Articulated k Unarticulated
Coincidental Articulation
Inflection
Jitterbug
Observing ic Articulating
Observing vs. Articulating
Physical Articulation
Unarticulated
Universal Joint

Universal Fabric Joint Vector Equilibrium: Articulation Of

See Artist, 29 Mar'77 ...

Axis of Conceptual Observation, 25 Mar'71 Barrel, (B) Experiment, 25 Mar*71 Flywheels, 11 Dec*75 In, Out & Around Experiences, (1) Intuition of the Child. (3) Metaphysical 4 Physical Tetrahedral Quanta, 25 Mar'71

Polar Vertexes. 19 Feb'72 Probability, (i) ,.»»*•

Sensing, Storing 4 Intuiting Device, 9 Jun'75 Talent, (2) Triangular-cammed. In-out-and-around Jitterbur Model, 11 Dec'75 , ,

Vector Equilibrium, (2) Six Motion Freedoms 4 Degrees of Freedom, 11 Aug*77

Artifacts :

"Artifacts impose their new accounting."

- CiteRBF at Penn Bell videotaping Philadelphia, 28 Jan'75

Artifact;

"An artifact is any participation using the principles of nature to reassociate them for a specific purpose. Nature does this: she takes her own rocks apart."

- Cite RBF at Bell studios videotaping, Phlla. PA, 26 Jan'75

Artifacts:

"I am committed to boItIng all problems by development of artifacts rather than by political reforms. Do not talk about inventions until you have reduced them to practice and have found that they demonstrate higher technical advantage for humanity." ⁶

- Cite RBF Ltr. to Bruce Carrick, Ilacalllan; p.3, 17 bep'74

Artifacts:

"Design science undertakes a functional solution of problems. The methodology is First; What is the problem to be solved? and Second: How can that be solved by artifacts rather than by political contriving, or persuasion, or reorganisation of the present situation. So I always go to the artifact. And I've never had trouble demonstrating that, the simplest one being that there's a roaring gorge and you put a bridge across it. People are going to try to use the bridge and not swim across. Artifacts induce their spontaneous use. By virtue of their spontaneous use the pattern of society changes, the problem is solved, and the previous situation becomes obsolete.

"Now that's grand strategy. Therefore, if I'm going to get artifacts I'm going to see what are the structural things that I can solve structurally or mechanically: is it a machine, is it a structure, or an engine? What are the various inputs of all the chemical elements involved? What is their inventory? I think the methodology is quite clear. You first go to the artifacts and in doing so you are going to unquestionably cut out a lot of the wasteful uses of materials. We are going to release materials that are doing the job in an obsolete way."

- Cite tape transcript RBF to W. Wolf. Tape #5. p.6.; Philadelphia, PA, 15 Jun'74

ArUfacta;

"The design scientist's function Is to solve problems

Only through introducing new artifacts

Into the environment, the availability of which will induce

Their spontaneous employment by humans

Thus coincidentally discontinuing and rendering obsolete The previous problem-producing human behaviors and devices."

- Cite Universal Requirements for a Dwelling Advantage, 31 May'74

"I feel that your letter is correct in its statement of the problem, but it suggests more governmental or private patronage focused on social, political, and economic reforms such as can only be effected by complex agreements at the sovereign nations* level.

` ` If you look into my work...you will find that I committed myself in 1932 to solving problems by artifacts: what I call reforming the environment rather than trying to reform human behaviors. Nature is ceaselessly transforming. Every event has six equieconomxcal alternatives. Eternal transformation is inexorable. Discovery and employment of the principles employed in nature may bring about the desirable environmental conditions spontaneously inducing omnifavorable human behavior.

"When humans have vital need of reaching the other side of a roaring river's rapids, if I design and produce a bridge to the other side, I am sure they will use it spontaneously instead of risking their lives in trying to swim across.

"Inasmuch as nature's omni-inexorable transformings consist of a plurality of equieconomxcal, alternatively employable,"

- Cite REF Ltr. to Mr. Westrots, Cleveland, OH, 30 Apr'74

RBF DEFINITIONS

Artifacts:

(2)

disassociating and associating, principles--- these, together with the complex of electromagnetic and mechanical principles can be electively employed by humans to greatly advantage humanity by producing ever higher performance with ever less investment of resources as pounds of material ergs of energy, and hours of time, per each function designedly satisfied,...

"As the political dilemmas increase, my strategy seems ever more reasonable.

- Cite RBF Ltr, to Mr. Westrots, Cleveland, OH, 30 Apr'74

ArUfa<?:

"rfhat I find as the big pattern is that human beings continue to make babies where they're not going to be successful. Look what happened when waterworks came in. Long before the flat census in 1810--- go back to 1600 and look in the family bibles and you will find the average of Early American and Colonial families are between 10 and 13 children per family with many of them dying at the time of childbirth. It was very sad. But as in came waterworks, or any kind of an artifact, that changed the probabilities and down went the number of babies per family and up went the life expectancy." These two are in absolute balance. In country after country, as the kilowatts- per-capita consumption goes up, down goes the birthrate. The two are absolutely irreversible."

- Cite tape transcript, p.22; RBF to W. Wolf, 28 Apr'74

MMB Arxlfagls:

(A)

"More than a third of a century ago I became intuitively excited by the idea that, whereas I had been brought up in a world in which humanity spoke about the tools it used and the machinery of the new industrialisation as artificial, these artefacts and tools, if seen from far enough away in time, might be realised to be an actual an integral part of the pattern Man. So I began to feel that the word 'artificial,' which I had heard so much of, was a word that was obsolete and could be discarded. I saw that everything I was experiencing couldn't be experienced unless nature permitted it, and it was all part of the extraordinary pattern of the Universe, and therefore every bit of it was, I might say, not artificial but natural."

- Cite RBF Dialogue with John Donat in "The Oxford Reader," 1971, p. 874. From "The Listener," 26 Sep'68

Artifacts: (B)

"As soon as I began to look at man in that way, I began to realize that men were really very large and I made some research as to how much our various tools were being employed relative to the total population. In America in 1936 I found that every American weighed nine tons of steel and 22 tons of concrete and HO pounds of copper and so forth. This is the relative amount of externalized tooling per capita. Man is really larger than the dinosaur, larger than the mammoth, but the dinosaur and the mammoth became obsolete simply because they tried to run all their tools around integrally: the dinosaur was pulling a great big one-ton tail along, with the idea that it could knock down a banana with it. So that man was uniquely successful by virtue of this grand strategy of differentiating out his functions, and developing interchangeable functions."

- Cite follow-on passage from "The Listener," transcript by John Donat, 20 Sep'68

Artifacts:

"All around the world are found unbelievably large heaps of artifacts of discontinuous man, each, in effect, starting all over again learning a little, incorporating the little in hand-crafted tools, dying without comprehension of aught but the local limitations and inadequacies of his infinitely surrounded and apparently exclusive local reality."

- Citation A context at Continuous Man (1), 1y63

Artifact for Grand Strategy:

See Plurabing_t (2)

See Dynaxlon Artifacts Energy Slave Externalisation of Man's Own Functions Idea - Artifact Mechanical Extensions of Man Reduction to Practice

Human Jeings & Complex Universe, (14) See Bridge, 13 Nov'69

Computer, (1) Design Science, (A) Desovereignisation Sequence, (5) Doing What Needs to Be Done, (2) Epigenetics, 10 Dec'64 Eyeglasses, 23 Jan'75

Fuller, R.B: I Am Apolitical, 15 May'75 Human Mind &. Physical Evolution, (1) Industrialization, (A) Lever Complexes, J. L. Kay'74 Museum, 9 Jan'75 Now House, (1)(2) Omnimedial Transport Sequence, (2) Pencil, 1938 Plumbing, (1)(2) Technology, (2) Telephone, (1) Umbrella, 29 Jul'76 Wright, Frank Lloyd, 4 Oct'75 Children as Only Pure Scientists, (B) News Evolution, (2) (3) Apolitical, 22 Jun¹77

Artificial:

"There is no such phenomenon as artificial. If nature permits it, it is natural. If nature does not permit it, it cannot be done."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 157, Dec '69

Artificial:

•'In my view there is no meaning to 'artificial.' Man can only do what nature allows him to do. Man does not invent anything. He makes discoveries of principle operative in nature and often finds ways of generalising those principles and reapplying them in surprise directions. That is called invention. But he does not do anything artificial. Nature has to permit it, and if nature permits it, it is natural. There is naught which is unnatural."

- Cite EDUCATION, Pp. 52-53 , 22 Apr'61 AUTOMATION

Artificial;

"The words 'artificial' and 'failure' are all meaningless."

- -64*.n HOW ym'Lh T KKOrf, tn T~ p~.

- Citation and context at Meaninaleaa, Oct*66

Artificial:

"Even today, despite interim development of fundamental knowledge to the contrary, we speak erroneously of "artificial" materials, "Synthetics," and so forth. The basis for this erroneous terminology is the notion that Nature has certain things which we call natural, and everything else is "man-made, f ergo artificial. But what one learns in chemistry is that Nature wrote all the rules of structuring; man does not invent chemical structuring rules; he only discovers the rules. All the chemist can do is to find out what Nature permits, and any substances that are thus developed or discovered are inherently natural. It is very important to remember that."

- Cite IDEAS & INTEGRITIES, Pp. 75-76 "Comprehensive Man," Chapter 4, Jan'59

Artificial Intelligent*:

(1)

See Computer

Computer Asks an Original Question

Feedback Comprehensivity: Computer vs. Human Intelligence Machines

No Mechanical Mind

See Life is Not Physical, 12 Dec'75

Artificial:

See Artifacts Invention Natural Plastic Flowers

(2)

See Meaningless, Oct*66*

Artillery Wheel:

See Wheel: Artillery Wheel

Artist t

"The artists use communications tools---verbal or otherwise---to communicate what they are concerned with. Even the artist of centuries ago, ordered by the king to paint a portrait of his wife, manage to speak to us through the ages telling us by color, angle, and philosophic viewpoint what he is concerned about. By the word 'art' I mean integrity of individual communication independent of the medium of its articulation."

- Cite RBF to Robert Malesky at PBS taping, NPR 2025 M St, NW;
28 Mar*77; rewrite at 3200 Idaho, 29 Mar'77

KBF p&FIM'IUAb

Artist:

"The artist is spontaneous teleology versus emergency teleology. The artist doesn't wait for the emergency."

- Cite KBF to EJA, 32U; Idaho, DC, 13 Feb '72

Artist:

"I don't think of art as modern art or classic art. I just think of the artist as someone who speaks to me. Not as a painter or as a sculptor. For the artist it is just not an expression of his ego. I see in the artist the deeper or mysterious urge of another individual feeling deeply of the great mysterious wonderment--- with a feeling of awe, even ominous. And I wonder how this artist could be so extraordinarily sensitive and articulate. Art is always inspired. It is very different from ambition. Inspiration comes from outside: we don't know where, or exactly where. Ambition has nothing to do with art: we do know where ambition comes from. . . . Amongst the present painters I feel that Dali is an artist, truly inspired--- like Frank Lloyd bright, loving and thoughtful with his own wife and family, not being ambitious, bright had all the Dali-like histrionics, and he had great confidence in his own insights, but he had great humility too. Their public appearance seems to be very remote from their beautiful private worlds. And Poe was an artist; of course he drank, and F. Hopkinson Smith's 'Rennet Square' tells how he passed out, but when he came to he recited the Lord's Prayer and said it beautifully

- Cite RBF to EJA, J200 Idaho, Washington DC, 24 Jan '72

Artist:

"Artists are extraordinarily important to human society.

Many who have been called artists are healthy human beings who have kept their innate endowment of capabilities intact. The greatest of all faculties is the ability of the imagination to formulate conceptually. I feel that it is the artists who have kept the integrity of childhood alive until we reach the bridge between the arts and sciences.'

- Cite RBF quoted in "Fuller: 'Who will Man Spaceship Earth/' p. 65. by Michael Sheldrick, College & University Business McGraw-Hill., Sep. 1971.

Artlot:

"The artist knew how to flatter an arrogant society while he himself said what he wanted about the Universe all unbeknownst to the patrons."

- Cite Museums Keynote Address Denver, p. 7. 2 Jun '71

Artist: "Artists haven't painted themselves into the specialist corner. Because of a comprehensive outlook, their art reflects the many disciplines, especially science."

- Cite I SEEM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Artist:

****Artists are now being recognised as extraordinarily important to human society."**

- Cite I SEEM TO BE A VERB, Bantam, 1970

Artist:

• ` Artist is a term that can only be really safely applied by society retrospectively."

- Cite RBF in Address THE HABITABLE CITY, U Oct. 69

Artist:

The fact that Einstein did not profess being an artist does not mean that he was not one. The term artist is not really professable. It is a term which society alone can bestow and then only retro

spectively. • `

- Citation and context at Einstein as Poet, 1968

Artist:

"in the pirate's educational system we start the children off with the 'elements.' We say, 'Stop thinking about the universe ...We're going to give you A and B and U. By and by we will make you so forgetful of the world around you and so one-eyed and sharply focuses that you will become a great specialist if you don't drop out and start off to be a minor , pirate on your comprehensively own right,

which would be very foolish of you because we have been monopolizing the totality for so long and with so much bloodshed that the odds are heavily against you. The most you may be able to do as a minor outlaw or pirate will be to become an artist.... of sounds or visual compositions in which you can safely use your own language to say anything you want about the going system of life without probability of our being able to understand you and be displeased with you or even threatened by you which means you can avoid punishment and may have some acclaim by other esoteric minded outlaws and by those pirate's wives who want to acquire something 'different' and distinguished to offset their homely faces."

- Cite NASA Speech, p . y7. Jun'66

Artist:

"The Art Department at New York University" meeting "disclosed the artists as individuals who develop powerful self-protection of their innate intellectual and conceptual capability inheritance. They often protect their innate capabilities through intuitively triggered poker-faced silenc which in the elementary or high schools is interpreted as noncooperative mental inferiority, often causing early termination of their formal education. . . Individuals who were original and conceptually brilliant were most frequently detected, protected, and made to grow by equally sensitive art teachers."

- Cite RBF transcript in AAUW Journal, p. 173, May '65

Artist:

"The artist frequently conceives of a pattern in his imagination before the scientist finds it in nature."

mm Miiirjsamgasr p

- Citation k context at Pattern. Majr'65

aMefPruHiTY- pATTCFU- \$ff.

Artist:

"The only ones who don't get trained for specialization are artists, they want to be whole, and I find myself

befriended by artists. I didn't seek artists but I found myself years ago befriended by artists, ndt just as painters

but dancers, sculptors, and artists in general."

- Cite OREGON Lecture 7'5 - pp. 155-156, 9 Jul»62

"The artists are philosophers in cry. They may not have had very much mathematics, but they are human beings-- who possibly may not have done very well in school--- but they really are full of a sense of importance of the Universe."

- Cite Oregon Lecture #4: Citation and context at Science: Gap Between Science and the Humanities (D), 6 Jul*6'2

Artist:

"I an now able to say to you that nodelability has now returned. It never had gone. Nature was always using it.

I have not invented this thing. I have just discovered what nature was using. The artist was right all the tine. Nature was conceptual. This is the difference between / ` ` visibility and_7 invisibility. Invisible does not naan nortbeptual. though it had cone to really mean that. Scien-

tists were saying that you couldn't model the invisible. He really had himself an area of mystery that somehow you could just handle with numbers, but you couldn't handle with models. Now I am saying that we can make the models that nature makes."

- Cite Oregon Lecture #4, p.138, 6 Jul'62

Cortc.S/'lo/H.iTy - c. Si>1-@5"\

Artist:

". . . Professional word-and-picture factorise" have "manufactured the greatest and moat persuasively erroneous myths, but thaym have also robbed our heritage □* of word-and-picture language of its incisively exquisite effectiveness.

The primary tools of men have been blunted and misappropriated.

Bereft of the age-long developed tools, artists of our day have sought for new and vital means of communication.

The beatnik is the anti-body of Madison Avenue.

The true artist seeks escape from the stalemated vacuum of the two.

History tells us that they will probably be successful.

The probability is that the artists will win enjoyment of our whole earth by all the world's people--- with complete emancipation of man's innate freshness and regenerative conceptioning."

- Cite TENSEGRITY, Art News Annual, 1961 - p. 116

Artist-explorer:

See Artist-acientiet, May'60

Artist: (1)

"Sensitivity is enormously excited by paradox. And paradox can be so paradoxical as to be out-and-out comical. E.G., Edward Lear; Lewis Carroll's 'Alice in Wonderland,' are equivalent to Dali and Frank Lloyd Wright and Poe. Poe's histrionics were in his drink: the paradox was such pain to him but it did not betray the artist. . . . When you really hit an audience with the truth--- the absurdity of UP and Down, and IN and OUT--- they are full of giggles and laughs. F.L. Wright and Dali could not resist getting the giggles out of people. They say: Isn't it wonderful that people are shockable. Dali can reverse it. He can give them an untruth that will shock them. Wright and Dali regenerate themselves by shocking: that's what this histrionics was all about.

•./right was not as deep as Dali--- who is overwhelmed by the great mystery, like Poe. Wright let Gurdjieff take over. He therefore had a religion rather than make his own attempt to explain his experiences to himself. Poe and Dali really tried to explain things to themselves. Dali showed KBF his greatest painting in his studio in Spain. A picture of the Fishermen in the parable of the loaves and the fishes.

- Cite RBF to EJA, 3200 Idaho, Wash DC, 25 Jan'72
KBF UtFINIUUNS

Hlatrlgiuta:

(2)

"Just the fishermen. I don't think Christ was in it.

A fantastically mystical 'marine' painting. Few 'marines' are good; but those that are are the ones I care most about. How the artist sees the laws. operating in those waves; and the sunlight. How could an artist have such insight. All the modulation of light in the great 'marines.' The interface of sea and sky and radiation."

Cite KBF to EJA, 3200

Idaho, Washington DC,

25 Jan '72.

ArUswachanXs;

See Tooling of Domes, (1)(2)

Artist-Scientists:

"The greatest and most enduring discoveries and inventions of humans on our planet are those of the scientist-artists, the name joined, or artist, or scientist. The name of artist or scientist, though often professedly proclaimed, can only be given to an individual by others who in retrospect discover the enduring qualities of the symmetries with which the individual converted his conception to the advantage of human understandings, reinspirations, and realizations of increasing Interadvantage in respect to survival--- the gradual discovery of the function in Universe for which humanity has been designed to fulfill,"

- Cite RBFcfrt Ltr. to Karan Singh incorporated in
SYNERGETICS text at Sec. 174, 13 to *73

RBF DEFINITIONS

Artist-Scientist:

"Only the free-wheeling artist-explorer, nonacademic, scientist-philosopher, mechanic, economist-poet who has never waited for patron-starting and accrediting of his coordinate capabilities holds the prime initiative today. If man is to continue as a successful pattern-complex function in universal evolution, it will be because the next decades will have witnessed the artist-scientist¹'s spontaneous seizure of the prime design responsibility and his successful conversion of the total capability of tool-augmented man from killing to advanced living--- adequate for all humanity."

- ItBF quoted in Times Literary Supplement review of 19 tar'70
See Einstein

Ford, Henry

Inventor-artlat

Leonardo Type

Sensitivity of the Artlsts-scientlsts

See Architect. Aug*64

Eternal b Kftr'73

Generalisation Sequence, (2)(3)

Genius: Children are Born Geniuses, 1y68

Geosocial Revolution, (2)

Intuition of the Child, (1)-l4)

Pattern. May'65

Specialization, May'65

TEXT CITATIONS

Artiat;

501.03

505.06

See Artist-scientists

Blind Flan* s Bluff

Brush-and-chisel Artist

Inventor-artists

Unselfish Arts

Poetry: Poets

Ford, Henry as Artist

Secrecy of the Artist

Fuller, R.B: His Aversion to Artistic Exploitation

Of Synergetics Models

See Communications Hierarchy, (2) Invisible Architecture, (C)

Montessori System, 1928 News & Evolution, (21(3) Pattern, Fay* 65*

Science: Gap Between Science Ac Humanities, (D)*

TEXT CITATION

BQrlS? Time Magazine Cover:

Brain &. Mind, pp. 16\$ - 16?, May '72

Agawa: Ruth:

See News & Evolution, (1)-(4)

Seo Question Asking Question: largest Askable Un-asked-for

Askewness:

"Humanity's escape from the irrational awkwardness of the axiomatic hypothesis trap of eternal askewness which snagged him..

- Citation and context at Isotropic Vector Matrix, 6 NOT'72

Askew:

(D

See Skew-aberrated

Aakewnesa;

(2)

See Beale Triangles Beale Dleequillbrlua 48 MD Triangle. 17 Dee'73

Cube, 6 Not` 72

Asparagus:

See Crystalline Asparagus

Aspect: Aspective:

See Topo-aspectively

Thirty Minimum Aspects of a System

Ascension:

"The aspension design worked. It worked as an ascending suspension rather than as a catenary. But we found it wasn't efficient. Aspension is a special case of tensegrity

- Cite RBF in response to specific EJA inquiry, 3200 Idaho NW, Wash DC, 12 Nov»74

Ascension:

Ideas &, Integrities, Phot. Illustration caption.

ApffWIMj: flf Affably:

"That la the Law of Assembly: an end must always come to an angle— as a male to a female."

- Cite RBF to Earth Metabolic Design, Inc,«, New Haven, 10 Dec'73

Assemblage: Assembly:

See Nuclear Assemblage Components

Ass Kigains:

See Posterioral Osculation

*s sociability

"Synergetics speaks of" the "two polar vertexes as the additive two" which "also permits polar coupling with other rotative systems. Therefore a motion system can have associability,"

- Citation and context at Additive Tw. 21 Mar'73

See Structure, 16 Dec*73 Superficial, 6 Mar*73

Disassociability United Associability Structural Associability Unemployed Associability

See Associability & Disassociability

Destructurable Associability

AfflaoslablUtr

12)

See Additive Twoneea, 17 Feb*72*; 21 Mar*73 Compound, 13 Mar*73 Coupler. (2) Layer, 5 Hov*73 Metaphysical & Physical, 13 Nov*75

AMffilRfcfla ant PUMMCIAUw¹⁹ "Spheres disassociate; tetrahedra associate spontaneously.*

ABBoeiation & Disassociation:

"Energy is shown experimentally as only accomplishing disassociation here through entirely orderly regrouping or association there. Energy transactions are 100 percent accountable. . . In this dynamically opposed system . • every action has reaction&nd resultant, and every nuclear component has its positive or negative opposite with each reversing every characteristic of the other."

*- Citation at Energy. 16 Sep*67

- fiKVtfTtll! niiO |ii IQ "Tti

RBF DEFINITIONS

Aaaoclatlonf * PlMgsoclatloni

"• • • Energy • • • consists of two main behavior phases--- its associative phase as the matter with which we fashion the physical advantage producing tools such as levers and electric generators; and its disassociative phase as the free positive and negative energies of radiation and gravity may be focused to impinge on the end* of levers to power the tools to do physical work for men."

19 Cite BBF rewrite of STMEBGBTICS galley at Seojfc&rjOJ-, 9 Nov *73

Citation at £ofiX£Xt Jun'66 dgezjat

See Biological Design, 13 Mar'73

Closed System: Conservation of Energy, 1963

Cosmic Discontinuity & Local Continuity, 15 Jan*74

Cosmic vs. Terrestrial Accounting, (1) Energy, 16 Sep'67; Jun'66 Hierarchy of Constellar Configurations, 1959 Mass, 16 Nov'72 Ninety-two Elements. 4 Mar'69 Radome Sequence, (4J Structure, 29 Dec'53 Tension &. Compression, 1965 Conservation of Energy*, 13 Mar'65 Life 4 Death, (2) Intellect: Equation Of, (B) Nucleus, 13 Nov'75 Synergetic Hierarchy, Oct'75

See Association *ft* Disassociation

Interassociate

Matter

Molecule: Associating the Molecular Build-ups

Stardust

See Compound. 13 Mar*73

Rhombic Dodecahedron, 24 Jan*72

AaaupUoMi

, The progress we have made is not the result of blindly proceeding from one precedent to another. Only by escaping from the popular frames of reference and critically examining the conventional methods and techniques have we set up a new hypothesis and arrived at our present solution with its prospect of a new and transcendental industry. To do this it was necessary to make broad and daring assumptions. This talk is full of them, and I have not taken time to substantiate or develop them in detail. Assumptions grow out of experience and new postulates stem from observation which reveals the inadequacies of our previous concepts. However short of the mark our an-

swers may be, I know that our method is right, for all the great scientific advances in history have been made by the Newtons and Galileos who were not afraid to form their own hypothesis. I am saying this to you because engineers have too often let others make their assumptions for them. In the months ahead the engineering staff has a great responsibility in getting our house into production. By attempting merely to improve and modify the familiar ways of designing and building you will succeed only in perpetuating original errors and limitations. So do not be afraid of radical methods or of setting up your own hypotheses."

RBF preface to: 1946.

- Cite DESIGNING A NEW INDUSTRY (by EJA)

AnewtBtlgaa:

See Blindfold Assumptions Obsolete: Inventory of Obsolete Concepts

£g&&a' Frmcli ftlliu Aston: (1677*1945)

"Aston, in 1929, made the discovery for the physicists of what he called 'closest packing of spheres.'"

- Cite UTOPIA OR OBLIVION, p. 89. "Prevailing Conditions in the Arts," 10 Oct*64

Acton. F.W: 410.07

"Extraterrestrial aatroffitor"

- quoted in Rasa Gaataltie' WHOUT ROUND, Holt, 8 4K, N.X, 1973 p. 148

See ffen as Halfway la Range of Sloe of AU Creatures,

22 Jun'7\$

Astrology:

"I don't think that it is even mildly illogical that
Humanity has developed
Such phenomena as astrology
And numerology.
The earth's effect on the moon
And the moon's effect on the earth and the sun
Are so powerful

That there could conceivably be an effect on our lives as well."

- Cite RBF Draft Numerology 4.1 » 1971

See Numerology

See Modelability, (J)

HarmonicB, (j)

Aatrflaasi:

See Space Travel Space Walking

See Spaceship, 26 Sep'68

In, Out * Around, 17 May*77

See New Universe: Disclosure of Entirely New Universe In Next
Decade

See Cosmic Middle Ground, 25 Jan'73 Kaleidoscope, Kay'4y

Aatro A Nucleic Intarpositioninr:

"This stretching thinner of the air and its concomitant greater effectiveness of interpositioning of bodice (that is, the airplane in respect to Earth), is our same friend the astro- and nucleic-tensional integrity of dynamic inter patterning causality."

- Citation & context at Airplane Flight as Lift. 4 Oct'72

See Atom as Solar System

Orbiting Magnitudes

Physics as Internal Affairs of the Atom

Relative Activity Diameters of Stars 4 Electrons Invisibility of Macro-
and Micro- Resolutions Nuclear 4 Nebular: Nucleus 4 Galaxies

AgtrPPhYgUg:

See Biach Hole

Stars: Implosive Forces of the Stars

Astrophylg:

"A - Astrophysics: The entropic-syntropic, eternally regenerative,
synergetical intertransformings of universal evolution.

- Cite SYNEKGE'riCS draft at Sec. 1050.20 (item 29), U i'ay'73

Asymmetry:

. » In our temporal life there will always be some degree of lag or
asymmetry which misses the exactitude of the ideal."

- For citation and context see Ideal. 1 Apr '72

AflXimftlrY •

"While nature oscillates and palpitates asymmetrically In respect to
the frame of the omnirational vector equilibrium, the plus and mi-
nus magnitudes of asynraetry are rational fractions of the equillibrioQs
state...."

- Citation and context at Vector Equilibrium, 21 Dec'71

Asymmetry;

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the zerophase of conceptual integrity Inherent in the positive and negative asymmetries which propagate the problems of the consciousness. Ou& Inherently limited perceptivity which requires these definitions of the asymmetric emphasis of experience.

Experience is inherently terminal, partial, differentiable. .

- . the antithesis of eternal integrity."

- Citation at 2

12 Sep»71

Asymmetry:

"Symmetrical means having no local asymmetries. Omni- symmetrical permits local asymmetries. Universe is

omnisynrnetri cal. A three-bladed propeller is dynamically symmetrical (three pear-shaped blades at 120° to each other inscribed in an equilateral triangle). The propeller blade is locally asymmetrical. . . Our seeability is inherently local that we never see anything but the asymmetries. . . Sociologists have such trouble because they see (rather than the principles) such a high frequency of asymmetries.*

- Cite RBF to EJA, Blackstone Hotel, Chicago, May 1971

RBF D*ElhITIOKi>

Asymmetry:

Asymmetry is the reason that Heisenberg's measurement is always indeterminate. Asymmetry is physical.

Symmetry is metaphysical."

Cite HBF to aJA, Beverly Hotel, New York, 24 April 1971.

; -Balanced vs. Unbalanced:

See Central Symmetry, 10 Nov¹74

Asymmetric Kinetics:

See Atomic Computer Complex, (1)

Energy-as-Heat, 26 Feb'*1

AaxHS9SEia_Ualla:

(D

See Abberation Limit

Catalog of Alternate Transformative Options

See Ideals, 14 Feb*72

Vector Equilibrium, 16 Oct'72

Vector Equilibrium: Three-frequency VE, 18 Oct'72

Single Integer Differentials, (1)

Aaromatric fulwtlta:

See Energy-as-heat. 28 Feb'71

Oscillation, 21 Dec'71 Sphere, 31 Kay'71 Synergetics Calculation, 30 Oct'72

See Coupler: Nuclear Aeyunetric Octahedron Facial Asymmetry Least asymmetry Maximum Asynmetry Onmiasynaetry Omnipulsative Asynmetry Kinetics: Asymmetric Kinetics Octahedron: Nuclear Asynaetric Octahedron Oscillation Relative Asymmetry Semisymmetry Symmetry it Asynmetry Vertexial Asymmetry Wow: The Last Wow Topological Aspects: Iventory Of Local Asymmetry Minimum Asymnetric System Dynamic Symmetry

See Abstraction, 24 Feb'72 Awareness, 31 May'71 Chain Reaction, Aug'71 Crystallography, 1? Aug'70 Eternity (1)(2 J Experience, 12 Sep*71* Ideal, 1 Apr'72* Sphere, 31 May'71 Superatomics Sequence (B) Time, 27 Dec'73 Time Somethingness, 22 Feb'73 Vector Equilibrium, , 21 Dec'71*

Central Symmetry, 10 Nov'74* Fourteen Axes of Truncated Tetrahedron, (2) Equilibrium « Disequilibrium, 20 Feb'77

Asynchronous Lags:

See Complementary, May*72

Atheism: "What has been thought of as atheism is really just an evasion. It wasn't a declaration of antineas, not softening against religion, but there seemed to be nothing else to take its place."

- Citation and context at Integrity of Universe, Feb'72

RBF DEFINITIONS

Atheism;

"There could be no atheism if you knew about synergy

- Citation at Synergy, 22 Jul*71

- RBF of Studmita International Meditation Society -U* lift33,, -Amberob
22 July 1971.

Atheism:

See A Priori Mystery, May'72

Einstein: Comic Religious Sense, (1)

Integrity of Universe. Feb'72*

Intuition Sequence, (4)

Religion, 6 Jul'62

Synergy, 22 Jul'71*

Athletics:

"The enthusiastically broad experience in the historically differentiated family of controlled physical principles, known as athletics, greatly heighten what I call the intuitive dynamic sense, a fundamental I am convinced, of competent anticipatory design formation."

- Cite RBF quoted by Alden Hatch in B. FULLER: „»T HOME IN THE UNIVERSE, p.29, 6 Jun'7L

See Physical Education

"The atmosphere's molecules over any place on the Earth' surface are forever shifting position. The air over the Hlaalyaa is enveloping California a week later

- Citation and context at Space. Nov'71

llaassphers:

See Biosphere

Photosynthesis

Weather

Weather as Exchange of Highs & lows

Jet Streams

Wind Sucking Sequence

nnr mr TUT? TABS

AtmQgpherg:

(2)

See Space. Nov` 71* Wind Power Sequence (4)

Atoll:

See Islands: Islanded

Islands of Compression

Wheel: Artillery Wheel vs. Wire Wheel

Atom:

"Any and all of what humans Identify as substance of any kind and all structure consists entirely of atoms.

"Atoms are not things. They are energy events occurring in pure principle. Physics has found no solids, no things. All substances consist of atoms: x-illions of atoms interarranged in inherently coherent patterns, inherent because governed synergetically by generalised pattern integrity relationships. Each and every experimentally evidenced atom is a complex of unique system interrelationships, both internal and external, which reappear as unique special case energy investments manifesting generalised pattern integrity principles in unique special case scenario continuities,

"Atoms consist of a plurality of unique energy events always occurring as self-interarranging, inherently coherent, persistently regenerative pattern integrity complexes...."

- Citation & context at Structural Sequence. (A)(B), d Sep'75

A tog:

"All of the atoms are independently introduced and terminated; many are in gear, but many are also way out of gear."

- Citation A context at Noninertiality, 30 May*75

Atom;

"Single atoms maintain omnisymmetries

- Citation and context at

ViiWr EwUibriwi, 3 Nov'73

"The kinetically interbalanced behaviors of tensegrity atoms manifest discretely and elucidate the energy-interference-event patterns that integrate to form and cohere all atoms."

- Citation and context at Tensegrity, 20 Oct*72

Atom: "Atoms are inherently inanimate."

- Citation and context at Organism. 2 Jun'72

Atom:

****In the atoms we are always dealing in equiradius spheres. Chemical compounds have multi-radius spheres. This is the difference between nuclear physics and chemistry."**

- Citation at Physics; Difference Between Physics and Chemistry. 28 May'72

- GixedgEuai I .lift, TiMhn, m-n .u , in i./fT?

Atom:

"The difference between atoms and chemical compounds is a question of the number of central angle systems."

~~11-21-Dec-1971 Washington~~
~~1100 Gro. 251, 11~~

DO. -incorporated

Atom:

"The cube is related to chemistry, the external affairs of the aton. ...The tetrahedron, octahedron and icosahedron are related to physics, the internal affairs of the aton."

- Gjtorftftg tC BJA-j- Blacks I mw Hutel, Chicago ~,1 I Jiay

- Citation and context at Physics: Difference Between Chemistry and Physics, 31 May * 71

Atom:

"Atoms are . . . electromagnetic frequency event phenomena— not things."

- Cite RBF Intro, to Gene Youngblood EXPANDED CIHEMA, P.30»Oct'70
rtBF U&FILITIUhS

Atom:

' Invisible also are the motions of . . . atomic components of matter, though the latter hither-and-yon radiationally and locally, as matter, at 700 million mph speeds."

- Citation and context at Buildings as machines (1), 1j nov'oy
", , .In an atom we have a local integrity of regenerative coherence of a set of actions."
- Cite LEDGEMONT LAB Lectures 15 Oct '6L, pp. 36-37
4123=
- " • « Atoms are constellations of energy event

' concentrations with vast distances between them."

- Mexico '63 - p. 2« , 10 Oct'63

Atom

"Atoms are synergetic."

- Citation and context at Synergy. July'59

Atom;

****... The fundamental principles of interpotentials and interactions called atoms..**

- Cite TOTAL THINNING, IU, p.235, May'49

Atomic Bomb:

"Playboy: But don't you think that the existence of the bomb constitutes an end game sort of circumstance for mankind?

RBF: Adam and Eve could have both picked up stones and it would have been all over.

Playboy: So the bomb only corresponds to the historical period---there's always been a bomb?

RBF: There's always been a bomb, you bet. And man had a tendency to use it far more in his ignorance and awful hunger than he does today with his awareness of the consequences and his ability to get on without it."

- Cite rtBF transcript of tape interview for Barry Farrel's PLAYBOY piece, Feb '72, p. 16 of transcript.

See A-bomb: Souvenir A-bomb
Fountain Pattern
Suicide of Humanity

(2)

See Suicide of Humanity, Jun*66

Energy Involvement of 92 Elements, (2)

Technology: Enchantment vs. Disenchantment, (3)

See Acceleration: Angular & Linear, (2) Star Tetrahedron, 8 Oct'71

AtffUL; Cgharwct:

See Load Distribution, 13 Dec*73

Atoms and Compounds; Difference Between

"The relative proximity of atoms is far more exquisite than that of molecules."

- Cite SYNERGETICS text at Sec. 1024.19, rewrite of 27 Dec*73

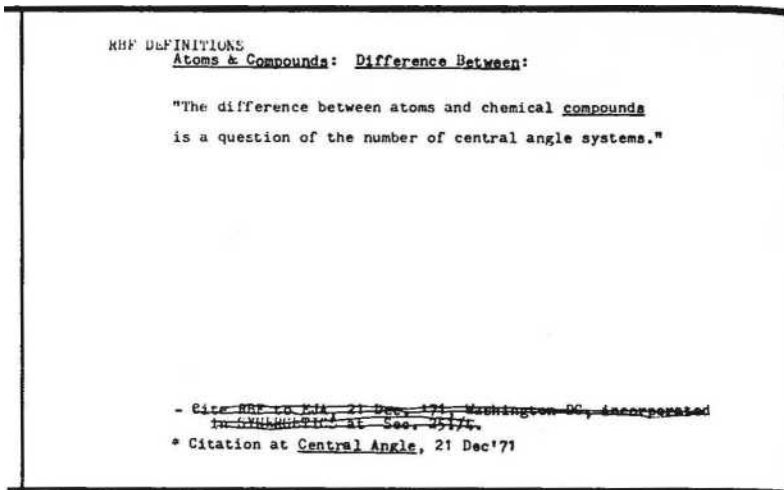
****In the atoms we are always dealing in equiradius spheres.**

Chemical compounds have multi-radius spheres. This is the difference between nuclear physics and chemistry.'*

Difference Between Physics and Chem-

- Citation at Physics: istry. 28 May'72

- r.ii h p i u 'Høn



"All the internal or nuclear affairs of the atom occur internally to the vector equilibrium and all the external or chemical associations occur externally to the vector equilibrium."

- Citation & context at Vector Equilibrium (I), Jun'66

. Anything smaller than vector equilibrium relates single

to the/atom and the single atoms do get into the symmetries, whereas the chemical compounds get into a polarized system."

- Citation &. Context at Vector Equilibrium. 11 Jul'62

See Physics & Chemistry: Difference Between Single Atomic vs. fcul-
tiatomic

See Central Angle, 21 Dec'71*

Communications Hierarchy, (3)

Vector Equilibrium, 3 Nov'73; (I)*; 11 Jul'62* Vector Equilibrium: Ze-
rophase, 11 Jul'62 Nuclear Domain & Elementality, (1)

Atgnls,.yflmm.gr- u)

' 'Though I have found an omnidirectional vector equilibrium matrix and the complex of momentarily positively and negatively asymmetrical intertransformabilities pulsating through the equilibrium state, I knew that nature would never allow temporal humans to omniarrest cosmic kinetics at the timeless, i.e., eternal equilibrium zero. But experimenting in cryogenics, taxing energy-as-heat out of the insulatingly isolated liquefied gaseous element system approaching absolute zero, we learn that as the temperature gets lower and lower, an increasingly orderly and an increasingly symmetrical, micro-geometrical patterning occurs— the Platonic solids appear to become more symmetrically uniform. Contrariwise, when energy-as-heat is progressively reintroduced, the kinetics increase and the complex of conceptual behavior becomes progressively disordered. At lowest cryogenic temperatures the omnidirectional interpatterning approaches isotropic vector matrix equilibrium.

' 'The progressive energy-starving experimental strategy reveals that nature always transforms through, and relative centrally to, the omni-isotropic-vector-matrix equilibrium, while Kinetically"

- Cite by i.f.R.Gt.TiCb draft at bees. 427.01-02, iay'73

"emphasizing the mildly off-center asymmetric aspects. Nature grows her crystals positively or negatively askew— she twists and spirals around the local, three-way great-circle grid systems in the alternate positive-negative geodesic complementations. Such kinetic considerations of closest packing are significant.

"The isotropic vector matrix equilibrium multiplies omnidirectionally with increasing frequency of concentric vector-equilibrium-conformed, closest-packed uniaxial sphere shells, conceptually disclosing the cosmically prime unique sequence of developed interrelationships and behaviors immediately surrounding a prime nucleus. While the physicist processes his nuclear problems with nonconceptual mathematics, the conceptual isotropic vector matrix equilibria model provides a means of comprehending all the electromagnetic and nonelectromagnetic energy valving and angular shunting controls of the solid state transistors.

"With one layer of spheres around the nuclear sphere we will get one set of angular interrelationships of the surrounding spheres"

- Cite bYr.ErtGETiCS draft at bees. 427.03-04, 13 t-ay'73

"with the nucleus and with one another. With two layers of spheres around the nuclear sphere a different angular relationship between the nuclear sphere and its intersurrounding spheres occurs. ...At the third layer of enclosure some of the angular interrelationship patternings begin to repeat themselves. Thus we are able to inventory what we are going to call a nuclear set of unique interrelationship patterns.

"The isotropic vector matrix multiplies concentrically. But because vectors are discrete the isotropic vector matrix's lines do not go to infinity. Their length must always represent sumtotally the total energy of eternally regenerative physical Universe. No matter how high the internal frequency of the finite Universe the overall vector equilibrium is of unit magnitude. This magnitude corresponds to that of the speed of radiation uninterfered with in vacuo. We find that the different frequencies in their phases of symmetry identify precisely with what we now call the i-agic Numbers identifying the successively reoccurring five peaks in relative abundance of atomic isotopes.

- Cite bYiUHGLTICS draft At Secs. 427.04-05, 13 i'ay'73 "I am confident that I have discovered and developed the conceptual insights governing the complete family of variables involved in realization by humanity of usable access to the ultimate computer— ultimate, meaning here: the most comprehensive, incisive, and swiftest possible, information-storing, retrieving, and variably processing facility with the least possible physical involvement and the least possible investment of human initiative and cosmic energisation.

"Science evolved the name 'solid state' physics when, immediately after World War II, the partial conductors and partial resistors— later termed 'transistors'— were discovered. The phenomena were called 'solid state' because without human devising of the electronic circuitry certain small metallic substances accidentally disclosed electromagnetic pattern-holding, shunting, routeswitching, and frequency-valving regularities, assumedly produced by the invisible-to-humans, atomic complexes

constituting those substances. Further experiment disclosed unique electromagnetic circuitry characteristics of various substances without any conceptual model of the 'subvisible apparatus.' Ergo, the whole development of the use of these invisible behaviors was »»

- Cite bYUEKGETiCo draft at bees. 427.06-0?, 1J hay'73

- 'conducted as an intelligently resourceful trial-and-error strategy in exploiting invisible and uncharted-by-humans natural behavior within the commonsensically 'solid' substances. The addition of the word 'state' to the word 'solid' implied 'regularities'm an otherwise assumedly random conglomerate.

./hat I have discovered goes incisively and conceptually deeper than the blindfolded assumptions and strategies of solid state physics— whose transistors' solid state regularities seemingly defied discrete conceptuality and scientific generalization and kinetic omnigramming.”

”We have here the disclosure of a new phase of geometry employing the invisible circuitry of nature. The computer based on such a design could be no bigger than the subvisibly dimensioned domain of a pinhead's glitter, with closures and pulsations which interconnect at the vector equilibrium stage and disconnect at the icosahedron stage in Milky-Way-like remoteness from one another of individual energy stars.

”As we get into cryogenics— taking energy-as-heat out of the system— the geometries become more regular and less asymmetric,”

- Cite bfKEHULTICS draft at bees. 47.07+11-12, 13 I-ay'73

"thus fortifying the assumptions of synergetics because the geometrically 'twinkling' asymmetries of kinetics progressively subside and approach, but do not quite attain, absolute cessation at the isotropic vector equilibrium state.

"The atomically furnished isotropic vector matrix can be described as an omnidirectional matrix of 'lights,' as the four-dimensional counterpart of the two-dimensional light-bulb matrix of the Broadway- and Forty-Fourth Street, New York City billboards with their fields of powerful little light bulbs at each vertex which are controlled remotely

off-and-on in intensity as well as in color, cur four-dimensional, isotropic vector matrix will display all the atom'stars' concentrically matrixed around each isotropic vector equilibrium's nuclear vertex. By 'lighting' the atoms of which they consist your innermost guts could be illustrated and illuminated. Automatically turning on all the right lights at the right time, atomically constituted 'you' could move through space in a multidimensional way just by synchronously moving the lights from one isotropic vector matrix vertex to the next,"

- Cite SYNERGETICS draft at Secss. 427.12-13, 13 May'73

RBF DEFINITIONS

"By 'lighting'¹ the atoms of which they consist, hamans* innermost 'guts' could be illustrated and illuminated. Automatically turning on all the right lights at the right time, atomically constituted, center-of-being light, 'you,' with all its organically arranged 'body' of lights om-nisurround!ng 'you,' could move through space in a multidimensional way Just by synchronously activating the same number of lights in the same you-surrounding pattern, with all the four-dimensional optical effect (as with two-dimensional, planar movies), by successively activating each of the lights from one isotropic vector matrix vertex to the next, with small, local 'movement' variations of 'you' accomplished by special local matrix sequence programings

Cite RBF rewrite of SYNERGETICS galley at Sec. 427.13, 2 Nov'73

A.tamlc Computer Complex: (?)

**We could progressively and discretely activate each of the atoms of such a four-dimensioaal isotropic vector matrix to become `lights,' and could move a multidimensional control 'form' through the isotropic multidimensional circuitry activating field. The control form could be a'sphere', a `vector equilibrium,' or any other system.

This multidimensional scanning of points can be programmed multidimensionally on a computer in such a manner that a concentric spherical cluster of four-dimensional 'light' points can be progressively 'turned on' to comprise a 'substance' which seemingly moves from here to there.

`` This may be what Universe is doing. Employing a scanner of each of our atoms this is one way humans could have been radio-transmitted and put aboard earth from any place in Universe. The naked human eye cannot differentiate visually the separate dots of a matrix when their frequency of uniform- modulated space-occurrence is greater than 100 to the linear inch, or ten thousand to the square inch, or one million to the cubic inch. Let us radiantly activate isotropically

and modularly grouped local atoms of human's physical organism"

- Cite LYL's urtGhTICS draft at Secs. 427.14-I5, 1J iay'73

"in such a manner that only one million per cubic inch out of all the multibillions of actual atoms per cubic inch of which humans consist, are radiationally. ergo visibly, activated. The human, thus omni-internally illumined by the local one-million atomic 'street lamps,' could be realistically scanned by discrete 'depth-sounding' uevices and programmed to move 'visibly' through an omnidimensional, high-frequency, light matrix 'mass.'

"Employing as broadcastable channels the 25 great circles of the vector equilibrium all of which pass through all the * K* (kissing) points of tangency of all uniform radius, closest-packed spheres of all isotropic vector matrixes; and employing as local holding patterns the 12 great circles of the icosahedron; and employing as a resonance field all the intertransforming spheres and between-sphere spaces; and employing the myriadly selectable, noninterfering frequencies

of such propagatable intertransformation resonance; it is evidenced that the isotropic vector matrixes of various atomic elements may be programmed to receive, store, retrieve, and uniquely constellate to provide computer functioning of"

- Cite bYliuifGETiCb draft at Secs. 427.15-10, 13 lay'73

"unprecedented capacity magnitude within approximately invisible atomic domains. The control mechanism for the operational programming of such microcosmic 'computers' will be visible and dextrous and will be keyed by the Mite orientations of the prime-number-one-volumed 'Couplers.'

"The ultra micro computer employs step-up, step-down, transforming visible controls between the invisible circuitry of the atomic computer complex and popular billboard readability."

- Cite bYNEEnGETICS draft at bees. 427.19-17, 1} May'73

"The ultra micro computer (UMC) employe step-up. step-down, transforming visible controls between the invisible circuitry of the atomic computer complex pinhead-siee programer and the popular outdoor, high-in-the-sky, "billboard" site, human readability."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 427.17,
2 Nov'73

AfrQPlfi CgfflPMttr CQOTlttU

"You will remember that I dictated a long deposition to Verner Smythe a few years ago on atomic cpmputer complex. He recorded this on one or two tapes but could fina no way of claiming invention because it seemed too patently 'obvious nature,'

``So the whole complex which is intimate and comprehensive to all our great circling and their foldabilities and the cosmic railroad tracks and holding circuits and alternate wavelength frequencies which they provide. ...

“We need it in the book. It is synergetic,**

- Cite RBF Ltr, to EJA, from Ashoka Hdtel, New Delhi, 19 Apr'73

See Atomic Computer Complex

Billboard Model

Invisible Circuitry

Omnidirectional Typewriter

Pattern Processing Machines Scan-transmission of Pattern Integrities

Ultra-micro Computer Information Control System

See Invisible Circuitry, 11)(2)

See Energy Involvement *of* 92 Chemical Elements

Atom: All the Experiences with All the Atonjs :

See Universe, (pp.146-7) Kay'72 Dynamic Frame of Reference, (7)

Atomically Furnished

See Atomic Computer Complex, (6)

Atoms Ya* Radiation:

”Everything physical is either atoms or radiation,

- Citation & context at Metaphysical & Physical

iaEjSjJMsLiaa:

See Matter vs.

Radiation

'•The smallest known orderly phenomenon in the Universe is the atom. The diameter of the atom's nucleus is the smallest known distance measurement in the Universe, The diameter of the outer shell of the atom is approximately 10,000 times that of its nuclear diameter. The ratio of diameter sizes of the atomic nucleus and the diameter of its outer electron orbit (shell) is 1 to 10,000. This also is somewhat the same order of magnitude as the 8000-mile diameter of the Earth in relation to its own Sun-orbiting diameter of 184 million mile, i.e., 1 to 23,000. But the Earth is not the solar system's nucleus. The Sun is the planetary nucleus. The Earth orbits the Sun at a diameter that is only 230 times the diameter of the Sun. Pluto, however, is the outermost known planet, ergo, it is the Sun-nucleated system's outershell-describing planet, and Pluto's orbital diameter is 9000 times the diameter of the Sun. Thus, the solar system discloses approximately the same nucleus-to-shell diameters ratio as that of the atoms, and may indeed do so exactly, for there are new calculations suggesting a tenth planet at possibly the exact 10,000-Sun diameter's distance."

- Cite HEARTBEATS AND ILL WKS, 2? Mar'73

See Astro ic nucleic Interpositioning

Orbiting Magnitudes

Relative Activity Diameters of Stars *u.* Electrons

Physics as Internal Affairs of the Atom

See Gravity (i) (1)

Mass, 29 Dec'58

Tunability, Mar*66

Gravity: Circumferential Leverage, (2)

Orbital Escape from Critical Proximity, (3)

"...All the xnterperautations of atomic structuring (stable integration) or destructuring (unstable disintegration J*)

- Citation and context at Scheherasade Number. 18 Jul'72
See Molecular Structuring

See Ecology Sequence, {A} Structure, 16 Dec'73

Atomic Triangulated Substructuring: Hierarchy. *QT'*

"It ia probable that theae two cloaely akin triangles and their respective folded tetrahedra, whose A Module Quantum phase 1b a rational aubdivider function of all the hierarchy of atomic triangulated substructuring, the 120 Basic Disequilibrium LCD trianglea and the A Module triangles, are the same quanta reoccurrent in their moat powerful wave-angle oscillating, intertranafonnable extremes."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 915.11, 19 Dee'73
RBF DEFINITIONS

Atonic Triangulated Substructure ng: Hierarchy Of:

"It ia probable that these two triangles and their folded tetrahedra, whose A Module Quantum is a rational of all the hierarchy of atomic triangulated substructuring, are the same quanta in their most powerful wave-angle oscillating intertransformable extremes."

(Slightly rewritten)

- Cite Ltr. to Alfred T. Forbes, p. 8, 18 Nov *65;
Incorporated in SYNERGETICS at Sec. 923.02

Atom Hag Its Own Synergetics:

See Relative Asynmetry Sequence, (2)

Atomica:

"We might really reverse our atomics: instead of learning how to release energy we could learn how to actually make the atone

- Citation & context at Lightning A Atoms_f 28 Apr*74

See Atoms it Compounds: Difference Between Building Blocks Chemistry as External Affairs of the Atom Cosmic Absolutes Dalton Democritus Hammering Sheet Metal Hydrogen Atom Ninety-two Elements tiementality Nucleus Pattern Integrity: Atomic Knots Periodic Table Physics & Chemisty: Difference Between Radioactivity Reverse Atom-ics Single Atomic vs. Multiatomic Superatomics Cloud Chamber Nuclear Power Generation

See Allspace Filling with Tetrahedra, 7 Oct'71 Buildings as Machines (1)* Central Angle, 21 Dec*71* Compounds, 28 May'72 Concentric Coordination, 18 Mar'69 Dynamic Frame of Reference (7) Environment Events Hierarchy, 1954 Discontinuous. 10 Feb'73 Matter, 3 Oct'72 Organism. 2 Jun*72* Sphere, 1971 Synergy, Jul'59*; Nov'71 Synergy: Degrees of (3) Tensegrity, 20 Oct'72* Tensegrity: Miniature Masts, 9 Jul*62 Tensegrity: Unlimited Frequency (6) Touch, 29 Dec'58 Vector Equilibrium, 3 Nov'73* Crystallography, 17 Aug'70 Nonsimultaneity, 30 May'75* Life, 9 Jun'75

Aton; Atomic: (?B)

See Radiation vs. Crystal Model, 9 Jun'75

Structural Sequence, (A)(8)*

Animate fc Inanimate, 11 Dec'75

Quantum Mechanics: Minimum Geometrical Fourness, (1)

Building Industry, (11)

Aural, 22 Feb'77

Olfactoral, 22 Feb'77

Tactile, 22 Feb'77

Visual. 22 Feb'77

Human Beings Ac Complex Universe, (13)

jmr nrrTMTTmr

Atom: Atomic:

See Atomic Bomb

Atomic Clock

Atomic Coherence

Atomic Computer Complex

Atom: All the Experiences with all the Atoms Atoms are not Linear
and they are not Planar Atomic Structuring

Atom as Solar System

Atomic Triangulated Substructuring

Atom Has its own Synergetics

Atomics

Atomically Furnished

Atoms « Compounds: Difference between

Atonement: At-one-ment:

See Concrete Poetry, 28 May*72

At Rant:

See Rest: At Rest

ABF DEFINITIONS

Attic Window:

"Xan came into nature through the attic window instead of the front
door and he haa been measuring everything ever since with the attic
window--- like the cubic centimeter, or Planck's constant."

- Cite RBF at Penn Bell studios videotaping, Philadelphia, PA., 20 Jan'75

Attic window-

See Science Opened the Wrong Door

Attire

See Clothes: Clothing

Invisible Ilan

RBF DEFINITIONS

Attralign:

"He talks about...attraction, i.e. coning towardness

- Citation and context at Gravity (1), 7 Feb'71

Attraction Link-uo:

See Critical Proximity Co-orbiting, Nov'71

Sea Chemical Bonds

Gravity

Mass Attraction

Push vs. Attraction

Coming Towardness

Holding Together Electromagnetic Attraction

Attraction:

(2)

Sea Geometry of Vectors, Aug'71

Attractive Field;

See Domains of Actions, 21 Dec'71

See Lecturing

Audience:

(2)

See Vector Equilibrium, 11 Dec'75

Auf£r£:

See How Little I Know, 13 May'73

Augment;

See Interaugmentation

HUF DEFINITIONS

A ura1:

"Aural: preponderantly sensing in the gaseous single-bonded atom and molecule state, including all ranges of humanly tunable simple and complex resonance harmonics in gasses.

100. OLD

- Cite SYNERGETICS 2 draft at Sec. 22 Feb'77

A

Aural; Audible:

801.01-801.24

1054.53

81053.801

81053.85

See Hearable You

Human Sense Ranging *k* Information Gathering

See Senses, 9 Apr*40: (1)(2)

Privacy, 22 Apr*61 Silence, 30 Sep'76

Aurora Borealis?

See Tree, 16 Feb*73

Auawitip

See Socialists

Austronesia:

"As you know that's my new word for Southeast Asia. I have just come from two week-long UN conferences, first in Djakarta and then in Kuala Lumpur, It was so striking how the Americans and Europeans tended to be abrupt or even harassing in their discourse with one

another; it was a style of confrontation. But the Austronesian representatives were always incredibly thoughtful toward other people. Without exception. I commented on this to other Americans and Europeans and they all confirmed my observation that the Asians were a more self-considerate society, being f^Tom a very old and wise set of human beings, they had an entirely different way of speaking up."

- Cite RBF to EJA, from Somerset Club, Boston, 10 Aug'75

Austronesia:

See Naga, (2)

Author:

"Only the individual ...eschews just philosophising and trying as an author to persuade others to think and act in different ways. •

- Citation and context at Individual Economic Initiative (1) Dec'72

Authority» Please Do Not Think—I Consider Myself an Authority;

See Question: Answering Questions, Sep'73

TQa IntoXXcctlon:

See Brain* Automatics vs. Mind's Intellections

Automation:

"Automation can produce wealth beyond all our needs and dreams. (We've always had automation. What's happening to your lunch?) Automation has made man obsolete as physical production and control specialist--- just in time."

- Cite I SEEM TO BE A VERB, Bantam, 1970

Automation:

"Automation is natural. Ignorance has led many to regard automation as a fearfully threatening innovation when, in (all of)

fact, nature's regenerative events are and always have been automated with infinitesimally exquisite precision. The Universe is regeneratively transformative technology."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, pp, 157-158, Dec '69
Automation:

"By automation I refer to orderly behaviors of inanimate complexes which operate independently of human guidance."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 158, Dec '69
Automation:

"Getting hungry is an automated function, as is breathing. So also are the spontaneous self-guarding and regenerative responses to any threatened impairment of our physiological equipment."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, pp 158-159, Dec '69
Automation:

"Our presumptive ignorance has led humans to regard automation, for instance, as a fearfully threatening innovation when, in fact, along with the invention of all his tools, automation constitutes an externalization and separation out of the integrally operative organic processes of humanity's special sets of what originally were, exclusively, internally functioning processes, utterly unique to humans' regenerative beings.

"All of nature's regenerative events are and always have been automated with inclusively considerate and exquisite precision. Our human brain consists of quadrillions of atoms, all operating in superb coordination--- in none of which activity have we any conscious participation. ...No one knows cosmically how or why they make babies. They only know what buttons they accidentally pushed before the whole automated process occurred."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, pp. 151-152, Do. '69
MttPWaUQIV

"We hear a great deal about automation as something very threatening . . . something new. I'm going to try to define automation. By automation I would mean any regulatory pattern or control operative independent of man's controlling it: that would be automated. I'll point out to you that the orbiting about Earth and all the pulsing of the Sun--- this is all automated. I point out that none of you know what you're doing with your lunch right now-- this is all automated. "You're not consciously saying, 'I'm going to send this off to make hair for tomorrow, and I'm going to have curly hair,' or whatever it is. You haven't the slightest idea why you were born at seven pounds, and why you went to 170, and why you stopped. People learned accidentally that they pushed some buttons and made babies, but all the rest is automated. They haven't the slightest idea why. I point out to you that we have never had anything but automation."

- Cite RBF to World Game at NY Studio School, 12 Jun-Jul'69, Satrun Film transcript, Sound 1, Reel 1, pp.83-84.

Automation:

"by automation I refer to any reciprocally interacting system operating independently of conscious human guidance."

Senate Select Committee on Technology, 4 Mar *69

- Cite HEARINGS,
p. 13.

Automation:

"I hear humanity talking about automation as if it were something new and something ominous. And I discover that man has always had automation: that the way you were born is completely automated. that parents don't know how to make babies--- they just push buttons and all the rest is automated.

"You don't know what pxirfta you're doing with your lunch right now. . . to which glands you're going to send it. and how much you're going to use to rake hair, and how much to make skin, and how much to use for emergency work--- when you get a scratch--- none of this do you know. So you're really 99.9 per cent automated.

"Man is very meagerly conscious in the total process. None of you knows how you went from seven pounds to seventy, and none of you knows why you did."

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb '63, p. 4.
A9RaUQIb

"Humanity has been only inadvertently saved from extinction. The surprise factor is the fallout from the weapons support system. The new fallout technology which displaced man as a specialist (professional, scientist, or craftsman) is the new computer-monitored automation Industry."

- Citation and context at Suicide of Humanity. Jun'66
Automation:

"••hen we refer to the computer and automation taking over, we refer really to man's externalization of his internal and organic functions into a total organic system which we call industrialization."

- Citation at Industrialization. Mar*66

"All of nature's regenerative events are and always have been automated with inclusively considerate and exquisite precision. Our human brains consist of quadrillions of atoms, all operating in superb coordination--- in none of which activity have we any conscious participation. No one knows what he is doing chemically and organically with the last meal he loaded into his stomach. No one is consciously routing the corn flakes to this gland and carrots to another to grow hair on his head, nor other food items sent purposefully to manufacture the coloring of his eyes. No one has the slightest idea how or why he was born, weighed in at seven pounds, grew to 170 pounds, and then stopped growing. No one knows cosmically how or why they make babies. They only know what buttons they accidentally pushed before the whole automated process occurred."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, pp. 151-152, Dec '69

"Getting hungry is an automated process, as is breathing. So also are the spontaneous self-guiding and regenerative responses to any threatened impairment of our physiological equipment. While man's consciously elective participation in all that goes on is almost negligible, he argues the pros and cons of today's problems and conducts election in the belief that he and other humans are primarily responsible for all that occurs. Nature is usually disdained by man as consisting of an easily controlled and as yet unattended set of disorderly happenstances. Too much Sun? Put on glasses! Too many bugs? Use the DDT gun!"

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, pp. 158-159, Dec '69

"To such an extent does man believe in man's importance that he doesn't realise that he is himself almost completely automated, that he is subconsciously coordinated and motivated and also part of an immensely evolving totally new era gestation process to be realized in

magnitude beyond man's conception. Nobody knows how his breakfast is being processed into gland-stored energies. He cuts his hand and it heals. He does not know how. His hair grows, or doesn't grow and he knows not how or why. We go from seven pounds to 170 so relatively slowly we don't think of this as evolutionary. But between World Wars I and II American men unexpectedly increased their height by three inches. Up to and including my father's life, the average distance covered by man in his lifetime, was 30,000 miles. In my lifetime, thus far, I have covered three million miles a 100-fold increase. Astronauts knock off that distance in three days flight. I don't think we tend to accord at all the fact that we might go on to have some other form of living in the Universe,"

- Cite RBF in AAUW Journal, pp. 174—5, Kay *5

See Baby Button Man: Automated Metabolism of Man Metabolic Flow
Procreation Regenerative Subconscious Coordinate Functioning

See Epistemology. 8 Jan'66 Hair, 9 Jul'62 Environment, 29 Mar'77

<D

See Service Industry

Human Unsettlement, (4)

See Population Explosion (1)(2)

See Computer

Computer Programming

Cybernetics

Determinism

Education Automation

Omniautomated: Omni-autocat ion

Programming

Push Button & Dial Systems

Technology; Computers Telemation

See Earning A Living Sequence, (2) Industrialization. Mar'66* Labor:
American Labor, 1960 Order, Feb'67 Spaceship Earth, 19 Feb'6L Sui-
cide of Humanity, Jun'66* Human Unsettlement, (4)

Automobile:

"An automobile cannot go over the open fields. The highway is part of an automobile. You must realise that an automobile is really like a little runner on a monkey wrench. These two parts are again the synergetics of one another. And because the automobile company can't afford to produce all the highways, all they do then is to produce a very beautify! car, put it in an automobile show, get the local banker to buy one, and it gets to be very showy. People get very excited at the idea that they don't have to walk from here to there; they might be able to ride from here to there. And they have automobile races on a little track and it gets to be very exciting. And so finally there gets to be such a hunger of people to ride that the politician, who hasn't even gone to school at all, finds the way to get elected is to build highways."

- Cite Univ, of Chicago Address, pp.9-10, 5 May'72

Automobile:

"It is perfectly practical to think about taking the metals out of obsolete automobiles, taking all the two-ton automobiles off the road, melting them up and making twice as many higher performance one-ton automobiles from the same metal. You may say that you don't want more automobiles--- that the parking problems are too great.

In speaking of automobiles I am speaking of a familiar industrial tool. I am not advocating more autos. I am simply considering the feasibility of the principles involved through which we can take care of twice as many people in a given function with a given obsolete scrap resource.'*

- Citation and context at Metal; Recirculation of Metals,
Automobilea:

"Automobiles are little part-time dwelling on wheels,"

- Citation add context at Environment Modifying Machines_f 16 Aug*70
Automobile:

"At present automobiles--- though they may do some fairing about them--- the bottom is very offensive, like a carpet sweeper underneath with all kinds of junk."

- Cite Tape transcript #4. Side A, p.9; RBF to Barry Farrell Bear Island, 14 Aug'7u

Automobile:

"We are still producing two-ton, 18-foot long automobiles to carry one person. Half that weight of materials, properly designed and employed, would be enough to carry six persons."

- Cite I SEEM TO BE A VERB, Queen, May *70 (Not in Bantan edition)
Automobile;

. An automobile is only one-half of the invention of an automobile; it has to have a roadway to run on. It can't ran over the open fields so the roadway is actually as essential to it as the little runner is to the rest of the monkey wrench.'*

- Cite Oregon Lecture #2, p. 42. ² Jul'62

"The four-point landing of a plane is ridiculous, as, in fact, is the automobile for which we have had to build plane (carpet) highways...Individual spring was to loose fourth wheel."

- Citation and context at Outbound Point, circa 1946
Automobile Engine;

See Energy Slave. (2)0) Methane Gas Engine, 13 Mar'74

Automobile an Only Half, the, Invention:

See Automohile, 5 May*72; 2 Jul¹62 Private Enterprise, 1971

RBF DEFINITIONS

Automobile: Over a Million Cars Standing in front of Red Lights:

*. . . I'm suggesting that we get into higher efficiencies in the use of the energies. You say we're running out of energy. We're not running out of energy at all, we're just being stupid. Everything we have to do energetically. . . We have at all times in the United States over two million cars standing in front of red lights with their engines running going. That's over 200 million horses jumping up and down going nowhere at 15% efficiency. It is four out of five of all the automobiles in America are not in motion, they're just blocking streets somewhere."

- Cite R3F at DSI Press Conference, NYC, p.12, 18 Jun'72

AMtongVIXpi Over A Million Cars Standing in Front of Red Lights:

See Cosmic Accounting Sequence, (4)(5) Energy Slave, (3J

See Buggy Industry Could Never Invent Automobile Dymaxion Car
Freeways Highway is Part of the Automobile Highways Probability
Model of Three Cars on a Highway Slow: The Slower We Get the More
Crowded We Get Social Highway Experience: Three Autos Traffic

See Copper Sequence (VI) Environment Control Valve, 1954 Industrialisation, 1946 Metals: Recirculation Of (1)* Population Density: Manhattan Jet Dispersal, 30 Mar*70 Private Enterprise. 1971 Service Industry, <5 May'73 Environment Modifying Machines, 16 Aug'70* Transnationalism vs. Colonialism, (3)(4) Locomotion: Radius of Man's Locomotion, (1) Housing, 1 Feb'75 Walking, 29 Jan'75 Tooling of Domes, (1) New York City, (4) Mobile Homes, (2) Human Unsettlement, (2)-»(6)

Mobile Rentability vs. Immobile Purchasing, 20 Sep'76 Energy Environment-harvesting Machines, 27 Jan'77

Autonomous Living Technology Packet:

"I look forward to the time when humanity is advantaged by the \$200, knapsack-size, 72-pound, autonomous living technology packet, which is a natural by-product from the six-man, suitcase-size, 450-pound unit now being potentially developed both by the Russians and the Usa's NASA to keep humans alive in space outside the Earth's biosphere for protracted periods of time (months and years--- in contrast to short Noon trips which can be coped with as 'sandwich and thermos bottle' type ventures). With such new economic capability, society may converge at will at special town and city locations and then deploy at will to dwell in beautiful remote wilderness locations, on sea or land, being able to do so at a moment's notice and free and unencumbered as the birds to do so."

- Cite bET "Y", p.6, Aug'72

Autonomous Living Technology Packet:

"The problem is to reduce the dimensions of the ecological pattern from a vast tree-air-Earth-worm-bird-bee-rain-wind relay system to a three-foot diameter, closed-circuit system by which man is able to sustain high health for 12 months without sewer disposal or further input supply beside Sun radiation.*

- Citation and context at ~~Dwelling Service Industry~~ (5)(6), 19 Sep'64

See Back Pack

Dwelling Machines

Outbound Packaging of Hunan Food Waste

Plumbing

Space Capsule

Space Technology

Sleeping Bag

See Dwelling Service Industry (5)(6)

*utonoiaoua:

See Semi-»autonoaou8

Available Energy:

See Surface, 4 Oct'72

See XYZ Coordinate System, (B)

(D)

See Lifetime: Personal Lifetime Experience for Elective Investment

Tteii

(2)

See Circle, 22 Apr*68

Fourth Dimension. 1? Not*72

Radiant Valvability of IVM-defined Wavelength, 30 Nov'72

Spending, 25 Mar*71

Time, ip.102) Jun'6b; 2 Jun'71

Time-sixing, 30 Nov'72

See Vacant - Available

See Available Energy Available Space Available Time

AyorflM »wn

"I am convinced that the only importance I may be to society is that I am an average, healthy human being and have demonstrated what an average healthy human being can and may do if the individual breaks with the pattern of earning a living and commits himself to developing artifacts that could induce ever more success to all behavior of humanity,

"Because I am just an average healthy man, I do not like the word disciple. I am blessed with the supporting association of a number of extraordinary young humans who are also committed to design revolution."

- Cite RBF Ltr. to J. Maxwell Smith, Jr, Phila, PA, 5 Mar¹74

Average Human Being:

"I try to see what an average human being is capable of* doing, and what I've been able to do I'm confident anyone can. The first thing you have to do is free yourself from the belief that society knows where it's going."

- Cite RBF quoted by Tina Jeffrey in Newport News Daily Press, 1 Apr'73

Ajffira£fi_Man: 0 >

"So there really are quite a number of friends here. There are those whom I've not met, and I'd like to start in on the kind of thinking I`m going to do--- thinking out loud--- by letting you have a little idea of how I think about myself, because I consider myself my own private guinea pig. . .

"I've often found myself being introduced in really

quite lavish welcome as if I were some special kind of a creature. And I'm absolutely convinced that the most significant aspect of me is that I couldn't be more average. I'm quite confident that I haven't been able, that I haven't done anything, that anybody cannot do. I'm sure that everybody is gifted with these capabilities, and I just simply became terribly interested in seeing how I could develop what I thought was our comprehensive inventory of innate faculties because I feel I certainly could recall--- as you must, when you're young, how very sensitive you really felt about that kitten, the first kitten you ever saw. How you felt about the first time you can really remember seeing a flower. . . . The delicacy of the human relationship which, as time went on . . . people saying, darling, it's a pretty tough world and you've got to get over that sensitiveness. You've got to harden up. And how"

Average Man: (2)

"we learn to close off those valves. And I began to wonder what would happen if I opened them up again. If I could;

I would try. So I'll simply say that whatever ...I'm very glad that I have some kind of a record to show because then I think it's a very clear demonstration of what can be done. Because I've always said that if anybody else had ever undertaken to do what I did I don't think you'd ever have heard of me because I would have come in second. Not first. And simply to have a record--- because I had no competition whatsoever.

"Now if I go on in a lucid manner I think you'll begin to agree with me in my premises--- because I'd like to make clear to you why I'm convinced that I'm only employing what is available to all of us. But I find it very important at the outset of any thinking out loud to introduce a special word with a special meaning that I find is not popular. / Synergy_7" "I am confident of the results of my having discovered some of the potentials of a truly average man. I am confident that the only important thing about me is that I am a truly average roan and that all average healthy humans have extraordinary abilities which are as yet unrecognized by society.'*

- Cite Museums Keynote Address Denver, p. 5. ² Jun'71

Aysrafig kflP Aygnutt Human

See Doing What Needs to Be Done. 17 Dec'74 Fuller, R.B: Crisis of 1927. (1) International Affairs, 5 Kay* 72 Real Estate Development, 10 Jun*71 Special Case, 26 Apr'77

See Zero ./eight

See Halving Cha Halves

Zigsag: Right-left: Halfway Averaging

See Means, 22 Jun*75

Symmetry & Asymmetry, 11 Dec'75

Asian Bumbling;

See Bee: Honey-seeking Bee, 9 Nov*72

Avogadro:

"Avogadro accounts volume with number in a much better way than just putting water in a cube."

- Citation 4c context at Geometry of Vectors f 2? Jan'75

Avogadro:

"Reviewing chemical science history I became intuitively aware that the clue to vectorial, volumetric, geometrical coordination might be found in Avogadro¹'s experimental proof of his earlier hypothesis which stated that all gases under identical conditions of heat and pressure will always disclose the same number of molecules per given volume. I felt intuitively that inasmuch as these gases often consist of one unique chemical element, such as hydrogen or helium, and that inasmuch as these gases could be liquefied, and inasmuch as most of the elements are susceptible to some heat- or pressure-produced transformation between their liquid; crystalline, and vapor, or incandescent states, it might also be reasonable to hypothetically generalize Avogadro's hypothesis by assuming that 'under identical energy conditions all elements may

disclose the same number of "somethings" per given volume."

- *Cite* NASA Speech, pp.64-65, Jun*66 fAewov oF Joees. sec. Hie 03/

CLOSF sr

Avogadro: Amadeo Avogadro: (1779-1856}

"t . . . Now I came to Avogadro and said, AH right, if I take the generalized concept of Avogadro all conditions of energy--- I didn't say pressure and heat because I wanted to be much more inclusive-- so I said all the conditions of energy are identical. I said, What would I

mean by that if I were using vectors? It would mean that all the vectors were the same length and it would mean that every one of them had at each of its terminals some convergence of the reactants and the resultants in which all the angles would be Identical. Every vector would be the same and it would be connected up at both of its terminals with other vectors at which all the angles around it would always be the same."

- Cite Oregon Lecture #8, p. 299. 12 Jul'62

Avogadro: Generalized Avogadro System:

"This coordinate system may be described as an isotropic vector system; that is, a generalized Avogadro system in which the energy conditions and relative quanta ratios are everywhere the same yet multi-differentiable in local patterning aspects, which aspects are interchangeably emergent without altering the comprehensive energy equilibrium or its unitary totality as implicit in the law of conservation of energy by which it is assumed that energy may neither be created nor lost."

- Cite INTRODUCTION to OMNIDIRECTIONAL HALO, p.121, 1959

Avogadro: Intuition, p. 17, May '72 Nasa Speech, pp.64-66, Jun '66 Lodgement Lab. Address, pp.7-10, 15 Oct '64 «•» Oregon Lecture j/8, pp.292-299, 12 Jul '62 =** Synergetics draft, Sec. 410.03 ff, 27 May'72

Introduction to Omnidirectional Halo, p.121 410.03-410.12 420.01-420.03 825.28 8201.22

See Cosmic Democracy

Geometry of Vectors

Isotropic Vector Matrix

Vectorial Geometry Field

Vectorial &. Vertexial Geometry

See Cosmic Democracy. 27 May *72 Equilibrium. Jun'bb Synergetic Hierarchy, (1) Synergetics, Sep'64 Geometry of Vectors, 27 Jan*75*

Saa Usa va. Nonuaa

* $xgX < Uiw$ « va. Iiwrfaaraasa:

(2)

See Frequency Modulation, Jun'66

Avoidance:

See Divergence

Tangential Avoidance Avoidance ve. Interference Near-mi s s

AwXOHMft-fc AglBOWIOflg:

See Packaged, 19&9 Universe (1) Integrity, 24 Jan'72 Events 4 Novents, Nov'71

Awakening:

See Dream. 1968

Identity, 195V; fay'70

Metaphysics, 2 Jul'62

^A«a_r?negfi-

"The simplest descriptions are those expressed by only one word. The one word which alone describes the experience 'life*' is 'awareness.' Awareness requires an otherness of which the observer can be aware. The conununi cat ion of awareness is both subjective and objective, from passive to active, from otherness to self, from self to otherness.

Awareness `` self + otherness

Awareness observer + observed."

Cite SYNERGETICS 2 draft at Sec. 100.010; 28 Apr'77

Awareness:

"The number one word that identifies the experience we call life is awareness. No otherness: no awareness. There would be no life under these circumstances."

- Ci2? 0'75 P#nn videotaping session, Philadelphia,
A_{wcngaa}-

"Consciousness and identity begin not with conception but with birth.
Awareness, that's the thing I...that's idiat begins with birth."

- Citation *k* context at Life Is Not Physical, 13 Jul'74

"...The very consequence of only 'dawning' and evolving (never instantaneous) awareness is to impose the phenomenon time upon an otherwise timelss, ergo eternal, Universe, Awareness itself is in all these asymmetries, and the pulsations are all the consequences of just thought itself: the ability of Universe to consider itself, and to reconsider Itself."

- Citation and context at Time. 27 Dec'73

Awareness:

"The awareness of life ia always a complex of cognition and recognition lags. Lags are wave frequency aberrations."

- Citation & context at Vector Equilibrium; Field of Energy.
(C), 11 Oct*73 —

Awareness:

"Awareness is terminable, but knowledge is eternal.

- Citation and context at Knowledge. 11 Sep¹73

Awaraisfia:

"The number one a prioWri characteristic of the entirely mysterious life is awareness--- which develops gradually into comprehension only to become aware of how inherently little we know."

- Citation and context at How Little I Know. 13 May*73

Ayarsnsaas

"What we call life ia awareness and as far as we know on the level of human awareness, we don't know any alternate kind of awareness in our Universe. It's the only one we have and so the awareness of an individual comes through as each individual's. So when I speak as an individual I know my thinking about myself, being very important here, is the only awareness I have; and I'm using it and I'm really absolutely confident that what I have is something everybody else has."

- Cite RBF to YPO Mtg., 11 Earl73

Awareness:

"The plurality of principles, which themselves are inter- accommodative, inherently generates awareness differentiability The exquisite perfection of the total interaccommodation and the limited local set® of the tunabilities of the terrestrial living organisms, such as the human instrument vehicle-- all are permitted in the general complexity and permit local focus limited awareness as individual-seeming perceptivity,"

"What I am saying is that we have only eternity and integrity. Unity is plural in pure principle. The awareness we speak of as life is inherently immortal and equi-eternal."

- Cite SYNERGETICS draft At Sec.s 1009.37 + 38, 10 Feb*73

Awareness:

"The sense of physical textural reality, and awareness itself, which uniquely identifies life and time (in contradistinction to eternal weightless metaphysics), is inherent to the plurality of frequencies and degrees of freedom which in pure principle theoretically provide different interpositionings within given amounts of time.

- Citation and context at .fave vs. Particle. 10 Feb'73

Awareness

"Awareness of otherness involves mutually Intertuned event frequencies."

- Citation and context at Frequency; Initial Frequency. 6 Nov'72

Awareness:

"Is is awareness.

Awareness involves previous otherness.

Awareness is differential, sequential, secondness.

- Citation and context at Is. 24 Apr'72

AwarenessB:

in syn.rg.ties th. 'Uns' is 'th. axis of int.rtang.ncy of unity as plural and aininun two. Iwar.n.as begins with two. This is when, .pist.wology coases in. . . "

ig jmxs- tyn.

- cites BDP «u »<*i n. rally Mini

- Citation and context at Line. 19 Jun*71

Awa_r?_n?q_{ff}:

"...Twoneas io the beginning and essence of consciousness, with which human awareness begins: consciousness of the other, the other experience, the other being, the child's mother . . . "

Other

- Citation and context at

19 Jun'71

Awareness:

"Awareness Is always somewhere in the area between macro and micro."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

6warep₇₈₈:

"The very consequence of awareness is to Impose the phenomenon time upon an eternal Universe. It is awareness itself which is in all the asymmetries really and the pulsations are all consequences of just thought itself. . . of the ability of Universe to consider itself, to look upon itself."

- Ci ~7tran s er±~p t. Blackstone Hotel, Chicago

KbF UiuFIIHTIUKS

Awareness;

"Consciousness means an awareness of otherness."

- Citation at Consciousness. 1971

Awareness:

"There are a minimum of three inherent awareness aspects of all experience: withinness. withoutness. and the hemispherical reflexive...pulse pattern."

- Citation and context at Experience,. Feb*50

Awareness- Patterns:

See Imperfect, 22 Nov*73

See Brain Bank

See Universe: All the Known, 13 May'73

See Apprehension: Apprehending

Awareness Patterns

Awareness Processing Facility

Consciousness

Magnitude Awareness

Otherness

Prime Awareness

Shape Awareness

Subconsciousness

System Awareness

Volumetric Awareness

We-me Awareness

Dawning Awareness

Self &. Otherness

Minimum Awareness Model

Minimum Four Awareness Aspects of Life

Interawareness

No otherness: No awareness

Apprehension + Comprehension □ Awareness

See Background Nothingness, 2 Jun*75

Children as Only Pure Scientists, (1)(2) Conceptual Limits, 22 Jun'77
Consciousness, 1971*

Dimension, 1 Apr*49
 Energetic Functions, 8 Aug*77
 Eternity, (1)
 Experience, Feb'50
 Environment, (A)
 How Little I Know, 13 May»73*J 8 Mar»73
 Human Beings, 22 Jun'77
 Human Jeings & Complex Universe, (3)
 I, 11 Oct'73
 Initial Frequency, 6 Nov*72 Is, 24 Apr'72*
 Knowledge, 11 Sep'73*
 See Life, 10 Feb»73 Line, 19 Jun»71*
 Modules: A & B Quanta Modules, 20 Dec'73
 Other, 19 Jun¹71*
 Pronouns: I - We - Us, (1)(2) Pull, 22 Jun»72
 Repetitive, 28 May'75
 Self & Otherness: Four Minimal Aspects, 9 Jun'75 Sensings & Event-
 ings, 28 Apr'77
 Telepathy, May'72
 Thinking, 30 Sep'76
 Thought, 31 May'71*
 Time, 2} May'72; 27 Dec'73*
 Vector Equilibrium: Field of Energy, (C)
 Wave vs. Particle, 10 Feb'73* Woman is Continuous, 11 Aug'77

PRF nkFTMTT_{TnNR}

Awayllinear:

"Awavilinear means nonwavilinear or antiwavillnear

- Citation and context at Gravity. 23 Sep'73

See Gravity, 23 Sep'73

Away k AKO:

Se® Connuni cation, 21 Jun*77

See Come Apart Going Awayness

Axiology:

**See Balancing of Values Ends Ethics Ethical Physics Man as a Function
of Universe Plastic Flowers Sin Unselfishness Values**

Axion:

"The mathematical physicists and physicists call me

An 'experimental mathematician,' because I have no axioms.

- Cite RBF Draft BRAIN 4 MIND, 1971

Axiom:

"./hat they could not define, yet obviously needed, they identified by
the ineffable title 'axiomatic.' meaning 'Everybody knows that.'"

- Context and citation at Tools of Geometry (2), Sept*71

Ruf UuFIMTIUNS

Axiom:

"./hereas solids, straight lines, continuous surfaces and infinity were
imaginatively obvious, x.e., axiomatic.

physics has discovered none of the foregoing to be experimentally
demonstrable."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

Axioms:

"Conventional mathematics is based upon 'axioms'¹ that were imaginatively conceived and Inconsiderate of information progressively harvested through microscopes, telescopes and electronic probings into the non- sensorially tunable ranges of the electromagnetic spectrum."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

KBF DFIMTIOhS

Axiom:

"Synergetics altogether forsakes axioms as self- evident pre-microscope superficialities. Synergetics predicates all its relationship explorations on the most accurately and comprehensibly statable observations ...of direct experiences."

(Adapted)

- Cite RBF marginal not* on EJA draft at Beverly Hotel 9 Dec 70.

Axioms:

"Axioms are not axiomatic."

- Cite I SEhJ4 TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Axiom:

"We also no longer can overlook the fact that science has found no solids, no continuous surfaces, no infinity, no straight lines, no 180-degree angular continuums. To the best of our experimentally informed knowledge, all such formerly accepted axiomatic concepts are false. Axiomatic meant 'self-evident.' The seemingly obvious quality in most cases of yesterday's ajjns was permitted only by

the lack of knowledge of that which would be disclosed by microscopic inspection, We must desist from further imposition of such pre-microscope-telescope assumed, but now knowledgeably false, premises upon our children. We have been tolerating the fictions only because they were included in yesterday's textbooks which we say, also ignorantly, we cannot afford to replace. The time has come and there is little left of it, within which to effect entirely new world-around educational strategies.'*

- Cite NEHRU SPEECH, 13 Nov '09, pp. 15-16

Axiom:

"I find almost all the axioms of mathematics to be experimentally nondemonstrable. The dictionary defines axioms as self-evident truths. Post-Greek electron-microscopy and Heisenberg's indeterminism show that the seemingly self-evident is always superficial and utterly deceptive and that truth is at best inexact. Pure mathematics' axiomatic concepts of straight lines are completely invalid."

- Cite NASA Speech, p.44, Jun'66

Axiom:

Regarding those mathematicians working in geometries, they don't impress me at all. As far as I am concerned, all of their axioms are wrong. An axiom by definition defies the concepts of experimental science. These mathematicians insist that what is self-evident is not subject to further experimental demonstration; and therefore, as far as I am concerned, they are working with concepts which have no experimental foundation. I believe that about 90 per cent of all mathematics relates to games that have no valid relationship to real physical experience."

- Cite RBF in transcript of panel discussion following ,
Kansas Centennial seminar on "Man and the Future." Undated

TdXT CITATIONS

Axions: Axiomatic:

203.06

216.02

502.10

502.31

522.02

811.02

821.03

See Obvious Axiomatic

See Askewness, 6 Nov'72

Child Sequence, (1)

Excluded Answer Resources. Oct'66

Meaningless: Inventory of `` `eaningless Concepts

Radiation: Speed Of, (C)

Tools of Geometry, (2)*

Civilization, May*44

Axis:

**If the pattern has a hole through it like a doughnut / `` `torus_7 then
you don't have plus anything. Tou leave out the two from this solid.
When you leave out the two from this solid it really is to say that it is
a doughnut ami you are cutting out the axis, which is to say that the
axis is two."

- Cilr-eregagrEmnre

- Citation at Torus. 11 Jul'62

Axis of Conceptual Observation:

"The vectorial angulation of both the experientially observed and the experimentally articulated is always referential to the axis of conceptual observation of the observer or the articulator, respectively. These always and only coexisting functions of experience and experiments embrace the fundamental parameters of operational science."

- Cite SYNERGETICS text at Sec. 513.05, 25 Mar'71

See Line of Interrelationship Vectorial Orientation Orientation Time-angle-size Aspects System Center of Observation

See Crossing, 1 Apr'72 Omnidirectional, 27 Feb'72 Vectorial Orientation, Mar'71 In, Out it Around, Nov'71

See Jitterbug, 1 Dec'65

In, Out i Around Experiences, (1)

See Three: Number Function of Three in a Four-axial System

See Triangular-cammed: In-out-and-around Jitterbug Model

Axis of Intertangency:

537.22

s540.11-.540.14

See Internuclear Vector Modulus Line Between Two Sphere Centers
Prine Vector

See Intertangency, 19 Jun*71

Axis: Multi-axial Systems:

See Prime Structure'll Systems, 29 Dec* 58

Axis of Observation:

5U.O1

s267.01-267.04

s540.41

513.05

5U.01

517.05

524.33

52V.O1

1002.11

1054.55

Axis of Reference:

"Our definition of an opening is that it is surrounded, that is framed, by trajectories. Every trajectory in a system will have to have at least two crossings. These are always as viewed, because the lines could be at different levels from other points of observation."

- Citation at Openings. 22 Apr'71
- rnu mir nrrii, nmimi I riun, nininw, ftpiii t97i'

AK1S S^{cc} S'M.o3)

fu>F DU11<1T1<J1<S

Aale_2£Jli£s£sna£i

"Maybe the twoness Is the axis of reference."

Cite RBF to EJA Hc-verly Hotel, New York 15 Xarch 1971

A_xla QI Reference: Hea-tg-tge?

"The vector la time-energy incrementation, embracing both velocity and relative mss, as wall as the observer*# angulation of observation--- strictly determined in relation to the observer's head-to-toe axis and time, relative, for instance to heartbeat and diurnal cyclic experience frequencies."

- Citation and context at Time Vector. 24 Sep'73

Axis of Reference: Nose-to-navel:

"The axis of reference is the axis of conceptual observation. It is the axis of reference between the vector of the event and the observer.

The axis of reference frequently occurs spontaneously: as the line between the nose and the navel--- that is, the line connecting the observer and the event's vector."

K.B.- RBF LITd< ALTtUUD THIS IN SYNERGETICS TEXT TO

LuTi. THE SEUURD.SjNg_{ftF}A_{Sfti}g_{Tft}A_{ft} U March 1971

Axis of Reference:

5U.01-5U.03

521.02

527.02

Axis of Heference:

See Polar Vertexes. 19 Feb'72

Vectors, 22 Jul»71 » ¹? Oct'77

Multidimensional Accommodation, 11 Dec'75

of Inherent Kotatability:

"At any Instant of time any two of the evenly coupled vertexes of the system function as poles of the axis of inherent rotatability.

- Citation at Polea. 1971

KBF DEFINITIONS

*xle of Spin:

□The word 'line' is nondefinable: Infinity. It is the axle of intertangency of unity as plural and minimum two. . . The 'line' becomes the axis of spin. Even two balls can exhibit both axial and circumferential degrees of freedom."

- iweEBFZEe'IEHpiBnTerly:Hntnl_y—Hew—lurk19 June 1971.

- Citation & context at Llne, 1y Jun'71

Axial of Spin:

"Any two vertexes may be selected as the axis of spin whether or not the axis described by them is immediately conceivable as the axis of spinability, i.e., the axis need not be statically symmetrical. (You can take hold of a boy by his two hands and spin him centrifugally around you although his two hands do not represent the symmetrical static axis of the boy.)

- Cite RBF to EJA. 3200 Idaho, Washington DC, 23 Jan '72 Incorporated in SYNERGETICS at Sec. 223.01, Jan '72.

Asfl. Spin: (1)

"Euler said that every pattern in the Universe is characterized where the lines cross (the vertexes) and areas (where three lines cross giving any closed set.) And we found that for all polyhedron the number of vertexes plus the number of faces equals the number of edges plus two.

`` I thought this plus twoness over and the fact that I found two extra spheres in every layer of closest packing had probably some significance. So I said, one thing we have learned about all systems when isolated from other systems, is that they have the ability to be rotated or for things to rotate around them. Therefore there are axes of spin. Every system has to have some kind of axis.

"We look at the reel of your tape recorder here and we look at the top of that reel which is going eastward and the bottom is going westward. And the top is going quite fast to the eastward. If I go in from the center, the speed from the top is going slower as it goes close to center, and the bottom is going slower and slower eastward as you go close to the center. Finally at some point in the center"

- Cite RBF to Verner Smythe, NYC, Reel 2, p.4., 11 Mar'69

Axlg. Pf spin: (2)

"they can't be going the other way. There must be a neutral axis but you can't see it. This shows up time and time again in mathematics. Brouwer's mathematical theorem really shows this...you have a large number aggregate of points very randomly disposed and you stir all those points. It's easy to prove mathematically that one of the points never moves in respect to the total mass.

"There is always a neutral axis because every must have the two faces, obverse and reverse. So there must be another point in the southern hemisphere that also didn't move. So those two points are always in any matrix of seeming total disorder: two will not have moved.

"So these are the axes of spin of systems. If I need an axis of spin, therefore, I find it very interesting that in agglomerating these layers and allowing for the really very large- size numbers that would be accounted for in the masses of Earth. And Newton working in the gravitation of mass defines it in terms of the second power of the relative proximity of the masses. And that second power is in terms of the diameters'*

__ Cite KBF to Verner Smythe, NYC, Reel 2, pp 4-5, 11 Mar'69

"of the respective masses, using one or the other as a criterion, ./hich means that if I have two balls the same size and I halve the distance between them, that wil fourfold the attraction of one for the other. And then I gave you the converse of that, the radiation one of Einstein, which is also second powering. Both of these deal in energies which are so large that the the discrete two for any layer in terms of atoms would be lost. But when we come to make the true model, I found out that in the closest packing of spheres there were the two always there. So we could describe it, but you really couldn't discover it experimentally because it's too negligible a figure. But there it is and it allows for the axis of spin.

"So 1 said, all right, so I'm going to redo all those formulas. For every vertex in any polyhedron I am going to take two out of that polyhedron and assign them the function of the axis of spin. Two vertexes always are poles. This means that I will subtract from the left-hand side Euler's formula. For instance the tetrahedron is four vertexes plus four faces - six edges plus two. I take out two vertexes on the left-hand side which I give the function of being poles. That leaves me"

- Cite RBF to Verner Smythe, NYC Reel 2, p.5, 11 Kar'69 ''**two nonpolar vertexes in the inventory. This means I will have to put plus two over my equation over here. I am using the sign of theta because it has the fundamental twoness. a top and a bottom. So I have the plus two. I have two plus, taking it out of every one of these vertexes. This means I can take away the two on the other side of the equation, where I had epees plus two ($E + 2$), in order to accommodate this extra twoness, which was over here, which really had the polar effect. So I have two poles plus these nonpolar vertexes in here. I have taken that out of all of Euler's topological description of all this hierarchy of polyhedra, which is done in the hierarchy of relative volumes of oneness, fourness. The '1' gets back down to a *2* later on, 2, 3, 5, and so forth.**

"This tells us then that where we take out the two poles, the spin, there is a constant relative abundance for every vertex in the Universe. There will always be two faces and there will always be three edges. Which is to say then, that from every event in the Universe, the number of lines (which are the vectors, the energy actions) will always be three--- or multiples of three."

CSee Vector: Threeness of the Vector_7

- Cite RBF to Verner Smythe, NYC, Reel 2, pp.5-6, 11 Far'69

Axis of Spin:

(5)

' 'This brings us to an identification. I have two kinds of twoness here. There was the polar twoness, the two in every layer. . .

"There is another kind of twoness--- because remember in this formula we have in the first layer, 12 balls, then 42 balls, then 92 around one ball. And I said the center, the top ball there, was just one ball all by itself. Let us take our formula for how many balls there are in a layer. Quite clearly, the first ball has no layers--- no outside layer, does it? So the frequency is zero. You can't have frequency without two to give it some integral. So our single ball, as nucleus per se, doesn't have any layers around it, so it is zero. So frequency is zero. Frequency to the second power is zero times ten, which is zero, and plus two is two. So the center ball always has a value of two. Because the exterior is convex and the interior is concave, and because convex and concave are not the same--- because one is an energy diffuser and one is an energy concentrator--- this means then that every ball has two kinds of qualities of two. It has an additive twoness of the balls plus an insideness-and-outsideness twonee8.ⁿ

- Cite RUF to Verner Smythe, NYC, Reel 2, p»7, 11 I%ar*69

"That was a multiplicative twoness. So I have a formula here where there are two balls multiplied by the constant relative abundance. Once the poles are taken out there is a constant relative abundance of vertexes to base edge. For every vertex, for every event in the Universe, for each star, there has to be two face and three edges (or three lines or three vectors. . . in absolute constant relative abundance, and the only difference all the way down through here is then, there is a multiplicative twoness, outwardness and inwardness, plus one of the prime numbers: 1, 2, 3» and 5 are the prime numbers. There is a very great regularity showing up. And it was then at the top of the five that we goit our 92. . . . uraniumi/hether the regularities go inside or out you get the same thing,"

- Cite RBF to Verner Smythe, NYC, Heel 2, p.7, 11 tar'69

RBF DEFINITIONS

"Every system has axial spin-ability. Just pick up anything and toss it around. Everything can and must be spun. Every system has a spin axis. Every axis has two poles. There are two of the vertexes of every system that must always be assigned to the function of implementing the system's spinning, for every system in universe is always free to spin and must in effect, spin in respect to all other systems •due to the experimentally demonstrated, omni-intercausative precessional accelerations of all components of all systems and of all systems in respect to one another."

* Cite NASA SPeech, pp. bO-61, Jun'66

Axis pf Spin: Tfttrahfitojis

"The tetrahedron can be spun around its negative event axis or its positive event axis."

- Cite RBF rewrite of Synergetics Illustration #2, 7 Oct*71 7eTX4w&>- sec. ,3O(

Axis of Spin;

222.23

223.66, col 7
223.74
450.11-450.16
457.01-457.10
622.10-622.30
6251.021
8265.04
840.13-466.18
8527.25
81044.01
81044.03
31076.13

Sec Additive Twoness

Polarity

Spin: Inherent Spin

Spin Twoness

Seven Minimum Topological Aspects

See Two Kinds of Twoness, (C)

Background Nothingness, 2 Jun*75

Multidimensional Accommodation, 11 Dec*75

Module: A Quanta Module: Introduction Of.

22 Feb*77

See Decaxial

Fourteen Axes of Truncated Tetrahedron

Finger-wrist Axis

Interattraction Axis

Neutral Axis

Seven Axes of Symmetry

Three Axes - Three-way Grid

Three Axes of Crystallography Fifty-six Axes of Cosmic Symmetry Vector Equilibrium: Axis

See Additive Twoness, 2 Jun'74

Domain. 11 Feb*73

Euler, 11 Jul'62

Line, 19 Jun'71*

Openings, 22 Apr'71*

Poles. 1971*

Time Vector, 24 Apr'73*

Torus, 11 Jul'62

In, Out & Around Experiences, (10

Axis:

U)

See Axle of Conceptual Observation Axis of Co-rotation Axis of Intertangency Axis: Multi-axial Systems Axis of Reference:

Head-to-toe Nose-to-navel Axis of Inherent Rotatability Axis of Spin

Axis of Spin: Tetrahedron Axis of Observation Axis: Four-axial System

Azimuthuth: Azimuthal:

See Dymaxion Airocean World Map, (f),(h)

B

See Module: B Quanta Module

Babbling:

"Babbling is experimental sound making. No sound identity with other than the tongue, breath, saliva, nose, click, clack, etc., all used by the Zulu, M Swazi, etc., in So. Africa.

"He/EolleaZ has not shown any genetic basis for grammar, only for babbling which as tongue and lung coordination develops and is experimented with.

"Chimps have no tongue cage. You can't say I'.~mmm- I.(other) with your mouth open. You can't say N-nnn (No) with your mouth closed."

- Cite RBF marginalia at "The Innate Grammar of Baby Talk," by Edmund Blair Bolles, Review. 18 liar'72

gabbling of Bablw:

See Mother, 17 Oct'72 Universal Language, 28 Apr'71

Bay Ptfttgn:

``"We've always had automation. Push the right button and--- bang--- nine months later a cutie-pie."

- Cite I SEDM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Push the B«bv Button:

ID

See Autonation of Metabolic and Regenerative Processes Life's Original Event Procreation

See Automation. Jun'69; Dec'69; 4 Feb'68 Ego, 9 Nov*75 Promote: I Don't Promote, 2 Jun*74 Short Cuts, 9 May'5?

Baby-making Machine Home;

See Cosmic Fish Sequence, (2)

See Babbling of Babies

Mother: Infant Nursing at Mother's Breast

Womb Population

Rockabye Baby

Birth

Rebirth

(2)

See Antientropic, Jun'69 Design, 1938 Regenerativity, 17 Jan'75

Babylonian. Mathematic a:

See Modelability, (3)(4)

Quantum Sequence, (2)(3)

Subvisible Discontinuity, 19 Oct'72

i&staBaaa:

See Computer Asks an Original Question: Checkers Backgaanon?

BasJs: Ceas Back On:

See Nature Always Comes Back On Itself Returning Upon Itself

Background Nothingness:

See Minimum Awareness Model, (1) Thinking, (I)

Background ^NQthinpiflaa:

"When you draw the triangle on the Earth's surface It shows how our mathematics is really pre-Euler. The triangle also demonstrates self and otherness. The spherical triangle is the first awareness: there is an inherent 'twoness' in the triangle's insideness and outsideness and the axis of the two poles constitute the two points of self and otherness. The background nothingness of these two points represents an area not contained by a line. Euler did not realise that there could be an area not contained by a line,

"One spherical triangle on the Earth's surface ` ` four triangles because that's the only way you can define a triangle. Euler did not recognise the background nothingness of the outside triangles." ~

- Cite RBF to EJA; telephone from Bererly Hotel, NIC, 2 Jun*75 s YW E < « £
T C \$ > UP. f 0 Tt⁷⁻ see. 5PC, g/ | +

See Parameters, 1960

Variables: Theory Of, Nov'71

Bfl-fK Into: Man Backp Into His Future:

See Future: Man Backs Into Hia Future

Back Pack:

"Those who are world travelers are familiar with the scene at the airport delivery turntables: along come well strapped bundles of tubes and blue nylon which are picked up by young humans and strapped on their backs. These packs open out into very small homes, but homes

they are, and very satisfactory to youth in a world where there are so many satisfactory technological complementations of such world-around living in the form of electrified and plumbed campsites and hostels."

- Cite ftCCOi-MODATING HUMAN UNSETTLE!-: ENT, p.20; 20 Sep'76
See Autonomou Living Technology Packet
Backyard; MY Backyard 18 Getting Biggar:

"In all reality I have not left home, as it is usually said of me. My backyard has just grown progressively bigger. Since now the world is my backyard.

- Citation & context at Acceleration of Change (1), 16 Aug'70
See Geographical Identity

Local Identification

See Acceleration of Change (1)*

Rootless, 19 Oct'72

Back : Backwards:

See Moving Picture Run Ba awards

Reverability '

Bad:

See Evil

Good *k* Badding Kind of Idea

Good *k* Evil

Sin

See Plaetle Flower8, Oct'70

Electron, 1S Aug¹70

Baer. Steve:

See Allepace Filling. 25 Sep'73 Patent, 19 Apr'00

Bo:

Sea Pneumatic Bag

Balance:

"The mathematical balancing or complementation

Of the proton and neutron are analagously balanced, Each one havming two small energy teammates."

- Citation and context at Proton and Neutron (1) , 22 Jul'71

Pftlflncod gfinnoctora-

See Curvature: Compound, 25 Jan'73

balance of Power Poker Game:

See Detente, 20 Sep'76

Balance of Universe:

"The four faces of a tetrahedron are in polar opposition in such a manner that as one of the pairs of faces converges the other pair of faces diverges. Here is the balance of Universe between radiation and gravity."

- Citation *k* context at Tetrahedron: Polarisation Of: 13 Nov*75

Balancing *ot* Valuee:

See Rationalization Sequence, (1)

See Vector Equilibrium, 3 Jan'75

Balanced TH. Unbalanced:

See Aaymraetries: Balanced ve. Unbalanced

See Counterbalancing

Dynamic Balance

Ecological Balance

Energy Balances: Energetic Balance

Highs & Lows

Importings & Exportings

Interbalance

Proton to Neutron

Star Tetrahedron & Vector Equilibrium

Tidal

Trial Balance

Tetrahedral Dynamics

Omnilibrium

Cosmic Integrity Balancing

Self-balancing

Evolutionary Checks & Balances

Omnibalanced

See Antientropy, (A); 10 Oct*63 Complementary, Spring'66 Equation Symbol, 9 May*60 Metaphysical & Physical, Jun*66 Motion. 1936 Order & Disorder, May*72 Proton & Neutron, (1)* StMTetrahedron. 8 Oct*71 Structural Stability, 15 May'73 Vector Equilibrium, (1); (AJ Conceptuality & Nonconceptuality, 27 Jan'72 Implosion-explosion, Jun*66 Wind Stress & Houses, (8) Life is a Subtotal or Mistakes, (2) Scenario vs. Absolute Symmetry, 11 Dec*75 Human design at the Center, (2)

"It is not surprising . . . that ball bearings prove to be the most efficient compression members known to and over designedly produced by man."

- Cite LEDGEMONT, p. 32 as expanded by RBF in SYNERGETICS Sec. 614.081. 15 Oct'64/1971

l^a.U Pwlngfl!

See Compression. 15 Oct'64

Sphere, 1971; 15 Oct'64

Tension It Compression. 1 Apr'49

Gravity, (g)

Wheel, 9 Feb'64

Ball at tkg PjSntftr:

"...Section 1012, ¹Nucleus as Nine • None □ Nothing,* ... describes a closeat-sphere-packing model of the same phenomenon. If we sake an X configuration with one ball at, the center common to both triangles of the X, the ball at the intersection common to both represents the sero---- or the place where the waves can pass through each other. The zero always accommodates when two waves come together. We know that atoms close pack in this manner and we know how wave phenomena such as radio waves behave. And now we have a model to explain how they do not interfere."

- Cite footnote at SYNERGETICS draft Sec. tRRtaii, 9 Mar'73

Ball at the Center Model:

See X Configuration with One Ball at the Center

See Nuclear Nucleus Center Ball Me Ball Sphere Center

See Icosahedron: Contraction from Vector Equilibrium, 11 Jul'62

Jitterbug 25 Feb*69

Tension (3)

Two. (1)

VE 4 Icosa, 10 Apr'75

fella

"Closest packing of spheres does not have to begin with nucleus.
Closest packing begins with two balls coming together."

- Cite SYNERGETICS text at 411.02, Aug*71, as rewritten by RBF, Bear Island, 25 Aug*71

Salla CQnlJU-Tflxe.thgr-

*It is a surprising thing that all closest packing begins with two balls, rather than omnidirectionally. Two balls coming together is where thought begins... it is a wedding thing... and it is very beautiful the way the two balls reoccur at each wave outwardly."

- Cite RBF to EJA, Beverly Hotel, NYC, 19 Jun'71
pqllg cpRlng Together: (1)

"If you take one sphere, it can, in a sense, go anywhere in the Universe. I have another sphere in the Universe and the two come together. They can do anything in the Universe except go through each other. If they become tangent they roll around on each other very tightly.

"Now I have a third sphere here. I had one sphere first and it was all alone; then I have two; they can roll around on each other. From the distance you' see just the profile of a dumbbell, but they are very free to roll. Now along comes a third sphere and it nests in the valley. This makes a train of gears with each one geared to the next one. Even numbers of gears will always reciprocate and the odd numbers will always block. This way--- a plus or minus, or whatever it is--- it is going to block. So no longer can those balls roll in a plane on the triangle which they form. If one tries to go one way it will make the next go the other way; and one can't be moving in two different ways, so odd numbers will always block."

- Cite RBF to Verner Smythe, NYC, reel 1, p.4, 2\$ Feb'69

RBF DEFINITIONS

Hallo Coming Together:

(2)

"Therefore, all it can do is evolve. The three balls can evolve . . . like a rubber doughnut. I could have it open as a torus. They could open its top and come in at the bottom, so they have a degree of freedom. Now I have a fourth ball that comes around in there and it nests on top of these. Now it can no longer even evolve and, for the first time, all motion is blocked. This makes a tetrahedron: I connect the centers of these spheres as a tetrahedron. This is where stability begins. The tetrahedron is where the triangle gives what we call a 'structure' or something that doesn't change its pattern any more. It was dynamic up to that time."

- Cite RBF to Verner Smythe, NYC, reel 1, p.5, 25 Feb'69

See Closest Packing of Spheres Intertangency Line Between Two Sphere Centers Other: Otherness

Palla Zoning T9Mthor-
(2)

See Gravity. (g)(h) Life, 1\$ Jun*71 Line, 19 Jun*71 Wedding, 19 Jun*71

Me Ball Tether Ball Odd Ball
Stacking of Oranges and Cannon Balls Tin-yang
See Bounce
Spheric

Tennis Ball Hits the Big Earth Center Ball

Salix
(2)

See Javelin, 12 Jul'62

Sphere, Apr'49

Whole, Dec'72

Ballatlce:

Sea Tracer Bullet Sequence

See Navy Sequence (1)-(6)

Navy: Theory Of, 22 Dec'74

Balloon:

"A gas-filled balloon is not stratified. If it were it would collapse like a Japanese lantern."

- Cite KBF to H.U.D. Engineers, Washington, 2b Jan '72

- Ate. tStTSTI

Balloon:

(a)

"People think spontaneously of a balloon as a continuous skin, or a solidly impervious, unitary, and spherically closed membrane holding the gas. They say that because the gas can't get out and because it is under pressure, the pressure makes the balloon spheroidal. This means the gas is pushing the skin outwardly in all directions.

"But if we look at this skin with a microscope we find that it is not a continuous film at all. It is full of holes.

Instead it is in fact a net. If we look at the net atomically we will see that the tensional net's threads are discontinuous, being in reality "Milky-Way-like" constellations, great energy aggregates cohering only 'gravitationally' to act as the 'webbing' of the pneumatic ball's net.

"In a gas balloon we do not have a continuous membrane of film. There is no such thing as a continuous 'solid' skin or 'solid' anything in Universe. But we do have a network pattern, a network of energy actions that is interspersed with vast spaces or lack of energy events. But the spaces between the energy action net are smaller than Wfc are the internally captivated and mutually interrepelled gas molecules, wherefore"

- Cite MEXICO'63. p.45, 10 Oct'63

FAL146M- .Stcs - .61

Balloon:

(b)

"the gas molecules, which are complex local, low-frequency energy events interfere with the higher frequency net webbing events. The pattern is similar to that of fish, crowded in a net, and therefore running tangentially outward into the net in approximately all directions.

"A gas balloon' exterior tension 'net' has the shape that it has because some of the molecules are too large to escape and--- crowded by the other molecules--- are hitting the balloon. But the molecules do not huddle together at the center and then simultaneously explode outwardly to hit the balloon skin in one omnidirectionally-outbound shock wave. The molecules near the surface are coursing in chordally ricocheting patterns all around the inner net's surface. I therefore saw that--- because every action has its reaction--- that it would be possible to pair all the molecules so that they would behave as can two swimmers who dive into a swimming tank from opposite ends, meet in the middle of the tank and then, employing each other's inertia, shove off from each other's feet in opposite-directions. This pattern indicated that we could have each and all of the paired molecules bounce off*

- Cite Mexico'63. pp.45-46, 10 Oct'63

Secs iSl. ai

"their partners and dart away in opposite directions, with each finally hitting the balloon net and pushing it outwardly as

they each angled off in glancing blows in new directions, but always toward the net at another point, where--- in critical- repelling- proximites--- they would all pair off nonsimultaneously, but at high frequency of re-repellment sve-offs to ricochet off the net in approximately all directions at such a frequency of events as to keep the net stretched outwardly in all directions."

(Same text la caption to Synergetics Ulus. #94)

- Cite MEXICO'63. P.46, 10 Oct'63 g44toec - 5f_t>. wuTijn- nr>z\

Balloon: (A)

"All of you have experienced a child's balloon and footballs full of air. The idea of a ballon as a pneumatic bag is a very familiar one. . . that it tends to take certain shapes like,sausages or spheres. It doesn't take a flat disc: it wants to become a sphere. If you took two discs of rubber and joined them together at the edge, and filled them with air, if it doesn't become a lozenge, it becomes a sphere.

A sphere contains the most volume and the least surface aand is the most comfortable condition. These energy patterns are always the most comfortable and the most ecobomical conditions. Think about the pneumatic bag then. People have always thought of it as if you put air under pressure and there's sort of a solid mass of air and you jammed it in, and it's in a solid bag and can't get out. The fact is that if you look at a pneumatic bag with a micijpcope you will find that it is full of holes. It is made of molecules and molecules are fairly remote from one another, and atomically it is full of holes. It is not solid and in fact the components are wot even touching each other atomically."

- Cite Oregon Lecture #5, pp. 185-186, July '62

- sec.

(B)

Balloon:

'They are like the tensegrities, In the tensegrities you either have gravity, electromagnetism, and you don't have any strings at all. The pneumatic bag then is full of holes and you can see them under a microscope. Therefore, it is not What we used to talk about as a solid membrane. Our concept 'solid' gets to be less and less reliable the more we think about it, and the more we experiment. So if it is full of holes it is a net and not a bag, so let us call it a net. It is a net in which the holes are so small that the molecules are larger than the holes and they can't get out. The molecules are gas and there is an integrity of the molecule of gas and it is one of these tensegrity kinds of integrity also, but it has a minimum dimension and it can't get out those holes. The next thing we discover is what we call the pressure of the gases as explained by what we call the kinetics of gases. That is, the molecules are in motion. They are not rigid. There is nothing static here at all pushing against that net--- but they are hitting it like projectiles. Not only is there a critical proximity that shows up physically, but there are critical proximities tensionally and critical proximities compressionally, that is, there are repellings, "

Lecture » • '«

Balloon;

**as we would find out in electromagnetics: so there are domains of actions, and these molecules want certain sizes, 'Then you pressure too many of these patterns into the same area there is not room enough and they develop a very high speed. And speed makes up for the crowding. How can you do that ?

(C)

"I spoke to you the other day about the airplanes coming in for a landing and while they're in the sky they seem to be great distances apart. The minute they land they are slowed down and they are much closer to each other. It is fairly simple to work this out. If you have something at a very high speed, the amount of time at any one point is a very short time. The amount of time that it would be at any one point for something to hit it would be very much lessened by the speed. The higher the velocity, the lesser the possibility of interference in any one local. So we have the patterns making themselves comfortable inside the

Cite Oregon Lecture #5, pp. 186-187 July *62

pneumatic bag by increasing the velocity so that it can take care of the interferences that are developing. This velocity then, gives us what we call pressure or heat; it can be read either way— and if you feel the pneumatic"

"you find it getting hotter. What makes the net take the shape that it does is simply the molecules that happen to hit it. The molecules that are not hitting it have nothing to do with its shape. There is potential that other molecules might hit the network, but that is not what we are talking about. The shape it has is by virtue of the ones that happen to hit it.

"One of the things I saw, of course, was that when we are crowding them in that one pattern, it was using the other pattern as action, reaction, and resultant. Therefore we can see that when one is going out to hit it; it is pushing another one inwardly, or some other direction. But we discover mathematically that it would be impossible to get all of them to go to an absolute common center because that would require a lot more pressure. It would have to be a smaller space so the patterns are not all from center outwardly against the bag. Each one

of the patterns are ricocheting around the bag, and so one hits the bag like this, and then the reaction causes another one to hit the bag on the other side. Then we have some that are inside there, in movement and hitting and changing the angles of"

- a-Cite .OrftKqn Lecture #5, p. 187, July *62 ' 'the others, and precessing them but not hitting the bag. I saw thatfwe can have two swimmers and they can jump off the same end of the swimming tank together, go to the other end, and use the inertia of the tank to shove off, to go in the other direction and build up their velocity. If you could start the two swimmers at opposite ends of the tank and they could get to the middle of the tank and push off from each other's feet, then they would go off and hit the other end of the tank. If the tank was pretty small and they did that, they could shove off from each other's feet and hit the end of the tank pretty hard. So we could have conditions where these molecules shoving off from one another, and very close to the hag, would make simply a chord and ricochet off. . . You could study the ways these are hitting and the patterns they are making, and when they hit they ricochet off and make another angle, so they are the ones that are accounting for all the work. . . So this pattern of the swimmers, of the two meeting each other and they bounce off like that, hit the bag, and then run into another pair. You begin to find that they are pairable. So we discover that all we are accounting for can be paired. The chord of an arc is always less distance than the length of the arc itself." - Cite Oregon Lecture "5, p. 188,9 July *62

(F)

balloon;

' 'These actions are less than the distance of the net, so they will push the net out and try to straighten out those arcs. . . They become mathematically pairable. . . , The tensegrity events that made the spheres were the ones where the events happened to aim at each other at approximately 180 degrees. It was only approximately, and we find then that the ones that do give you the actual pattern.

"/here we realize what occasions the shaping of the pneumatic bag is really the complex of the molecules going into these kinds of patterns. All the other molecules, and there are lots of others, have nothing to do with that shape."

(For follow-on text see Snow Mound)

- Cite Oregon Lecture #5, p.<p88, July '62

"If we make a microscopic inspection of a pneumatic balloon, we will find that the balloon skin is full of holes between its molecular chains, with a secondary and far smaller space continuity of 'all holes' or 'continuous space' between the remotely islanded energetic components of each molecule's respective atomic nuclear constellations. All these humanly invisible balloon 'holes' are too small for molecules of gas to escape through. Because the balloon's skin is full of holes, it is really a subvisible spherical netting, rather than a 'flexibly solid film,* within which the gaseous element molecules are crowded into lesser volume than required by their respective energetic, ecological domains, like fish within a seiner's net. The resultants of forces of all these net-frustrated molecular actions is angularly outward of the balloon's geometrical center--- each surface molecule of the interior group of pressured gas has a vectorial action and reaction pattern identical to a spherical chord. In such enclosure of pressured gas, random sixes of molecules, each too large for the spherical molecular netting's holes, impinge randomly upon the interior webbing of the spherically

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tensioned net. There are, therefore, more outwardly pressing molecules and more inwardly restraining net components than are necessary to the structurally resultant balloon pattern integrity, However, in the geodesic, tensional interrrity spherical nets the □

islands of interior compressional chordal struts impinge in discrete order at the exact vertexes of the enclosing finite tensional network. My independent satellite or moon structures are then the most economical, frequency modulated, dynamic balances between outward bound resultants of force and inward bound resultants of force, The exterior tensional net is a finite system successfully binding the otherwise randomly entropic infinity of outbound, self-disassociative forces."

£p/« r£-v7 1 <1, raj

— Cite "Tensegrity, Art News Portfolio," DD. 122-123, Dec*61

Balloon:

"If the frequency is high enough the size of the interstices of the tensegrity net may become so relatively small as to arrest the passage of any phenomena larger than the holes. If frequency is high enough, neither water nor air molecules can pass through. They may be made to keep out the,weathercomplex while admitting radar's microwaves and light,etc. If we 'up' the frequency sufficiently, we will decrease the residual compressions! islands to the microscopic magnitude of atoms, which only serves to disclose that the atoms and their nuclei are themselves geodesic tensegrity structures, ergo compatible with this ultimate, frequency limit, a fact that is now swiftly looming into the nuclear physicists' ken<

"Wo now comprehend that the tensegrity geodesic structuring provides the first true and visualizable model of pneumatic structures in which the relative thickness of the enclosing films, in proportion to diameter, rapidly decreases with the increasing size of the balloons."

- Cite "Tensegrity, Art News Portfolio," p. 124. Dec'61

Balloon? (4)

"In the case of the geodesic tensegrity structures, however, no overcrowding of interior gas molecules, imprisoned within a submolecular mesh net, is necessary to thrust the net's structure outward from its spherical geocentric center, because the compressional struts, locally isolated, as outward thrusting struts at both their ends, push the spherical net outwardly at every vertexial advantage of network convergence. Geodesic tensegrities are then "hollowed out" balloons, discarding their redundantly 'solid' air core.

"The geodesic tensegrity is a hollowed out balloon in which those specific molecules of gas which happen to be impinging from within against the skin at any one moment (thus pushing it outwardly) are replaced by the isolated geodesic struts. It is possible then to sew pockets on the inside surface of a balloon skin corresponding in pattern to the isolated geodesic struts and to insert stiff battens into those pockets which cause the otherwise limp balloon

bag to take spherical shape as it would if filled with a pressured-in gas."

- Cite "Tensegrity, Art News Portfolio," Pp. 124-125. Dec '61
aUgftlH Sausage-balloon-fibrous Units:

See Colloidal Chemistry, 1938

Balloon:

Oregon Lecture #5, pt. 185—"89

Mexico '63, pp. 45-47

703.06-703.16

751.05-751.10

760: 761.01-766.04

1024.17-1024.19

See Bubbles

Domes

Membrane

Pneumatics

Pneumatic Bag

Pneumatic Structures

Tensegrity: Geodesic Grid: Three-way Grid

Tensegrity: Unlimited Frequency of Geodesic Tensegrities Snow
Mound Vessel

See Invisible Pneumatics, 27 Dec*73

See Grow-a-dome, 1 Dec*76

Banana:

Fig. 640.20

641.02

644.01

Banana:

See Tidal, Doc'61

Bang: Bjg Bang Theory:

See Scenario Universe vs. Big Bang Theory

2*0: Like Pumping Money Out of the Bank;

See Energy Capital Sequence, (1)

See Federal Reserve Bank Brain Bank Memory Bank

See Building Business. (2)

Transnational Capitalism for Export of Know-how, (1)-(3)

Building Industry. (1)-(8)

Dymaxion Car, 13 way* 77

Technology: Enchantment vs* Disenchantment, (4) (5)

See Cosmically Bankrupt

Baptism:

See Woman is Continuous, 11 Aug»77

Bar.?. Maxlaui: (A)

. .We found that the only way we could really show that we could make the world work for 100 percent of humanity was to show that we could provide the energy needs, externally and internally, to every human-being on Earth. That was the only way wo could, in a sense ... measure that we had provided for the world's needs. So we started off and tried to figure out exactly what would be bare maximum. . . How much had to be provided to every human being as fast as possible to give them their high standard of living and totally reinvestable time in the sense that all of the survival needs were taken care of and they would be able to invest all their time in their own lives/

"We made these two charts to give a graphic representation of how we want to move to that bare maximum in external metabolics and kilowatt hours and internal metabolics meaning calories and protein. And if you see the chart. . . this is the increase in our kilowatt hours and that's population. So as these curves rise, you see them going more and more horizontal towards bare maximum. In 1965 the majority of the population is below the kilowatt hours

- Cite Saturn Film Transcript, Tape #1, Jun'69

Bare Maximum:

(B)

'necessary. In 1980 everyone is above their minimum which is 3000 kilowatt hours and by 1990 the majority are over

5000 hours... These are the scenarios we have designed, supported by the research we have done.**

- Cite Saturn Film Transcript, Tape #1, Jun'69

Bar? (1)

"When we get enough power for agriculture, in 1980, we will be able to accelerate the production of food a great deal more. Our acceleration is going to increase. The number of Seople that are fed with a certain diet is increasing.

espite the increasing population, and the inefficiency of the system people are getting better and better fed all the time. By 1954--- on the graph--- the majority of the people on the Earth are receiving approximately 1800 calories. This sets you below our bare minimum level: the level at which you can function at all . . . way below our bare maximum_f which is the level at which you can be truly human. But the bare minimum is really a sub-human level of existence. It's an extremely low level of consciousness. But in 1967, the level at which the greatest number of people on Earth, in other words over 50 percent of the people on Earth, are receiving over 2,000 calories, or about 2,400, which gets the majority of humans above the bare minimum. So the majority of world man is presently conscious, conscious of himself as a physical beibg, but not yet able to function well until he gets up to the bare maximum level."

• Cite RBF to World Gme, Jun-Jul'69

Bare Maximum: (2)

"Until we get everybody up to the bare maximum level we really won't be able to function as a worldwide organization. So we've got a pressure building up here. We've got people that are conscious of themselves physically but who can't truly function on the level of efficiency of mankind. So the pressure is building up to get rid of this inefficiency in agriculture. You can probably get efficiency up from 10 percent to 50 percent or 75 percent of the agricultural system. When you get over 50 percent of the people say, above 3,000 calories, man is going to really begin to be on a high level of consciousness, as a world organism; and it's going to be very quickly that the entire world is going to be able to be at the bare maximum.¹¹

~ Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69, from Saturn Film transcript, Sound 1, Take 1, pp.18-21.

See World Power Grid, 31 Jul'69

PftTA JUNIBWB?

See Bare Maximum

See Coral Reef

Social Breakout from Barnacle to Salmon Marine Life Analogy of Humane

Barrel:

"I give the explanation of a barrel* In a barrel you have a number of staves parallel to one another. These staves make a cross cut through the barrel. You'll find each of these staves looks like a keystone in an arch. Each a stave is a truncated section of a triangle whose interior apex would be at the center of the barrel. So you just cut the beautiful triangular wedges, but you cut off the inner part which isn't necessary. You still have a wedge where the outer part of it is a greater chord than

the inner part. Therefore, it can't fall in between the others. So all these staves are in line and parallel to one another, bound in a circle. There are comprehensive tension straps to hold them inwardly. They can't move outwardly due to the finiteness of the straps coming back upon themselves, and they can't fall inwardly on each other because their external chords are bigger than their internal. So the barrel seems to be pretty stable, but the tension bands don't touch one another--- they're in parallel to one another and the staves are in parallel. They don't cross or give you any triangulation whatsoever. In fact, they let infinity in to the system because the staves go on and on to infinity,**

- Cite RBF in Hans Meyer Interview, Dome Book Two, p. 90. Dec'70

"So you take a blowtorch and burn out one of the wooden staves of the barrel and the whole thing collapses because that leaves enough room so that the outer part can fall in through the smaller inner part, because what the blowtorch does is let infinity into the system. . . or the nothingness of the Universe gets into the system.

' • Let me now make a wooden geodesic- sphere in which each of the triangular facets are external faces of a tetrahedron whose interior apex will be at the center of the sphere, and I'm going to truncate those, so I will now see really a wooden barrel-- a spherical barrel and it has tension straps. But its tension straps are triangulated, they are not just in parallel. They cross one another. And once we get a crossing of two lines that cross each other like a pair of shears. . . they are unstable angularly. « . once you get the third one, suddenly it takes hold of the ends of the shears and stabilizes the opposite angle. So now we have an omnitriangulated geodesic sphere of wooden triangular plugs, corks, each one pressed against the other one, each with exterior chords larger than its interior chords and they can't fall inwardly. When the straps have great circles going completely around they won't come off and the straps are fastened to each other as they cross

TtNiFCen Y - Jec, 4-5'." S'!

Barreli (3)

"each other. Therefore, they hold themselves in position. They can't slip off the sphere. Everything is held as a beautiful harness on the omnitriangulated. . . Great circles are the shortest distance around spheres and they are intertriangulated so they're in the most comfortable position they could possibly get into. Now let me take a blowtorch and I burn out one of those wooden corks, and nothing happens. It doesn't collapse as did the wooden barrel. Why? Because it leaves an opening there all right, but it is a triangular opening and a triangular opening is a stable opening. If I burn out four of these adjacent to each other and make a larger triangle it is still a triangle and it continually frames the opening with a great circle. Hence, she will not collapse. In fact I burn out very large amounts without the thing collapsing. This suddenly gives me a fantastic realization of the fundamentals. This is really the fundamental of compound curvature. . . this three-wayness of finiteness crossing itself up and it all being most economical. Great \square circles are then the most economical distance between points on spheres, as against the expression that a straight line is the shortest distance between two points."

TtUSfGAn y-

Barrel:

"Barrels and cask. which fhave great `container advantage¹ in the past, due to the finite closure of the tension circles, were limited in usefulness efficiency by the infiniteness of the extended ends of the truncated triangle sectioned staves and by the infinity which Intruded between the barrels' parallel sets of circular bands."

- Cite RBF Ltr. to Shoji Sadao, 15 Feb. '66., P. 3.

TfHSet'nt- S F i

Barrell:

(A)

"A barrel represents an advanced phase of the Roman Arch or principle of stability accomplished by simple curvature. The parallel barrel staves constitute a ring held together in compression by encompassing tension bands. Thus compression, which tends to curve, is favored in that tendency until the curving line of compression closes itself to thrust against itself. The tension line, which tends to pull true, forms itself in a finite closure of short true chords--- because tension members may be flexed while they are in tension without tendency to failure.

' • The tension ends are united to pull against one another. Thus we have closed circuits of tension archbundling compression in dynamic stability. Tension lines may also be flexed while under load, without tendency to failure, as a compound corollary of the principle to pull true and the ability to tolerate bending while tensed.. Pressures exerted either outside or inside of the barrel result in outward thrust of the staves against the tension members. Thus, the latter absorb the working or random loads. . .

See 53p 1 I - Cite I&I, 1 Apr*49

Baxxcl: (B)

"When we press against a barrel, the stress is satisfied by the tension hoop. Each hoop represents the circle of a single plane. Thus it is seen that simple curvature stresses act in a single plane, ultimately articulating that stress in diametric opposition of a line within the plane. The stresses are then ultimately focused to the infinite poles of parallels, because the latter are unaided in interstabilization."

- Cite "Preview of Building" IDEAS & INTEGRITIES, pp.216-217,

1 Apr'49

See Curvature: Compound Curvature: Simple Spherical Barrel

See Gravity, 22 Jan'73} (J)

Radiation-gravitation Sequence, (1)

Three-way Great Circling: Three-way Grid, 8 Mar'73

Octahedron as Photosynthesis Model, (A)

Baseball:

"bach lobe of a baseball is simply a precessed triangle of a tetrahedron. The baseball is yin-yang--- not in a plane but in Universe. The baseball is telling you about precession."

- Citation & context at Yih-vang. 28 Jan'75

Baseball:

"The whole action of baseball is to bring order out of disorder. The pitcher creates disorder. Once there is a hit the rapid and random fielding operates swiftly to restore order."

- Cite RBF to EJA, Pepper Tree Inn, Sant* Barbara, 11 Feb*73

RBF DEFINITIONS

"...The function of humane as metaphysically syntropic local evolution monitors--- to 'field' as we call it in bajteball, the progressive recognition of aver more important universal problems; and--- as in baseball 'fielding' means to successfully intercept the random event ana convert it to orderly advantage."

- Citation and context at Man as Local Problem Solver (2)_t Dec'72

Baceball;

See Javelin, 12 Jul'62

Spherical Tetrahedron. Ik Noy'52 Yin-yang, 2d Jin'75* » 11J(2J

Baaie Event;

"A basic event consists of three vectorial lines: the action, the reaction, and the resultant. This is the fundamental tripartite component of Universe. One positive and one negative event together make one tetrahedron, or one quantum. The number of vectors (or force lines) cohering each and every subsystem of Universe is always a number subdivisible by six, i.e., consisting of one positive and one negative event on each of three vectors, which adds up to six. This holds true topologically in all abstract patterning in Universe as well as in fundamental physics.

"The six vectors represent the fundamental six, and only six, degrees of freedom in Universe. Each of these six, however, has a positive and a negative direction, and we can therefore speak of a total of 12 degrees of freedom. These 12 degrees of freedom can be conceptually visualized as the radial lines connecting the centers of gravity of the 12 spheres, closest packed around one sphere, to the center of gravity of that central sphere. The 12 degrees of freedom are also identified by the push-pull alternative directions of the tetrahedron's six edges,"

- Cite SYNERGETICS text at Sec. 537.15; Dec'71

"A prime number is a basic event. Every event has three parts."

- Cite RBF to EJA, Beverly Hotel, NYC, 7 Mar*71

Basic Event;

"A basic event consists of three vectorial lines: the action, and on one end of the action M is its reaction and on the other end of the action is its resultant. . . This is the fundamental tripartite component of Universe. One positive and one negative event together make one tetrahedron or one quantum unit. . . "

- Cite RBF Ltr. To Prof. Theodore Canlow, 18 Feb. *66.

See Action-reaction-resultant

Energy Event

Event

Quantum: Paired-event Quanta

Three-vector Teams

Z Cobras

Three-phase Vectors

Open Triangular Spirals

Basic Event:

(2)

See Triangle, (a)

^B_{aalc} Notlona'

See Motions: Six Positive 4 Negative Six Notion Freedoms

Basic Nestable Configurations: Hierarchy Of:

"There are three basic nestable possibilities shown in Fig. C. They are (1) the regular tetrahedron of four spheres; (2) the one-eighth octahedron of seven spheres; and (3) the quarter tetrahedron, with a 16th sphere nesting on a planar layer of 15 spheres. Note That this 'nesting*' is only possible on triangular arrays that have no sphere at their respective centroids. This series is a prime hierarchy. One sphere on three is the first possibility with a central nest available. One sphere on six is the next possibility with an empty central nest available. One sphere on 10 is impossible as a ball is already occupying the geometrical center. The next possibility is one on 15 with a central empty nest available."

(Sec 415-58)

- Cite SYNERGETICS text
at Sec. 415.58; 29 May'72

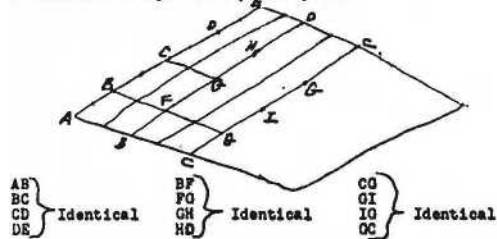
Basic Notes:

See Chords & Notes

Mites k Quarks as Chords k Notes Tensed String

— P'III11 PIIIF1 I

"May new strategy of 'least' asymmetrical modulation
subdivision of spherical point system:



Fuller Discovery Feb*50

- Cite RBF holograph "BASIC RAFT*

See Cube: Diagonal of Cube as Wave Propagation Model Deliberately Monatraight Line Raft Hyperbolic Paraboloid

MaU-Structural Systems without Nuclei:

3oe Three * Only Fundamental Structural Systems In Nature Prime Structural Systems Prime Volumes

Bagj.c Tensegrlty Structures;

See Tensegrity: Basic Tensegrlty Structures: Three k Only
RBF DEFINITIONS

RM16 TrUng.Ui Baalo Plaaoullibriui, lap LCD frianal.;

Above deelgnation adopted by RBF in STNKRCEITICS galley at Sec.
901, 19 Dec'73

Basic Triangle: gffflc Pjfflqullibriun 1²Q WP frlfMlr

"Because * the 120 basic disequilibrium LCD triangles of the icosahedron have 2\$ times less spherical excess than do the 48 basic equilibrium LCD triangles of the vector equilibrium, and because all physical realisations are always disequilibrium, the Basic Disequilibrium 120 LCD Spherical Triangles become most realizable basic of all general systems' mathematical control matrixes."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 901.17, 20 Dec'73

Basic Triangle: Baals DffgqplllVrlWq 120 LCD Triangle

"The spherical octahedron's eight faces become skew-subdivided by the icosahedron's 15 great circles' self-splitting of its 20 equiangular faces into six-each, right spherical triangles, for an LCD spherical triangle total of 120, of which 15 such right triangles occupy each of the spherical octahedron's eight equiangular faces--- for a total of 120--- which are the same 120 as the icosahedron's 15 great circles*"

- Cite SYNERGETICS text at Sec. 905 16 Dec'73

~~Baals-frlanklr~~ Paste Disequilibrium 120 LCD Triangle: "The largest equilateral is 20 triangles. The utmost subdivision is 120 because further subdivisions are no longer identical. This is what we mean by basic triangle when you assume each of the edges to be chords."

- Cite RBF to EJA, Hat erf'rd, Penna., 11 Oct. »?1.

BASIC WMTlg- .0. >T-V

~~Panie-Triintlt~~: male PlamlUbrlim KQ tffP, TgianUn;

"The largest number of identical triangles in a sphere that unity will accommodate is 120: 60 positive and 60 negative.

We can subdivide the surface of a sphere into 120 equilateral triangles by dividing the base of each of the 20 original triangles which made up the icosahedron, into six triangles. Being spherical, they are positive and negative, consisting of areas which cannot hinge back. One is inside, concave, and the other is outside, convex. So 60 positive and 60 negative triangles are the largest common denominator of unity."

- Cite SYNERGETICS, "Numerology," p. U, Oct '71

~~pages mfr~~ PMlc Dloequilibriua 120 LCD Trlanrle:

*4o cannot further subdivide the spherical icosahedron into right triangles, but we can in the planar icosahedron.

rfhen the sides of the triangle in the planar icosahedron are bisected four similar triangles result, and the process can be continued indefinitely. But in the spherical icosahedron, the smaller the triangle, the less the spherical excess, so the series of triangles will not be similar.

- Cite SINmHGhTICS. "Numerologypp, 13-14. Oct • • 71 • EAJHt ritnnCIF~

Basic Triangle; Basic Disequilibrium 120 LCD Triangle:

The basic triangle is "the 120th of a sphere which is the six right triangles subdividing each of the 26 equilateral triangles of the icosahedron. It occurs spherically, but it doesn't make any difference whether it is spherical, the angles are the same: the thing would fold over if it weren't for the 6°."

transcript, Chicago, Blackstone Hotel - V, 1 June 1971. P. 16.

- Cite KBF tape Synergetics

Basie Triangle: p.agj? DI"MuUjbrtV« 12.0.J&P Triangle:

456.02-456.05	915.20	s1043.01
612.11	921.04	81053.36
<u>901</u> : 901.01-902.23	982.56-982.58	
Fig. 901.03	985.04	
902.21-902.22	1053.10-1053.15	
902.33	1053.20-1053.21	
905.46	1053.30-1053.35	
905.48	1104.04 (footnote)	
905.52-905.55	1210 (p.754)	
<u>905.60</u> : 905.61-905.66		
915.10-91511		

See Atomic Triangulated Substructuring: Hierarchy Of Module: A Quanta Module
Jt Basic Triangle

See Dymaxion Airocean World Map: Icosahedral Version.

27 Jan'75

Geodesic Dome, 20 Dec'73

Equimagnitude Phases, 19 Dec*73

Omnirational Control Matrix, 12 May'75

Quantum Sequence, (2) (3)

**Icosahedron: Subtriangulation, (1) Sphere: Volume-surface Ratios,
11 Dec'75 0 Module. 29 Sep'76**

Baolc Triangle; Basic Equilibrium LB LCD Triangle:

"Because each of the octahedron's eight faces are subdivided by their respective six sets of spherical 'right* triangles (three positive-three negative), whose total of $6 \times 8 = 48$ W triangles are the 48 LCD's vector-equilibrium, syunetric- phase triangles, and because $120/48 = 2j$, it

means that each of the vector equilibrium's 48 triangles has superimposed upon it 2j positively askew and 2\$ negatively askew triangle# from out of the total inventory of 120 LCD asymnetric triangles of each of the two sets, respectively, of the two alternate phases of the icosahedron's limit of rotational aberrating of the vector equilibrium.

"This 2i positive superimposed upon the 2\$ negative, 120-LCD picture is somewhat like a Picasso duo-face painting with half a front view superimposed unon half a side view. It is then in transforming from a positive two-and-one-halfness to a negative two-and-one-halfness that the intertransformable vector-equilibrium-to-icosahedron, icosahedron-to-vector- equilibrium, equilibrious-to-disequilibriousness attains sumtotally and only dynamically a spherical fiveness.**

- Cite KBF rewrite of SYNhhGETICS draft at Sec. 1053.15, !? Dec'73

Ba.lifrrl.nxl. 1 Ba.ie Equilibrium 18 LCD TrlMlxls:

"Having Ju»t completed the expansive-contractive, could-be, quantum jumps, we will now consider ths rotatability of the tetrahedron's six-edge axes generation of both the two spherical tetrahedra and the spherical cube whose •split personality's* four-triangle-deflning edges also perpendicularly bisect all of both of the spherical tetrahedron's four equiangled, equiedged, triangles in a three-way grid, which converts each of the four equiangled triangles into six right-angle spherical triangles--- for a total of 24, which are split agpin by the spherical octahedron's three great circles to produce 48 spherical triangles, which constitute the 48 equilibrious LCD basic triangles of omni-equilibriouB eventless eternity. (See Sec. 453)"

- Cite ShhEKGETICS text at Sec. 905.50, 16 Dec'73

See Omnirational Control Matrix, 12 May'75 T Quanta Module, (1)(2)

See Basic Event basic Raft Basic Structural Systems Basic Tensegrity Structures Basic Triangle: Basic Disequilibrium 120 LCD Triangle Basic Triangle: Basic Equilibrium 48 LCD Triangle Basic Nestable Configurations: Hierarchy Of Basic Motions Basic Notes

Basketball:

See Octahedron, 16 Dec'73

Spherical Tetrahedron, 11 Nov*52

See Interweaving Tensegrity Sphere: Six Pentagonals Three-way Weaving

Basketry Interweaving:

(2)

See Matter, 9 Jul*62

See Design Revolution: Pulling the Bottom Up (4)

Bathing Cap:

See Spherical Triangle Sequence, (c)

RHF DEFINITIONS

Bathroom as Symbolism and Association;

"This is part of what the intuition of young people today says: that 'We don't want the symbolism of distinction.«• And it's perfectly reasonable... His father wanted it for his kids, because that's the way he associated it and as he envisioned poverty he didn't want his kids to feel that way. Therefore he got his little quarter of an acre estate, emulating what the tran of success had yesterday.. .

"There really is pathos in here, you know. The point is that building the architecture of the present is a great antipriority holdover... 1 look at things in a highly analytical way. Human beings have so much association with this kind of a bathroom they have in that particular house. That's where they remember crawling around and being loved by their

mother, and of being wanted... So terrific association; that's the way a bathroom Should be. That's to such an extent that when as a kid you go into somebody else's house and say, 'I don't like bathrooms like that--- this is the only kind of a bathroom, the way I" have it.' The association thing is very, very powerful. In 1927 society didn't want to listen at all; they were terribly annoyed by my being analytical about housing. It was pure symbolism and pure association.'

- Cite Univ, of Alaska Address, p.9 20 Apr '72

See Excrement: Hunan Excrement

See Fuller, R.B: RBF Modus Operand!, Feb'73
BA&hrpQR*

See Plumbing

Dymaxion Bathroom

Outbound Packaging of Human Food Waste

Patter:

See Local StKfeberB

tHWIi Storage Battery Energy;

(1)

See Fuel Cell

Main Engines of Universe Sun Energy Storage Battery

JaMAAtXi storage Battery Energy:

See Uindworks V/indmlll, (1)

(2)

Baixifj W_Qrd. Fiat & Bullet Battlea:

See CeosociAl Revolution, (2)(3)

Battleship:

"...The larger and more complex, less-frequently originall occurring, and periodically re-occurring, for example... asymmetrical terrestrial battleships (fortunately) least- frequently and compatibly recurrent throughout t he as-yet known cosmos, being found only on one minor planet in one galaxy of one hndred billion starsflfl amongst already-discovered billion galaxies, there having been only a few score of such manmade battleships recurrent in the split- second history of humans on infinitesimally minor Eart£. ``

- Citation and context at Regenerative Design: Law Of (3)
13 Far *73

See Navy Sequence

Sea Technology

Weapons Technology

No Secondhand Battleships

See Detente, 20 Sep'76

Electric Lights, 15 Oct'64

More With Less: Sea Technology, (4) Secondhand, 1946

HbF DEFINITIONS

"I have spoken in this blunt way to demonstrate the remoteness of bauhaus concepts from those I hold. However, simplest demonstration of the fundamental remoteness of our ways is the lack of schedules of ratio of invested resources per units of performance abilities concerning structures designed by the 'International' or Bauhaus School architects. Do any of them publish what their structures weigh and what their original minimum performance requirements must be, and later prove to be, in respect to velocities of winds, heights of floods, severity of earthquakes, fires, pestilence, epidemics, etc., and what their shipping weights and volumes will be, and what man hours of work are totally involved?'"*

- Cite excerpt of RrfF Ltr. to unidentified English editor published by steendrukkerij de Jong Co, circa 24 Jan'53

Bauhaus:

See Form Cannot. Follow Function, (1); 1 Jul*62

Bazooka;

See Tetrahedron of Interferences

Bead:

See Necklace

See Columns vs. Beams

Dome: Rationale for the Dome

Gusset

Horizontal

Strut

Focus - Beamable • Wirable

Beam:

(2)

See Civil War (1)

Engineering, 3 Oct'72

Horizontal vs. Vertical, 1963

Kb? DEFINITIONS

Beaming;

", . • It is possible

To conserve energies by reflection

As well as to reach

Great distance by beaming. . .ⁿ

- Citation and Context at Eve-Beamed Thoughts (I), i-lay'??

See Focal: Focus

Eye-beamed Thoughts Focally Beamed Outward Reflection Reflection Sequence: Apple

See Broadcast, May'72

Gravitational Constant, {2}

Man: Interstellar Transmission of Man, 14 Aug'70 Radiation, (pp.158-159) May'72

Visible Light vs. Electricity, 1946

See Gears

Lubricants

See Wilderness Resource, 1968

Beating to Windward;

See Periodic Experience, (13)

Beatnik:

"The beatnik is the antibody of Madison Avenue. The true artists seek escape from the stalemated vacuum of the two. History tells us they will probably be successful .**

- Cite ART NEWS AiJiUAL, 1961, p. 116.

Beautiful:

¹¹ Beautiful* is probably ejaculated when my entire chromo- somic neuron bank is momentarily in 'hanpy' correspondence with my entire experience neurons memory bank, 1 speak of my brain as if it were a computer, It is."

- Citation at OllNKMMBBB Invisible Architecture (3), Aug'64
rtBF iuFlhiTlunS

Beautiful:

"/hen one of the phantom captains seeks a mechanism of the complementary tyj e to join with his m the manufacture of an improved model replica of their mutual custody mechanisn\$, he misinterprets his unself-conscious appraisal of the adequacy of the observed complement to his 'own* half-plant as constituting suitable hook-up conditions in the terms of superficial or sensorial surface satisfactions. The result is often the peculiarly amusing selective sound-wave emission, through the major exit-entrance aperture of the turret: Beautiful! '•

- Cite iuu.» LHaii.S ru xnE v.UuL, p.24,

Beautiful - Moat Efficient:

See Trees, (i)

See Aesthetics

Harmonic: Harmony

Naked Girl on the Bed

See Standardization, 21 May'28
Integrity, 11 Aug'70
Becoming:
"Our experiences include the becoming."
- Citation 4 context at Experience. 2 Jul'62
Become: Becoming:
See Experience. 2 Jul'62*

I, 11 Oct'73

Bed:
(1)
See Girl: Naked Girl on the Bed
Sleeping in the Same Bed
See Empty, May'70
Hgngy-ggeXAPK Bee;
"The most critical factors governing humanity's epochal transition from bumblebee-like self's honey-seeking preoccupation, which insect and avian bumbling in general inadvertently cross-fertilizes all the vegetation's terrestrial impoundments of the star-radiated energy which alone regenerates all biological life around Earth planet; and in doing so would be dehydrated were it not osmotically watercooled by its root-connected hydraulic circuitry of Earth waters' atomization for return into the sky-distributed, fresK-water-regenerating biological support system, which rooting frustrates integral procreation of the vegetation which is regeneratively cross-fertilized entirely by th" insect and avian, entirely unconscious, pollen-delivering inadvertencies."
- Cite hBt marginalis b Nov'7 2 incorj orated in LYl.tKCuTlCS draft at Sec. 216.03, y Nov'72
TtXT ClTnTluI.b
Bee: Honey-seekinz Bee:
Synergetics draft at Secs. 1009.68 - ff, 15 reb'73
216.03 3326.12
1009.67 S326.13

See Honey: I Go for My Honey
Money-bee Humans

Honeycomb

Ecological Pattern, 19 Sep'64 Ecology Sequence (z): (a); (C)-(I) Enterprise. 28
Nov'72

See Design (1)

Scrap Sorting & Mongering (2)

Primary vs. Side Effects, 10 Dec'73

Planetary Democracy, (2)

New fork City (12)

Doing What Needs to be Done, (A)

'Begeted* tightness:

"The ¹begeted' eightness as fundamental number in newness of nuclear self-regeneration may well account for the fundamental octave consisting of four plus and four minus inter-integer synergetics of intermultiplicative effects and an octave inter-insulative accommodator in the zero effect nineness as disclosed in our section on Indigs in our chapter on Numerology.

"The regenerative initial eightness of first-occurring potential nuclei at the frequency-four layer and its frequency-five confirmation of those eight as constituting true nuclei, suggests identity with the third and fourth periods of the Periodic Table of chemical elements, which occur as: 1st Period `` 2 elements

2nd Period «= 8 elements

3rd Period = 8 elements

"Tnis eightness being nucleicfnay also relate to the relative abundance of isotopal magic numbers."

415.3

27 May'72, SYNERGETICS draft Secs, bay'72

- Cite HBF holograph, + .92, + .53, 28/2

Beget: Begeted:

**See Precession, 8 Dec'72; (I)(II) Precession he. Degrees of Freedom,
(1)**

Beginnings & Endings:

"Then Einstein's saying the beginning and the end: experience

- Citation de context at Universe, 16 Jun* 72

Bpginninzg and Endings:

**"There can't be a principle that has a 'beginning*' and an 'ending.' We
cannot suggest that an abstraction could have a beginning and an end.
The words 'beginning' and 'end' have to do with the physical."**

- Citation and context at Generalization Sequence), Jun'69

Beginnings t End Inga:

(1)

**See Biterminal Finite Increment Intertenninal Package terminal
Enantiodromia**

Bgjdnnlnr.s & Ending:

(2)

See Action, Jun'66

**Action-reaction-resultant, May'71 Brain, 20 Jan'75 Creation, 2y
Mar'77 Definitive, 1959 Generalization Sequence. (3)* Generalized
Principle, \1) Infinity, 20 Jun'66 Integrity, 24 Jan'72 Moving Picture
Continuity, Jun'66 Monsimultaneity, 30 May'75 Overlapping. 30
May*75 Packaged 1969; Jun'66**

Pass! ' 'And It Came to Pass,' ' 29 Jun'72 Principle, Dec'67; Jun'69
Terminating, 28 Feb'71 Transcendental, 28 Jan'69 Human Beings a.
Complex Universe, (10(11)

Beginning Event: Required Beginning Event Is Pass ft.¹:

See Primordial, May'72

Beginningness:

" 'You can have planar Insideness and outsidenesa with a triangle. But you can't have volumetric insideness and outside- ness with less than four points. I am looking for something that has a limit, a beginningness of structure. There is a beginningness of plahar insideness and outsideness and a beginningness of volumetric insideness and outsideness."

- Cite tape transcript /5. Side B., P.2; RBF to Barry Farrell;

Bear island, 1\$ Aug'70

deginninF Number:

See Four, 16 Feb'78

See Beginnings i Endings Beginningless Endings Initial Initiating Outset

Start

Starting with Parts

Starting with Universe Eternal Outset Conceptual Genesis Event Embryo Starting Point Conception: Conceptual Loss: Such Loss in the Beginning Pre-Scenario

See Infinity, 20 Jun'66

Order, 6 Jul'62

Vector Equilibrium: Zerosize, 4 Nov'73

>Whole Systems, 16 Jun'72

Population of Cities, 10 Sep'75

Modules: A t B Quanta Modules, 20 Dec*73

P«lnnliuat8»j

See Integrity, 24 Jan'72 Scenario universe, Jan*72 Structural Sequence, (B)

Behaving:

"... Mankind may ba

Streamlined into unself-conscious adoption Of ever more effective
New ways of behaving.

Thus also unconsciously to abandon

The inadequate customs.**

- Cite INTUITION, p.63 May '72

Behavior & Environment:

See Womb of Permitted Ignorance, (1)(2)

Behavioral Phaeaa:

See Absolute Network, 10 Nov*74

See Six I'iotion Freedoms a Degrees of Freedom, 11 Aug¹77

See Inventory of Formulations 4 Constants Reciprocity

See Synergetic Hierarchy (1)(2)

See Conditioning Education: Evolutionary Touchdowns Operant Psychology Morality Skinner, B.F.

Human Tolerance Limits

See Social Science#: Analogue to Physical Sciences, (A); 16 Feb'73

Knot, 22 Apr'71

Behavioral Syat_{7B}:

"Both the frequencies and the matter

Are behavioral states of the same phenomenon."

- Citation and context at Chemical Phenomenon. I-ia'y '72

**"Maas ia a word of inherently aynergetic connotation. It ia a behav-
iorist word popularly mistaken and used aa a static word."**

- Citation *It*, context at Maas. 29 Dec'58

See Process vs. Thing

B«jtaUnti Pth^aYUr-

(D

See Chemical Behaviors

Complexes of Behavior Aggregates

Interbehaving

**Interwave Behavior of Number Inventions as Lifsways of Human Be-
haviors Most Economical Ways of Behaving Mathematical Behavior**

Precession: Analogy of Precession ft Social Behavior

Scheme of Behavioral Reference

Behavioral Relationships: Inventory Of

Energy Behaviors

Conditioning

Operant Psychology

See Environment. 22 Jul*71

Integrity, z§ Jan'72

Mass, 29 Dec'58*

Ninety-two Elements. 15 Jun'74» 21 Jun'77

Octet Truss, 24 Sep'73

Powering: Fourth Powering, 15 Oct*72

Synergy: Degrees Of (1)

Man: Interstellar Transmission of Man, 14 Aug'70

Universal Language, 21 Sep'74

Human Tolerance Limits, (A)

Technology 4; Culture, 25 Oct*77

Prime Number, 16 Feb*78

See Behaving

Behavior & Environment

Behavioral Phases

Behavioral Relationships: Inventory Of

Behavioral Science: Behaviorists

Behavioral States

Behaviorist Word vs. Static Word

&SAM:

See Is Nonbeing

Belief:

"I don't use the word belief... I use the word belief, but I don't believe anything. I use the word belief to mean accepting explanations of physical phenomena that have no experimental evidence... Where if somebody loves you very much and they tell you they want you to believe this... saying this is something I believe and I think you should believe it---religious conviction or whatever it may be.'*

- Transcript p.4 of RBF tape interview with Or. Michael Bruwer, Ritx Carlton, Chicago; 20 Feb'77

Belief:

"'Believe¹ is a word I do not use. To believe is to take someone's say-so in the absence of empirical evidence.

"You are right to believe what can only come from another person. If you tell me you love me, I believe you.

"The word to use with progress would be 'faith' not belief.... As for faith in progress, I do not think the Universe is getting any better. It is simply getting better understood. As we learn more of its principles, as we put our learning to use in guiding patterns of transformation, we can hope to improve the scenario."

- Cite RBF quoted by Hugh Kenner in "Bucky Fuller and the Final Exam, N.Y. Times Magazine, 6 Jul'75

Belief:

"I do not believe anything; I am only interested in facts."

- Cite RBF to Speech Class, SIU, Edwardsville, U Feb'74 (From notes by Mike Mitchell)

Belief;

^WI think the word faith is very much better than belief.

Belief is when somebody else does the thinking. Most of our religions are that way, just full of credos and dogma. They are antithought and that, to me, is anti-Universe."

- Citation & context at Kepler Alone with the Stars. Oct*71

Belief; Beliefs;

203.06

203.10

502.10

final:

"I repent how an individual can articulate what our potential can be...."

"In order to do so, it is necessary to take a second look at life and to give up everything you've been taught to believe.*"

- Cite RBF address to Harvard Law School Forum, Cambridge, 10 Dec*73 as quoted in next day's Crimson

(D

See Credo

Faith

Guess vs. Believe

Religion: Related to 'Reglio*' or Rule Make-believe

Belief:

(2)

See Anger, (1)(2)

Excluded Answer Resources, Oct¹66 Greater Intellect. (1) Lecturing,
11 Aug*70

Life is Not Physical, (1)(2) Synergetics, 19 Jun*71 Apolitical, 22
Jun»77 Young World, 9 Jul*62

Below:

See Above

Below

See Dog Pulling on a Belt Function Rope

Bindfty gcrwn?

^HWe would see reality as the subvisible increments on the verge of resolution, like
a benday screen lithograph."

- Citation and context at Invisible Circuitry (2), 28 Oct¹72

Benday Screen; Benday Screen Printing;

See Frequency Islands of Perception, 13 Nov'75 Invisibility of Macro-
and hicro- Resolutions, (1) Resolvability Limits, 30 Apr'77

Bendings:

"... The red, orange, yellow, green, blue, violet refractions are just beautiful bendings."

- Citation & context at Step-up, Step-down Transformations. 23 Jun»75

Bend: Bending: Bent:

See Curved Space: Bent Space Rigidity va. Resilience

See Onmidlametrie, 23 Sep'73

Precess, 6 Mar*73

Step-up, Step-down Tyaneformationa, 23 -Jun*75*

Bfflt Spagp:

See Curved Space: Bent Space

Barnouilll Principle:

'Bernouilll principle: pulling the air through a snail hole makes it cold.

The Butler grain bin was the first air conditioning dynamic structure,"

- Citation & context at Wichita House,, (1), 31 Jan*75

Barna 1U 111,

See Airplane Flight as Lift, 4 Oct*72

Wichita Houee, (1)*

Human Mind & Physical Evolution, (5)(6)

Airspace Technology Environment Control, (3)

Perry Pickingj

"Man is not unique, then, as a toolmaker. There are many creatures that make tools, in the way of nests and other apparatus. Man is unique only in the extent to which he has employed tools. All his tools result from discovery of repeated functions and conditions that are friendly or dMCSQOMb unfavorable to the continuation of the life

(A)

process. In each case of man's developing or inventing a tool, it is because he has had some experience of need. Man— early man— doesn't have to invent being hungry or thirsty.

So he tries out some things, and when he sees that some people die when they eat those red berries, he passes those berries by and keeps looking for something that will keep him going. While looking for his food, he suddenly realizes that he is very thirsty and there is no water at hand. In desperation for a while, he finally happens upon some water. Now if you come to water and you are very thirsty and you are jgst an ancient man, you would have to ask, 'How do I take in water?*' You might plunge your head under and you get *ater up your nostrils— that isn't very good. I recall as a child seeing the cat and the dog lapping up their water and wondering if maybe that wasn't a better way. I saw lots of things that animals did which seemed to be very logical. I remember trying to lap”

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

Berry PXsUng; (B)

"water with my tongue, and I found that I couldn't take water in nearly so fast as I could get it if I put in my handm and cupped it, and then I found that two hands were even better than one, and I could pour it down like- kloope!

"Supposing then that our ancient man has repeated this same process time and again and now has his water--- he's still very hungry and must go after berries. And he says, 'Everytime I go after berries I keep losing my water. I wish I could bring this water along with me; yet, if I keep my hands full, this water will probably spill and I can't pick berries.²⁰ So among the very earliest of all artifacts of man on Earth we find vessels or containers of various kinds. From the very

20 Cite RBF in Franklin Address, Auburn, Ala., 1970

beginning, theta were men who were able to control environment by taking some of the environment here and moving it to another place so as to have it with them. They were altering the environment in a preferred way to their own advantage.

"Once man Invents that vessel, several interesting observations can be made. When he was not using it himself, somebody else could use it. He could make the vessel by scrapings

PttT flttlMS (C)

"out stones, or by scraping out wood, and finally by forming things together--- baling clay, weaving baskets, and so forth. Once you develop the vessel, you can also begin to make it of materials that can stand up under heat that your hands couldn't stand. You can make your tool hands much bigger than they had been. You can make then stand acids that your real hands couldn't. In other words, there is a definite basic function for this tool, but you can greatly extend the limits of that functioning--- sometimes to such a degree that you don't readily recognise it as an extension of the integral function, as when we get to great tanks and reservoirs. This is something that it is very important to remember about tools.

'Thus, man has not been unique in his having developed tools, but he is unique in the extent to which he employs them. And all of this comes out of his recognising repeated experiences and realizing that he can anticipate certain conditions and alter them favorably by making such a thing as a vessel.

"As I compare man with other creatures in relation to specialization, I observe that man discovers principles that are*

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970
B.?jry risking • (D) •

"operative in his environment and he makes use of those principles. For example, we have the flying bird as a specialist; and the bird does fly beautifully; but when the bird wants to walk, it folds up its wings and therefore has to walk quite awkwardly. The fish swims superbly but can't walk on land. Man can walk on the land, but he also learns the principle of flight, and he puts on his wings and then flies. Then he takes them off so as not to be encumbered by them when he wants to walk again. He can put on his scales and go into the sea, but he is not encumbered by them when he doesn't want to use them. So man has the ability to put on and take off much more than other creatures--- which seems to be unique. This is what I mean when I speak about man's general adaptability: the fact that his functions seem to be as little encumbered as possible.

"What is really unique is that man is about halfway in the range of size among all creatures--- halfway, in the middle of them-- and he has extensibility in a great many directions. This, then, says that the specialisation should be in the tools and not integral to man himself. The dinosaur had a one-ton tail to knock down bananas when he came to them, but"

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970
 Berry Picking:

"he didn't come to enough bananas to make pulling that one- ton tail around pay off for him. Man invents a ladder that can be left near the trees and out of the way when not in use, And we invent extensible hands and clippers with which to cut things down. We can do all those remote things beautifully,*

(E)
 - Cite RBF in Franklin Lecture, Auburn, Ala., 1970
 Berry Piling: (1)

"The more specialised you are. the less generally adaptable. What's very unique about man is his general adaptability . . . his metaphysical capability ... to disembarass himself of the equipment when he's not using it.

"Our studies here have dealt with the externalised functions of man. I'll give you, then, an integral function of man.

He doesn't invent thirst. He doesn't invent his hunger. He's a berry picker. He doesn't know anything about his spaceship Earth, except that he's hungry. He goes around experimenting with things to keep him going--- to satisfy this thing. He may need water. . . terribly thirsty. Luckily he finds some water and he sticks his head in up to his nose and tries lapping like a cat. He finds the quickest way is to take his hand and dip it. He finds that two hands are better than one and then he can pour it down his throat. He says: now I want to go berry picking again and every time I do kept losing sight of my water. I get into trouble. I wish I could take this water with me. If I carry it in my hands I can't pick berries.

I could put it in my mouth— it's going' to spill anyway."

- Cite RBF to World Game 12 Jun-31 Jul'69

s&rry PjttXMt (2)

"Amongst the very earliest of the artifacts you find in all the great heaps of artifacts are vessels, or controls of the environment by which you could take this part of the environment here with you and move it to where you are going. Until finally when you go to the Moon you are taking your controlled environment with you, taking what you need. So the Moon is simply an extension of man's making that vessel, a vessel he can get inside of, his controlled environment.

"Now once you've made that cup that can take this liquid, then you can use my hands when I'm not using them. Those are my hands. I've got an extra pair of hands. You can have my hands. You've got interchangeable hands. This begins to be extraordinary--- our synergistic regeneration coming along. Once I've made this cup I can make it out of a material that will take heat that my hands can't take. I can make it so I can put it over the fire to cauterize and boil and change. I can make it out of material that can handle acids my hands can't handle. I can make it ten thousand times the size of my hands. Once you have the principle you can then extend, and we do-- that's what all our tools are, simply extensions, original complementations of our integral function. But they get to"

- Cite RBF to World Game, 12 Jun-31 Jul'69
Bgrry PISMPK; (3)

"be sometimes so enlarged, they seem to be so remote, we don't tend to realize they are part of us--- but they are. None of these tools, then, exist on Earth, except by virtue of man. They are part of the ecological manifestation of man. Then we get into large quantities. For instance, the steel . . . I find the average American is wearing ten tons of steel. He weighs around 30 tons of concrete. He's one of us. Yet we're able to divest that part of ourselves we leave over here. We're going to become a separated-out organism. It is very extraordinary that it re-assemble itself and use itself whenever it wants,"

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69, Saturn Film transc&pt, Sound 1, Reel 1, pp. 86-91.

See Trial *t* Error Discoveries

See Design Revolution: Pulling the Bottom Up, (3)

Spaceship Earth, (c)

Orbital Eacae from Critical Proximity, (2)

UJ. uif i it x'Ejgti

Bertalanffy? Ludwig von:

See General System Theory

Bertalanffy's System of wholeness

See Reflection Sequence: Apple, (2)

Between;

"Two points have betweenness but not insideness.... Three points have betweenness but no insideness."

- Citation A context at Prine Enclosure, 1? Feb*73

Between;

"You can program in any of the parts, but you cannot program what's between and not."

- Citation 4 context at Mechanical Mind, 22 Jul'71

Beyond * Beyond!

See Life & Death, 26 Jan*76

Betweenland But Not

"Intuition and mind apprehend that which is MIHM comprehensively between, and not of, the parts."

- Cite SYNERGETICS dxuft at Sec. 500.02, Nov*71

Betweenland Not. PX:

Isaac Newton here and we asked him what mass is, he'd say I cannot tell you because there is one of the bodies which indicates it's going to be attracted by. It is a behavior between and

"If we had attraction nothing in attract or not of."

- Citation & context at Mass Attraction. 22 Jul'71

Betweenland Not Of:

"Kind alone has the capability of surveying all the special case experiences and, from time to time, find a principle that is holding true throughout the whole, ./here the principle is between, and not of. is not predicted by the parts."

- Cite RBF at Students international r-editation Seminar, U. Kass., Amherst, 22 July *71, p. 10

Betweenfand Not Of;

"Weightless, abstract human mind reviews and from time to time discovers interrelationships existing between and amongst but not 'in' or 'of*' the special-case expertyfice sets

- New context at Special-case Experience, 6 Nov*73

- Oil- rvyf¹¹¹-- r -1_***J tl,nⁿnt7Tt>

Ipidl 1971, {>"5 28 Apr'71

Between Aand Not. Of:

"Kind alone disceross the complex behavioral relationships existing betweenp and not of the myriad of special-case experiences."

- Cite SYNERGETICS draft as re-edited with RBF marginalia at Sec. 104, 1 Apr*?1

See Truth, 22 J_un»75

Synergy, 26 May'?5; 20 Feb'77

Mind, 22 Jul*71

Human Mind k Physical Evolution, (5)

Intertransforms, 11 Sep'75

Creation. 29 Mar*77

Life ie Not Physical, (1)

Human Beings & Complex Universe, (1)(10)

jjalna:

See Invisible Pneumatics, 27 Dec'73

^aaWtan-ogharc Sancae-

See Spheres *tc.* Spaces

See Man aa Halfway in Range of Site of *11 Croaturea

fiatween Stage of

(2)

See Everyday, May*49

RBF DEFINITIONS

Between: Vector Equilibrium as the Prime Between-nesa Model:

"Being between-ness: That's what humans always are. That's where the problems start."

- Cite RBF to EJA, 3200 Idaho, 5 Nov'72; rewritten by RBF 7 Nov'72

Bsasssn: Vector Equilibria. Between-nnaa Model:

Being betwaen-neaa. That*a what we al way a are. That one of the problems."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 5 Nov*72

BjUjasa: Vector BwlllbriM aa Prl«» Batwaenneae Mo-ini:

See Equanimity Model

(1)

See Apart Concave-inbetweenness Domains Halfway Interstitial Intertangency Interrelationships Line Between Two Sphere Centers Middle Omniintertangency Spheres & Spaces Interphase Omni-inter-between**

Bstwssn:

(2)

See Computer, May*72 Everyday, May*49 Mechanical Mind, 22 Jul'71 Pencil, 1938 Prime Enclosure, 17 Feb'73* Rhombic Dodecahedron, 22 Mar'73 Mass Attraction, 22 Jul*71* Brain as Library, 15 Nov*74 Mental Mouthfuls, 9 Jul*62 Rate, 9 Nov*72 Life, 22 Jan'75 Special-case Experience, 6 Nov'73* Event, 23 Jan*77

See Between & Beyond

Between and Not Of

Between the Halves

Between-sphere Spaces

Between Stage of Universe

Between: Vector Equilibrium as Between-ness Model

Bevand:

See Between A. Beyond

Blas:

"People want to be either symmetric or asymmetrl

They love bias.... "

Blas:

"Bias precludes synergetic advantage."

mt—niTimnia, TH, P. PIT.

- Citation & context at Periodic Experience_t (13)» Hay'49

"I spoke about the early days in the Mediterranean area . . . when man thought the world was an infinite plane and that the Greek geometry was axiomatically logical. They defined a circle or a triangle as an area bound by a closed line of unit radius, or by three edges and three angles. They only accredited the area which is bound on one side of the line, simply because the area outside of the line was extended in all planar directions to infinity and was therefore undefinable. We have all been brought up at school to accredit only the integrity and identity of the area on one side of tmBai a line, which

is to assume a fundamentally biased attitude towards all problems. That conditioned reflexing of bias is unnatural but is rampant in world society due to its early inculcation as the very base of what is thought of as geometrically reliable education."

- Cite BEIRUT Address, p.23, 4-6 May'67

Bias on One Side of the Line:

"The Greeks defined a triangle as an area bound by a perimeter of three angles and three edges. At one time, the Greeks thought of the Earth as only horizontally extended; their planes and lines went to infinity. The bound area of the triangle was finite. The 'outside' beyond the perimeter line was unbouhdid, infinite, occupied by barbarians, then unknown chaos. Today we know that all systems, as with Earth, are finite and return upon themselves in all directions, so that the triangle divides the definite surface of the AMW sphere into two different areas, both definite and both bound by the same three vertexes and thvee edges, ergo, two spherical triangles. Both sides of the line are now validly definite,"

"The reflexively deep bias of men for 'their side' is built into man's whole educational experience as relayed through generations since the Greek accrediting of only one side of the line. • . Men as yet speak of flat Earth in respect to which there is as yet an 'up' and 'down'--- where the Sun goes down. Mena as yet see the Sun 'rising*' and 'setting*' and t hey as yet see only one side of a line of big patterns as valid or positive, ergo the inability to deal logically in resolving major world political biases."

- Cite RBF in AAUW Journal, p.177, toy '65

fmH Bias of One Side of the Line:

""This is the most extraordinary of the biases that exist in our society. You feel you have to validate one side of the line or the other in a closed boundary system. I find no validity favoring one or the other."

(Adapted.)

- Cite LEDGEKONT LAB Lecture, 15 Oct '64, p. 55

Bias on One Side of the Line:

Arts &, Letters Gold Medal, pp.14-15, May*68

Ledgemeont Lab. Address, p.55, 15 Oct'64

Oregon Lecture //6, p.206, 10 Jul'62

Beirut Address, p.23, 4-6 May'67

AAUW Journal, p.177, I'ay'65

Synergetics, Sec. 811

See Loyalty Spherical Triangle

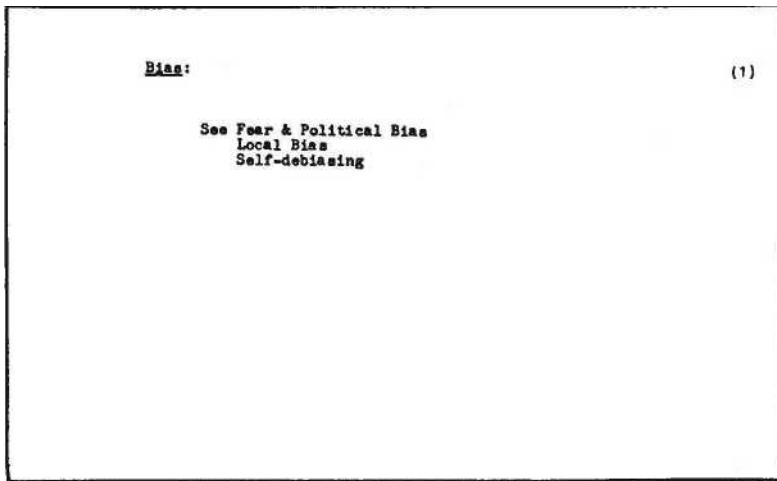
Fig a gn Qnfl SXdQ-of the

Sea Key-Keyhole Sequence. (1) Up & Down Sequence, u) (4) Nucleus ve» Boundary, 28 Jan'75

(2)

Blas Symbol:

See Verse ve. Prose, 11 Dec'75



(2)

See Linear Programming, 5 Jun'73 Love, 15 Oct'72* Periodic Experience, (13) Feedback, 7 Nov*75

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See Child: A Little Child Shall Lead Theo Christian Legend & Philosophy Firmament

Garden of Eden

Heavenly Host Phenomenon Meek Havi Inherited the Earth Pass:
"And It Came to Pass"* Noah's Ark

Bibliography:

"You notice that I do not have any bibliography to give you to go along with my talk for the simple reason that there are no books that I know of in which individuals have employed the strategy of inventory taking that I employ. I have found myself a fairly lone operator--- not purposefully at all--- that Just seems to be the circumstances

- Cite Oegen Lecture #2, p. 37. 2 Jul*62

Bicycle Wheel: "The 1927 Dymaxion was my first tenaegrity. The hub of the wire bicycle wheel just becomes the mast. And the bicycle wheel itself was a transfer of sea technology."

- Citation & context at Draaxlon House. 29 Jan*75

Bicycle Wheel Model:

See Fourth Dimension: VE as Fourth-dimension Model 22 Jun*77

Big Bang:

See Bang: Big Bang

BU. gQPIple*:

See Visual Symphony (2)

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Pig Pipper-

See Cosmic Structuring, (1)

Harmonica, (3)

Stable & Unstable Systems, 2 Nov*73

Twenty-foot Earth Globe and 200-foot Celestial

Sphere, (B)(9) Thinking, (II) Constellar, 3 Oct*72

See Divide & Conquer Sequence Little Individual: Little Nan

Invisible Masters Pirates: Great Pirates

ID

See Literacy, 10 Aug¹70

See Largest Pattern

Big Complex

Only the Whole Big System Works

See Moat Economical, 15 Jun'74 Intuition, 15 Jun'74 Navy Sequence
(1) Telephone (2) Good & Evil Sequence (1) Generaliat, 26 Sep'68 Pat-
tern, Dec*72 Navy: Theory Of, 22 Dec'74 Sovereignty, (1)

"All except humans are equipped to excel in special local environments. However,
th&fhole terrestrial ecological system is only omnicircumferentially successful. Only
the whole big BYstem works. ..."

- Citation and context at Ecology Sequence (E), 5 Jun'73
Sis.

See Local Radius, 14 Feb'73

Orbit • Circuit, 10 Sep'74 General System Theory, (2)

See Energy Magnitudes: Order Of Macro-Micro
Slower & Closer vs. Faster & Far Apart
Fast & Slow
Rates t Magnitudes
Astro *k* Nucleic Interpositioning
Largest Case

**Largest Pattern Me: Bigger Than Me; Littler Than Me Tennis Ball Hits
the Big Earth Cosmic & Local**

Local Radius vs. Wide Arc

See Hunan Beings, 10 Dec*73

Spheres fc Spaces. 11 Ju1'62

Tension, 15 Oct`04! 5 Jul'62

Time-energy Economics. 15 Jun*74

Trim Tab Sequence, (2)

Quantum Mechanics: Grand Strategy, 30 Jan*75

Gravity, 12 May*75

Multiplication by Division, 20 Jan¹77

Model?

"The isotropic vector matrix can be described as a matrix of lights on a Broadway billboard with powerful little lights at each vertex which could be controlled in intensity and color displaying all the superb concentricity around a nucleus. Your innermost guts could be illustrated and illuminated. I Mi could turn all the right lights on and you could move through space in a multidimensional way, Just by moving the lights from one vertex to the next."

- Context and citation at Invisible Circuitry (1), 28 Oct'72

See Atonic Computer Complex:

Sea Fuller, R.B: Meeting with Fernandes-Moran, {2} Scan-transmission of Pattern Integrities, 22 Jun¹77

Billtarda:

See Gravity (g)

Binary;

"It is fascinating to learn that, with the development of the computer, nature uses a Yea-No or binary system.

This is the basis of waves. Consequently the Polynesians have been using the most advanced techniques during the period that we presumed them to be inferior because they only counted to two.**

- Cite IMGA TO INVISIBLE SLA, p. 6. 1970

Binary Stars;

Synergetics text, Sec. 1106.31, 26 Jan'73

Binary:

See Bits: Bitting Go-no-go Pulse Pattern Twenty Questions Yes-no-yes-no

Siaarx:

(2)

See Reciprocity, (4)

Binomial;

See Scheherazade Number, 13 Jul*72

Bjg-sQnnmiQn:

See Redundancy: Reduction Of, 22 Apr'71

See Life, May*49

Biopenetic Eyparlmentation

Q. "Ape you concerned about the dangers of biomntic experimentation?"

RBF; "I don't worry about it any more. At first, I used to... very much. Wo are in the middle; we are not specialized. We are not in a linear or a planar Universe. You can't improve on the middle. biogenetic experiments seam bound to have results which will just denart further from the middle. In due course it will become clear that you can't improve on that. Though we might correct certain biological deficiencies.

- Cite RBF to World Cane Workshop*77; Phila., PA: 72 Jun'77

Bio-logic:

See Redundancy: Reduction Of, 22 Apr'71

£1212£1£&1Ai

"Design logic., requires the presence...of a designing capability... through human organisms... to offset the gamut of nonthinking conditioned reflexes of all biological systems.

- Citation & context at Eternal Designing Capability, 2 Jun'71

Biologicala;

m¹bloio^Oi»S:i:nSop"?"n^{ert}in^e chao' lnto beautiful order.

- s«e Photosynthesis. Oct'69

"All the biologicala are antlentropic. • •

- Citation and context at Order. Jun-Jul*69
 MB CfU thislwg:

"... The simplicity of the biological cell nucleus which valves universal teleological problems."

- Citation and context at Environment Events Hierarchy. 1954-59
 Biological Cell Dichotomy:
 See Gravity (d)
 Biological C_gU₈: Single Celia:

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**See Life, 13 Nov<69 Trigonometric Limit: First 14 Primes, 14 Jan'74
 Fourteen Axes of Truncated T_etrahedron, (1) Regenerativity, 17
 Jan*75**

Biological Design:

"Biological designs apriori to human alteration contriving are directly reproducible in frequency design magnitude. Blades of grass are reproduced on planet Earth in vast quantities due to the universal inadequacy of Sun and other star photosynthetic impoundment to maximum dry land occupation for the terrestrial impoundment

of the cosmic radiation. Daisies, peanuts, glow worms, et. al., are reproduced in direct complement to their design complexity, which involves biological and eternal environmental interplay of chemical element simplexes and compounds under a complex of energy, heat, and pressure conditions critical to the complex of chemical associating and disassociating involved. Humans thus far evolved the industrial complex designing which is only of kindergarten magnitude as compared to the complexity of the biological success of our Planet Earth. In its complexities of design integrity the

universe is technology.”

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS text at Sec. 172, 13 Mar'73

Biological Design;

See Load Distribution, 17 Oct'77

Biological Equation of Universe;

”The biological equation of the Universe.. • the principle of essential priority of common weal is implicit; i.e.. the individual is a product and servant of a plurality.*

- Citation and context at I Individuality. 1947

See Equation: Philosophical Equations

Biological Integral:

**"All biological evolution Is ecologically integral And omni-interdependent.
The final biological integral Is the supreme physical Problem-solving
phase**

Of the regenerative physical system Of the Universe

As maintained by the metaphysical integrity.”

- Cite DREYFUSS Preface, "Decease of Meaning." 28 April 1971, P. 4

Biological Integral:

See Human Beings, 10 Dec*73

<1)

"Biological life is a syntropic process because it sorts and selects Unique chemical elements From out of their randomly received Time and locality of reception As celestial imports;

Or from out of their random occurrence As terrestrial resources--- fresh or waste--- Anywhere around our Earth's biosphere, And reassociates those elements In orderly molecular structures Or as orderly organs Of ever-increasing magnitude, Thus effectively reversing The entropic behaviors Of purely physical phenomena which give off energy In ever more random, Expansive and disorderly ways. For human life contains the weightless Omni powerful, omniscient Metaphysical intellect

- Cite INTUITION, p.70 May '72

"Which alone can comprehend*, Sort out, select. Integrate, coordinate and cohere.

- Cite INTUITION, p.70 May '72

BIOLQxUALf Yf* KanbAfloUsfla-

"In order to regenerate, the biologicals take on and give off more energy than nonbiologicals because, mechanically speaking, none of the biologicals are 100 percent efficient* Thus the biologicals give off much more energy than the nonbiologicals. Therefore their entropy alters the environment even more than the nonbiological entropy,"

Cite Muareana Keynote Address, Denver, p.3; 2 Jun¹71

See Animate *it*. In & nlmte

See Epigenetica, May '72

Industrialization, (A)

BialffislaX: Blalasisals:

(D

See Ecology Sequence

Over-specialisation of Biological Species

Organic Model

Biologicals va. Nonbiologicals

See Energy Capital Sequence. (A) Intuition: Hot Line Of, Jan*72 Man as a Function of Universe. (C) Mind, 31 May*74 Reciprocity. (1) Structure, 16 Dec*73 Tensegrity: Unlimited Frequency. (8) Thinkable You, (1) Vector Equilibrium. (2) Culture, 1 Feb*75 Bundle of Experiences, May'49 Cyclic Bundling of Experiences. Kay*49 Communications Hierarchy, (1) Animate & Inanimate, 11 Dec*75 Great Circles, May'44 Human Beings at the Center, (1)(2)

BIO-organism:

(1)

See Pretence Bio-organism

£iszxaaanls«:

(2)

See Economic Accounting System, (A)

Man as Halfway in Range of Size of All Creatures,

22 Jun»?5

^B12Phyflgfi:

See Hyphenated Sciences

Biosphere: (1)

Q: Do you think there will be habitable satellites with their own atmosphere?

RBF: "i/hy not? I don't see how we can help it."

Q: How do you think they will affect the Earth?

RBF: ' 'Very,very greatly. Only recently have we known that there was some mystical element called air and that it broke down into oxygen and other parts, and that oxygen was necessary for the lungs and knowing what it does to the blood. The point is that there was this a priori inventory of rescue and behaviors of nature that made it possible for man to be born absolutely helpless and ignorant. With beautiful equipment, but helpless. Therefore, part of the invention of having a species born absolutely helpless was that it had to be looked out for. And so the air was the way

you could breathe. A mother wouldn't have known how to invent a breast, or how to invent the oxygen" for her baby. "So we did have all these things and they've been so plentiful, they have permitted man to be really very ignorant, and also his being very wasteful."

- Cite WATTS TAPE, pp. 1-2, 19 Oct '70

Bjp, sphere:

"He was given enough cushion of resources, and so by trial and error he could gradually discover that his mind was much more important than his muscle; and that his probable functioning was metaphysical and not physical. We are all of us thatEhat extraordinary moment where the totality of humanity is beginning to realize these things. Rather than a few leaders leading ignorant and helpless humanity. When we have man in great fear, when he is ignorant and also fearful, he can panic officially and war has been an enormous official panic: great mandates to effrjloy that which mind has already discovered . . . to build up weapons. Under the aegis of the great mandate of fear. The only way the administration really has any great powers is war powers; then they can really undertake anything. If evolution really wanted man to acquire these capabilities, he could only be really motivated to do these things through fear. I hope we are coming to a breakthrough point where we are beginning to do things for logical reasons— and it is in longing rather than fear. The scientists were making such guns that an ignoramus could be trained to fire it; but they didn't do anything about the man because the air was waiting there for him to breathe it. You have to find some way to

- Cite WATTS TAPE, pp. 2-4, 19 Oct '70

(3)

"motivate hum until he begins to get off this selfstarter and to get on to the main engines of his mind."

- Cite WATTS TAPE, p. 5, 19 Oct '70

"1'11 come back to your question about space. The point being that science has not done anything really about man until they were forceu to do a little bit in medical science, but then only on a reapsir basis rather than on really how to service and understand him. . * You find there is really a very great ignorance of what is really necessary to actually support human beings, to keep them going. It is really an extraordinary matter that the minute you go out of our biosphere, the minute that you get out from this bountiful supply that we've had, you now for the first time really find out what is necessary to keep a man going. . . i*ien have been going to the moon on a sandwich and thermos bottle basis. It has been very easy to have thanuch, but wheh we talk about staying outside the biosphere for more than a year, then you really hav, for the first time, to discover what really supports a man."

- Cite WATTS TAPE, pp. 6-7, 19 Oct '70

Biosphere:

. Within the spherical womb sheath of planet Earth*a water, gaseous, and electromagnetic biosphere."

RBF Introduction to Gene Youngblood'e EXPANDED CINEMA, p.24,

- Cite L__.

Oct *70

Piogphtro inventory:

"Only the metaphysical can designedly organise the physical landscape-forming events to human advantage, and do so while also maintaining

- (a) the regenerative integrity of the complex ecological-physiological support of human life aboard our planet, and

- (b) maintaining the integrity of the comical- element inventory of which our planet, its biosphere, and co-orbiting hydraulic, atmospheric, ozonic radiation-shielding spheres, ionosphere.

Van Allen belts, and other layerings, all consist.¹

- Cite SYNERGETICS 2nd. Ed. draft at Sec. 325.04, 15 Nov'74

See Time-energy Economics, 15 Jun*74

Interrelatedness vs. Names, (1)

TEXT CITATIONS

Biosphere:

534.06	8326.04
<u>1005,20:</u> 1005.20-1005.24	S326.12
1009.73	8326.40
1056.20 (26)	s541.43
	81052.54

See Air

**Ecology External Metabolic8 Jet Stream Atmosphere Photosynthesis
Radiation Sequence Van Allen Celt Weather Wind Womb of Permitted
Ighorance**

See Coral Reef. May'65

Design, (2J

Space Technology, (1)

Precession (I)(II)

Orbital Escape from Critical Proximity, (4) Rain, 11 Feb'76

Bird'i Hwt Al A twl< (1)

“...A bird Alters environment by Baking a neat, and thia ia related to ita ability to fly, If a bird had to goatata little blrda in ita womb, it would become no heavy that it would bo unable to Uy. So we find the bird developing the proceea of the neat and then leaning forth new life in the form of an egg encasing both the embryo and all the nutriment that is going to be necessary to develop the embryo until it hatches ae a chick. There is only one thing to be added: a very discrete amount of heat has to be given to that egg to keep it going along so that the embryo will develop.

”In designing that nest birds demonstrate an interesting adjustment to the delicacy of the process. With a great many migrating birds, the males migrate north earlier than the females and, from their flight advantage, pick areas of the trees where there is going to be the kind of food that that type of bird needs to live— insects or worms or whatever it may be. The males come into the trees and pick positions where nests are going to go. We are familiar with soldiers standing in a tight line and then taking room on the line, spreading out until each man has adequate elbow room. The birds do this in an omniWBB~^N

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

Bird’s Nest As A Tool: (B)

”directional way. Sometimes you see two birds of the same species out on the lawn, and you wonder why they seem to bo fighting. What they are doing la taking positions in the trees and then making trial flights to find the nearest insect: they come together, they hit each other, they get interference, and then they spread out in their positions before the time comes to build nests. The males pick domains for their nests and sing their song, and soon the females come along. The female doesn’t just stop at the first male she comes to; she waits until she finds the right song and then she comes in. And now they both get busy and build tha nest. By the time the eggs are laid in the nest, it is a beat if ul £ insulating device; the mother bird sits on top of it making a total enclosure with high insulation; mother giving off just exactly the right amount of heat to make the egg work. They have situated the nest

so that the mother bird is in good position to fly to an insect or a worts, without interference from any other bird, and to get back in time, before the egg goes below the critical heat. All in all, it is an extraordinarily well-balanced design, essential to the successful flight of birds. We have here, then, an externalised function,*

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

"in that the nest is really part of the womb function. I mention all this in order to make clear that a process, such as the bird, being in several parts which are not integral to one another, can be disassociated from part of its function."

- Cite BBF in Franklin Lecture, Auburn, AU., 1970

Bird*a Neat As A Tool: (1)

"When any of the creatures alter the environment in preferred ways it is complementary to their direct regeneration pattern. I call this a tool. So we find the bird making a neat. In order for the bird to be able to fly it can't hare the extra weight of gestating the new bird in its womb. Therefore, it gives out new life very fast, and the egg, with all its nutriment, all its needs from here on, has the right chemistry. It needs one more thing— energy— in the form of heat; and the bird supplies that, the mother bird, and the nest insulates it so he doesn't lose it. So the bird, in order to be able to fly, has to take on very small amounts of energy at one time, as food. The mother bird has to be able to reach, to go from her nest and reach the worm and get back just before the egg gets below the critical heat. At any rate the bird is able to keep on flying in that way. The nest becomes a tool invented and employed by the bird. That's what I mean by a tool: an orderly alteration of the environment to complement the integral organic process. Man is not unique then as a tool maker. The spider is a toolmaker. i-iany creatures are tool makers. But man is unique in the extent to which he uses the tools. That is the"

- Cite RBF to World Came, 12 Jun-31 Jul'69

Bird's Nest As A Tool: "impressive thing. You find all the living creatures are, relative to man, much more specialised. The bird is a very good flier, but the bird can't get rid of its wings when it's not flying; therefore it has a very hard time walking. And the fish can get on beautifully as a specialist, but it can't walk at all. We find that all the species that have become extinct have all become extinct by virtue of overspecialisation

(2)

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul*69, Saturn Film transcript, Sound 1, Reel, 1, pp.86-88.

"The spider makes a web and that is a tool, and the bird makes his nest which is a tool. We find that all life carries on some kind of external environment-altering operation which, when importantly persistent and specific, detaches some or the environment from the rest of the environment and fashions the detached increment into a multifold complex which we identify as a tool with which the living species effect much greater repetitive alterations of other aspects of the environmental processes. For instance, a man takes part of a tree and shapes it into an axe handle with which he chops down other trees in order to concentrate lumber from those trees so densely that they will shed the rain. Man has developed his tool making capability to a far greater degree than has any other biological species."

- Cite BEIRUT Address, p.16, 4-6 Kay'67

See Epigenetic Landscape. May'70

Mechanic., (2)

Technology (1)(2) Tools, 1967;

See Human Beings, 10 Dec*73 Human Beings at the Center, (1)

**Sea Bumbling: Avian Bumbling Hawk Feeding a Flock of Sea Gull Nest
is Part of the Bird Duck Gull Nest**

Birth:

"Birth is life's most critical Moment."

- Citation & context at Deaovaraieniatioln Saouanea. (8) 15 May'75

Birth;

"Birth is the most critical state we ever come to. It Is a revolutionary matter."

- Cite RBF to Stated Dept. Senior Seminar, Roaslyn, Va., 22 Dec'74

Birth Controls

See Abortion

Birth-death lift ml w

**See Feedback: Self-accelerating Feedback, May¹72 Human Beings,
1972**

Jilatotaih:

(1)

See Life & Death

Complementarity of Growth & Aging

See Coenic Discontinuity & Local Continuity, 1\$ Jan* 74

See Umbilical Cord, 4 Mar'73

2Arlh: Movlat in all Pirectiona In the Womb:

Sea Omnidirectional, 2 Jul'62; 1960 ^{Birth}BSX«B.ca into External Oxidation:

See Womb Population, May'65

EXSlb: Non-aelf-reouontad Exnarlenea of Life.-

See Charting Alternating Experiences of Man & Nature, (3)

Humanity, 1963

Ego, 9 Nov'75

**See Earth Birth Genius: Children Are Born Geniuses Helpless: Hu-
mans Born Helpless Life's Original Event Rebirth Stillbirth of Human-
ity Surprise: Uttar Surprise to be Born Womb entries Conception-birth
Regenerative Birth**

S«e Awareness, 13 Jul'74

Capability, 27 Dec*73

Four, 27 Dec*73

Voluntary k Involuntary, 28 Feb*71 Desovereignisation Sequence,
(\$)* News k Evolution, (4) Life k Death, 1? May*77 Womb of Permitted
Ignorance, (2)

See Dog Pulling on a Belt Tongue: Bite Your Tongue

TEXT CITATIONS □ Bites: (Asymmetric Tetrahedra): 953.40 954.10

'£111' (Tetra h edr on)

See Syte, 20 Dec*73

grain al:

"Special cases are all biterminal, i.e., having both beginning and end-
ing."

Cite RBF rewrite of SYNERGETICS galley at Sec. 502.02, 6 Nov'73

Biterminal:

See Beginnings & Endings

See Avogadro. 12 Jul*62

Vector, 10 Nov*73

Bits:

. . • Bits • • • break up finite wholes into finite parts,

(Adapted.)

. . . All irrelevanciee fall into two sain categories or bite.

- Cite NASA Speech, p. 40, Jun¹66

'jUOt fTiOu or (?I7S -52?..?)

Bite: Bitting:

"The mathematician's . . . straight line is not a straight line but is an ultra-visible high frequency, linearly articulated event. This binary mathematics methodology of halving or cybernetic* 'bitting,' not (only explains linear wave phenomena but also identifies ---Pythagoras's halving a music string to gain an exact musical octave. The computer programmed to employ the cybernetic bits of binary mathematics progressively * subdivides until one of its peak or valley parts gets into congruence with the else and position of the unit we seek. This identification process is accounted for in the terms of how many bits it takes to locate the answer, that is, to 'tune in.'"

Itfp<e-n>u Vt Sirs- J«> t - Cit« IAS* Spo.ch, pp 47,48, Ju.,£4
Bits: (1)

"Starting with whole Universe we quickly reach any local system within the totality by differentiating it out temporarily from the whole for intimate consideration, we do so by the process of reduction by bits.

"Bits is the tens used in the binary mathematics of computer operation. Once you state what your realistic, optimum recognition of totality consists of, then you find how many bits or subdivision stages it will take to isolate any items within that totality.

"It is like the childhood game of Twenty Questions in which you start by saying, 'Is it physical or metaphysical?*' Next: 'Is it animate or inanimate?' (fine bit.) 'Is it big or little?' (Two bits.) 'Is it hot or cold?' (Three bits.) It takes only a few bits to find what you want. When we use bit subdivision to ferret out the components of our problems, we do exactly what the computer is designed to do, for the computer's mechanism consists of simple go-no go, or yes-and-no circuit valves, or binary math, valves."

- Cite NASA Speech, p.9S, Jun'66

Ktbue-iibu pf Sect.

Bits: (2)

"We keep ` halving¹ the halve[®] of Universe until we refine out the desired bit. In four halvings you have eliminated 94 percent of irrelevant Universe. In seven halving you have removed 99.2 percent of irrelevant Universe. Operating as fast as multithousands of halvings per second, the computer 'seems¹ to produce 'instantaneous¹ answers.

"Thus we learn tht our naturally spontaneous faculties for acquiring a comprehensive education make it easy to Instruct the computer and thus to obtain its swift answers. Best of all, when we get the answers we have comprehensive awareness of the relative significance, utility, and beauty of the answers in respect to our general universal-evolution conceptioning."

- Cite NASA Speech, p.9B, Jun'66

ppbUCUSU BY B»T5- S £ Si 7.35/

See Cybernetics

Differentiation

General Systems Theory Irrelevances: Dismissal Of

Zigzag: Right-left: Halfway Averaging

Info-bits

See Generalized Dichotomy: Grand Strategy. (3) Relevant: Lucidly Relevant Set, Jun'66 Synergetics, (p.101) Jun'66; Nov'71 General Systems Theory, (2) Regenerativitjr, 17 Jan'75

TfcXT CITATIONS

Bivalent;

Double-bonded:

224.40	<u>931.30</u>
W3.01	982.13
636.01	982.14
638.10	1008.13
717.01	1011.41

8441.021	
936.15	
8936.16	
937.31	
1053.845	
Fig. 770.11D 1012.12	
770.13 Fig. 1054.40	

842.01-842,	.05 1060.02
905.32-905.	.49

910.01

See Chemical Bonds: Double Bond

See Quantum Jump, 26 Aug'76 Quanta Lose by Congruence. (2) Bubble Bursting, 20 Jan'78

Blackboard:

"Because the structural integrity of the blackboard or paper on which they may be schematically pictured, the cubically profiled form can exist, but only as an experiencsable, forms suggesting picture, induced by lines deposited in chalk, or ink, or lead, accomplished by the sketching individual with only 12 of the compression-representing strut edge members interjoined by eight flexible vertex fastenings.*

- Cite SYNERGETICS text at Sec. 615.03; 23 Feb'72

Blackboard:

"With the use of the blackboard, the pedagogues were able to bring infinity indoors."

- Cite HBF to bJA, Washington, 6 October 1971.
See Spherical Triangle on Barth's Surface - Four
(D

Triangles

Spherical Triangle Sequence
See Drawing, 1971

Operational, J Jan'72

Windows of Nothingness. (1)(2)

Dodecahedron, 23 Feb'72

Six Motion Freedoms & Degrees of Freedom, (1)

Midi W Black Body Radiation:
See Antientropy, (A)
Man as a Function of Universe, (B)
Relativity, 1968
Fourth Dimensional Modelability, 24 Feb'75
Modelability, <b)
Quantum Sequence, (1)
Black Hole;

"The black hole is not a hole but inside-out Universe, impenetrable only because unenterable inherently in plural unity."

- Cite RBF marginalia as "Interview With Michael Ben-Eli p.747, AD/12/72, Jan'73

Black Hole:

"When there's no place in Universe where there is matter so dense, why do they call it a 'hole'? . . . All the hydrogen is spent. It is a superdense star at limit condition. . . Light comes from the hydrogen cycle: the hydrogen-helium interplay. . . They must have been looking for a place where they see nothing. So I suppose they called it a hole. But it's very strange, very ignorant that they haven't corrected their terminology." "It is preposterous to be deliberately ignorant. They can't see what is true until they relinquish what is not true."

- Cite RBF to tJA, 3200 Idaho, 28 Oct'72

Black Hole; (1)

RBF pronouncement» after reading Walter Sullivan's® article.

"Laws of Universe Put into Question,** N.Y. Times, 27 Jan 'Mil on some recent experimental confirmation of intense gravitational fields known as "black holes:"

**--- If you had another planet, you'd have to have some gravity. . . and you'd have to have a star.

Syntropics would be the black holes.

n— Conceptuality balances with nonconceptuality. Wfe

”— It's all invisible.

"--- It's the complementary negative tetrahedron that we have always accounted for in synergetics, all along. We have always had the invisible 720° of excess in every system.

”— It's the same for galaxies as for solar systems.

”— Collecting versus dispersing.

"---I think this is just a special case of finding a special case.

Black Hole: (2)

Like lower and higher pressures in the Earth's atmosphere . . . It's just local. But its always tho pulsation. That's the point--- with the gravitational* exhausting the highs.

Omnidirectional interpulsativeness.

**--- It seems a discrepancy because the conceptual is Just a fantastically limited part of the total, not Just in the electromagnetic spectrum range, but in thinkability itself.

We suddenly see the mold of nothingness! That's all it is!

- Cite RBF to EJA, Beverly Hotel, New York, 27 Jan '72

Black Holes & Synergetics:

"I do think the vector equilibrium's symmetrical contraction from 20 volumes to one, and then its transformation into the minus-one tetrahedron is quite logically identifiable with the black hole phenomena...

"I am glad that you agree with my rejection of the "big bang" theory, which is completely contradicted by my scenario Universe concept.

"I do subscribe to your assumption that the galaxies may be mutually repellent due to the negative charge of their outer realms---I would not say 'surface.'

"It is possible that Professor Wheeler might discover our work and might even be prone to support it, but I am confident that any attempt on my part, or that of any of my supporters, would tend to frustrate such a happy event. Nature has her own gestation rates. The biggest, most important, events take the longest."

- Cite RBF Ltr. to Donald B. Benson, Shaw University, Raleigh, NC; 1 Mar'77

See Hole in the Universe Invisible Hole Negative Universe Oranilibrium

Stars: Implosive Forces Of Superatomics Syntropics

(2)

See Ecology Sequence, (A)(B) Invisible Circuitry. (2) Omniequilibrium,
(2)

See Haninering Sheet Metal

(2)

See Gravity (f)

Invisible Pneuxnatics, 27 Dec *73

Bladea of Grana:

See Reproducible, 22 lpr'6S

Blade:

See Razor

Bj£££: Eachew Ketatdv* Blaming:

See Individual Economic Initiative, 196\$

Blannh«mwv:

See Cussing

Plnd Calculation*

See Cartography: Conventional Projections, (2)

RBF DEFINITIONS

Blind ^{Da}t9 with Principle

"My blind date with principle seemed the only way for me to serve those processes most potential of accelerating the overall technical advantage network toward realisation for our new child and all new children of coninonly gained participation in spontaneous, anticipatory, economic and technical pattern adoptions, by industry and by society, which would erase from probability the reoccurrence of the unattended environment-bred hazards fatal to our first child. I resolved to apply the rest of my life to converting my pattern sense, through teleologic principle into design and prototyping developments governing the pertinent, but as yet unattended essential

industrial network functions, necessary to removal of such housing chaos by physically effective and lasting technology. As a corollary I resolved to eschew further acceptance of conventional recourse to political or moral reforms which, lacking physical energy effectiveness, must in the fact of physical inadequacy adopt peaceful or forceful palliation through political action."

- Cite INFLUENCES ON MY WORK, 141, pp.24-25, Jan»55

See Fuller, R.B: What I Am Trying To Do

Blind Date with Principle

Comndtment to Humanity

Dymaxion Outset

Fuller, R.B: Crisis of 1927

See Solid State, 13 Kay'73

RUF buFliUTiulJb

Blind Fan¹ s Buff:

"Calculus was necessary because they had such a blind man's bluff game. They git a proprietary interest in blind man's bluff. Newton and Leibnitz inherited all the blind man's bluff. GalileBo was the most noble of them all, holding to real experiment. Kepler and Newton had beautiful mathematics but Galilewo and Tycho Brahe were much more exciting."

- Cite KBF to E.JA, 3200 Idaho, Wash DC, 1 Oct. '71.

Blldpd.-Man'e-BlBrrinj Art:

See Joyce, Janes, 196\$

Blind Kan'g Bluff:

See Blind-Man's-Blufflag Art Calculus

£Uad> BMadnaaa¹

See Uneeeablilty

(D

Instruments: Science Blind-riylx "On Instruments"

See Statistics, 1938

See Sea Power, 23 Jan*75

Blocking;

See Locking 4 Blocking

Bloom: Dr. Beniamin S, Bloom:

"I want your members to underatand that the propensity of that child will be twoard comprehensivity. Read Dr.

Benjamin S. Bloom's book, 'Stability and Change in Human Characteristics.I"

- Cite RBF in AAUW Journal, p. 178, May '65

Bloom: Dr. Benjamin S.:

See Brain¹ a Alam Clocka end Chromoeone Ticker Tape

Instructions

Blossom:

See Roots TO. Blossoms

See Tensile Blueprints

RUF DEFINITIONS

Boaet;

See Rai a on d'Etre of Boaata and Feara

RBF DEFINITIONS

Boats at Anchor Retard the River*a Flow:

"... No matter how meager the network of zonal relationships of the residually considered star set of holding-pattern relevancy, the latter shuntingly impedes in some degree the velocity of omnidirectional universal information traffic, forced by geometrical surroundment to pass through the zonal constellation. If a squadron of boats enters a river's mouth and passes upstream and anchors, their presence and the friction of their hulls will mildly retard or choke the river's flow. Thus do the constellation of considered events mildly choke the otherwise unimpeded universal and gedesically- inter-routed communication traffic which they have ' separated into the two (micro-macro) realms. As Heisenberg shows in the principle of ultimate indeterminism the physical act of measurement always alters the behavior of the measured phenomenon."

- Cite OMNIDIRECTIONAL HALO, pp.139-UO, 1960

See Generalized Boat

Intuition: Sailing Yacht "Intuition"

Rowing Needles

Sailboats

Sailing Ship

Ship

Water: Trend Toward Living on Water

Submarine

Fleet of Sailboats

Omnimedium Transport

See Phoenician Phonetic Sequence. 23 Jan*75 World Cbm, (B)

See Humans as tachines Human Instrument Vehicle Life's Temporary Vehicles Baby-making Machine Home

Bgdy Aa Bactisnlaa:

(2)

See False Property Illusion, (1)(2) Synergy, 20 Feb'77 Hand, 20 Jun'77

Body vs, Medium:

See Building, 28 Jan'75

See Body ve. hediua

Matter

Particle

Solids

See Newton's First Law of Notion: RBF Restatement Of,

4 May'57

Solids, May'72

Boeing 747 Sequence:

"There are 500 types of parts in a house; 5»000 in a car; and 25,000 in an airplane. And I mean types of parts.

"Nature permits us to separate out the different periodicities to consider each problem--- each type of part---- separately. Instruments can monitor the variables. The pilot intervenes only on those few occasions when the access to generalized principles afforded by the mind is required.

"But the design of a Boeing 747 is like a plate of spaghetti compared to the deisgn of an eternally regenerative Universe. Humans, by using their minds, are here as a guarantee of the integrity of an eternally regenerative Universe."

- Cite RBF to EJA, Pagano's stest., Phila.» PA., 22 Jun'75

Boeing 747:

"Just think of the Boeing 747 and its engineering ferocity. With air resistance at the second power it copes with 100 times the ferocity of a hurricane. It's like taking the i\$en Mary over Niagara Falls.... and then that 150 tons hits the Earth at 150 m.p.hj"

- Ci*e Bell videotaping session Philadelphia, PA.,

See Principle (1)

Airspace Technology Environment Corttrols, (2)(3)

Building Business, (3)

Bohr: Bohr¹ a Complementarity:

See Coincidental Articulation Sequence, (2)

Synergetic Hierarchy, (2)

Bplypann <¹)

"There 18 another generalised cosmic law known as Boltsgann'B law, which is relevant to the stars as cosmic energy storehouses which, though long-lived, eventually dissipate all their energy by radiational export. Boltsmann'e law states in effect that `within a closed system--- in this instance the Universe itself--- there are oscillations and evolutions between high and low energy concentrations and diffusions. This holds true all the way from the Universe itself to the smallest atomic nucleus components--- and energy is never lost from the total system. While the Sun may be feeding energy to each of its planets, we do not know that they have means of storing it and sorting it to the degree that we do know Indeed that the Sun is being impounded on our planet Earth by the refraction of the atmosphere,

by the refraction of the water, with the Sun heating the oceans, and all the vegetation growing and impounding the radiations by photosynthesis, and with all the hydrocarbons we call fossil fuels being buried deeply within Earth's crystalline mantle. The planet Earth is one place we know with empirical certitude to be collecting, sorting, and storing energies in chemically orderly ways. As with the weather, there are cosmic high pressures and low pressures."

- Cite RBF in Michael Ben-Eli Interview, AD, Dec'72

"Earth is a cosmic low pressure center, drinking in the radiation from the cosmic 'high pressure' Sun and other stars--- someday itself to become a star. All this recycling of energy, packaged as matter and re-distributed as radiation, is done on such a grand scale in the Universe that it is able to eternally conserve and meet all complex evolutionary transformation requirements in an infinitely competent manner--- forever.

"I have introduced this big-scheme thinking because it was in just such terms that I found my 1927 resolution forcing me to think--- in order to be truly omniconsiderate. I had always to think about the fact that the Earth is a tiny planet where energy is supposed to be stored and saved, and that we must learn to operate it successfully for all humanity to come and do so within our natural cosmic energy income. This made it clear that good design on behalf of our fellow humans and all their generations to come must be considerate of the fact that Earth is a place where energy is being sent primarily for storage, wherefore we are only cosmically, which is realistically, entitled to use energy out of our energy income in what must be very meager amounts, which must be very efficiently"

- Cite RBF in Michael Ben-Eli Interview, AD, Dec'72

"used in order not to frustrate what evolution is trying to do. To make the Earth a place where energy is being successfully stored we must stop burning those fossil

fuels. It's all right to use a little of it as a selfstarter to link in with the main engines of Universe. We use storage batteries to power our automobile self-starters with which in turn we get our main engines going which in turn regenerate and we Wfill our batteries.

"Demonstrating the Boltzmann principle. the main engines of our Universe are celestially and eternally pulsed between the gravitational concentration of energy and the radiational exporting of the stars. Physics' gravitational constant is greater than the radiational constant by a very small percentage. The eternal integrity of the Universe seems vested in the fractional supremacy of cosmic coherence over its disintegrative proclivities.

"Now these are the kind of comprehensive principles and patterns I found, in 1927, that the little individual could be concerned with--- in contrast to the Mayor of New Ton\$ for"

- Cite RBF to Michael Ben-Eli, interviewed in AD, Dec'72

"instance. who is forced to preoccupation with this year's budget and is not allowed by circumstances to think about events and problems in an inclusive way to really see the problems, whatever their minimum time of solution may be in cosmic reality. And I find mayors, governors, prime ministers, and dictators all preoccupied in the utterly inadequate myopia of yesterday. Most of our society is thus myopically preoccupied.

"When in 1927 I began to consider what the little Individual could do on behalf of his fellow man that governments and corporations could not do, it became evident that the individual was the only one that could deliberately find the time to think in a cosmically adequate man-

ner. Each human has his lifetime to invest. If he commits it to operations in cosmic integrities he will find himself participating in nature's own VDHI formulations and will realize theflH potentials of her various freedoms and choices, to be employed to the advantage of all human beings to come, in order that humans may fulfill their cosmic functioning on board of our planet. That important function is to use our minds here locally on board our planet, and to heed only all the principles"

- Cite RBF in Michael Ben-Eli interview, AD, Dec'72

"we discover only in total cosmic context, as does the Universe---else, countering the Universe, we be dismayingly frustrated.

"All stars radiate energy in a random manner. Randomness begets increasing disorder which is self-expansive. Boltzmann's law and the principles of nonreflective complementarity both require a cosmic countering of the expansive disorder by an increasing orderliness of local cosmic concentrations of energy. We find energy being received on our planet and being beautifully refracted by the atmosphere in orderly frequencies of red, orange, yellow, green, blue, and violet. Next, the Sun-exported radiation is refracted by the water and impounded as orderly heat, and the vegetation impounds the Sun radiatgion by exquisitely orderly photosynthesis and produces beautiful orderly molecular structures, thus converting very random, cloud-interrupted radiation into orderly molecular growths as little seeds, transforming into trees, lambs, and a myriad of other highly regular organic species.

"I call this proliferating orderliness 'syntropy' in contradistinction to 'entropy' (the giving off ofl energy in multi-"

- Cite RBF in Michael Ben-Eli Interview, AD, Dec'72

"plying disorder). All the biological species are aynropic in uniquely discrete ways. The worm does its task and the butterfly its--- all as beautiful intercontributory functions* The vegetation gives of gases which keep the mammals going and the mammals in turn give off other gases vital to the vegetation, All the terrestrial entropy-syntropy displays a fantastic design reciprocity. And amongst all of that terrestrial functioning there is nothing so capable of discovering and producing order as the human mind."

/”See Man as Local Problem Solver (1) (2)_7

- Cite RBF in Michael Ben-Eli interview, AD, Bee'72

PoltEpann \$Ysvgn«

"This Boltzmann's import-export-import-export; entropy-syntropy-entropy-syntropy, cosmically complementary, human-heartlike, eternally, pulsative, evolutionary regeneration system, also locally manifests itself in the terrestrial biosphere as the ever alternatively, orani-interpulsing, barometric highs and lows of the weather."

- Cite RBF marginalis on SYNERGETICS galley at Sec. 441.05, 4 Nov'73

See Importings & Exportings Tidal

See Cosmic Discontuity & Local Continuity, 15 Jan*7A

Ecology Sequence, (A)

Life £ Death, (1H2)

Octahedron as Conservation A Annihilation Model,

23 Kay` 75

Octahedron as Photosynthesis Model,(C)

Quantum Mechanics: Minimum Geometrical Fourness, (2)

Bomb;

See Atonic Bomb Educational Bombshell

KBF USFIMITIUIIS

Banding Hierarchical

**"The behavioral hierarchy of bondlngo la Integrated four-dlnenolonally
with the aynerglee of □aaa-Interattractlou and precession."**

- Cite RBF rewrite of SIHEHGETiCb galley at Sec. 931,5', 19 Oec'73

TEXT CITATIONS

Bonds: Bonding;

400.53-400.54

422.03

430.02

602.03

620.09

646.00; 646.01>646.04

905.31-905.49

931.00; 931.10-933.07

1012.15

1024.20

1054.20

1054.30-1054.32

S1C07.16

Fig. 1054.40

s1044.09

1054.50-1054.58

31052.32

1060.01-1060.03

si 053.801-

1061.11-1061.12

1053.813

Bonds: Bpllilafi,²

See Chemical Bonds

Congruence

Degrees of Freedom A Bonding Gravity A Bonding

Interbonding: Interbondability: Omnicongruence

Omniphase-bond-integration Inter-triple-bonded Self-congruence

Packing Unbonding-rebonding Valence: Valent

See Cartilage ve. Bone

Bonus

See Two: Bonus Two

Book:

"If baby Tim were never again to be curious regarding the object designated by the sound book beyond tearing its nice- to-tear pages and dropping them from the hammock to the grass in primary, untutored, flutter-flutter-plop experiments in tensile strength, gravity, sound, and air-resistance effects, he would never know that the audible word-symbol book designates but an indirect means or an instrument to a certain vital objective, namely, the communication of ideas by its author to other minds in a referential form more permanent than if they were to be just orally expressed; a method of broadcast beyond the power of human speech. It would be almost preposterous (though provocative of deep consideration) for Mrs. Ilirphy to suggest to her child that h'ewton's 'Optics' and 'Bringing Up Father' are one and the same article, just book."

- Cite MWn CiUL.S To THE WuK, p.11, 1938

TLX? CITATION

Book * Tool:

CuSLIC FISHING, p.26

RBF DEFINITIONS

Book;

See Bibliography Publishing Writing

See Design, 1936

Energy Event. 1960

Questions: Answering Questions, Sep'73 Synergetics, 12 May*77

Boole: George Boole; {1815-1864)

"Boole gave scientists a powerful tool for attacking problems when the obvious approaches refused to yield informative results. Boole employed reductio ad absurdum He exhausted all the impossibles and thereby isolated a 'very probable' answer. Charles Fort, failing to gain the publisher's--- and thereby society's--- consideration of his positive theories left the world with a Boolean-like confrontation of illogical events. Charles Fort as a man of true vision purposefully inverted the equations. By getting the publishers to publish the absurd he proved his point that the publishers published only the absurd."

- Cite RBF "Charles Fort Introduction." 1970

Boole: George:

See Boolean Algebra Reductio ad Absurdum

RBF DEFINITIONS

boolean Algebra;

"Boolean Algebra is reductio ad absurdum."

• Cite RBF to EJA Beverly Hotel, New York U >arch 1971

Boolean Algebra;

"There Is something called Boolean Algebra in which you set about to do absurd things--- very uneconomical--- and you take all the experiences and separate out all the most uneconomical and you might inadvertently find something economical

- Cite OREGON Lecture ;/2 - p. 70, 2 Jul*62

Boomerang:

"The boomerang is only a tracer device to demonstrate... refractions in all directions."

- Citation *k* context at Wind Stress t Houses. (10), 1946

See Fourth Dimension: Borrowing from Tomorrow's Clock Lending &-Borrowing

See Shunting, 5 Nov*73

Electron, 22 Jun'72

See Domains of Volumes, 20 Dec*7U 7 Nov*73

Bottle:

See Uncorked Bottle

See Design Revolution: Pulling the Bottom Up Sequence

See Musical Chairs, 23 Aug*70 Revolution, Aug*64

RBF DEFINITIONS

Bounce:

"...Looking at the ripples, we see that they are locally initiated... energy event inputs. This is why tensegrity and pneumatic balls bounce. Contracting as they contact, their equally violent expansion impels them away from the---

relative to them— inert body of contact."

- Citation and context at Tensegrity Sphere. 19 Dec*73

rtdF DaFIKITIUNS

Bounce:

"As a rubber ball draws on its skin as it resists punching in and gains reaction and spring back, causing bounce."

- Cite I&I, DOMJ.3, p. 169.

Sea Gravity (g)

RBF DEFINITIONS

MHB Pgwnctt PftttarM. of \mathbb{R}^n =

"Energy tends by geodesical economy and angular law to be bounce-confined by the tetrahedron."

"The various bounce patterns prior to exit induce time-differentiated lags in the rate of energy release from one tetrahedron into the other tetrahedron."

"Therefore, all triangles and tetrahedra "leak" energy, but when doing so between two similar corresponding vertexes-interconnected tetrahedra, the leaks from one become the filling of the other."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 921.11, 19 Dec'73
+921 .U+.15

See Holding Patterns of Energy Tetrahedron; Leak in the Corners Vertexial Connections

See Energy, 19 Dec*73

Event, 8 Mar'73

Geodesic Line, 20 Dec'73

Great Circle, 8 Mar'73

Harmonics, (2)(3)

Octahedron: Eip.hib-octahedra, (3)(4)

See Tennis Ball Hits the Big Earth

See tphere, Apr¹49

Cloud Chamber, Nov*71

ggwry fondlUMH

"...Dynamically defined Earth triangulation is not a static grid because the lines do not go through the same point at the same time; lines--- which are always action trajectories--- never do. All we have la patterning integrity of critical proximities. There is always a nonviolated intervening boundary condition. This is all that nature ever has."

- Citation and context at Three-way Great Circling: Three-way Grid.
26 Sep*73

See Domain, 11 Feb'73

Three-way Great-circling: Three-way Grid, 17 Feb'72

(1)

See Self-bounding

Uniform Boundary Scale Measure • Boundary Nucleus vs. Boundaries

See Circle, May'70

Mensuration, Aug'73

Baurnwslt:

See Marx, Karl, 7 Aug*70

Bowl:

See Vessel

Bowatrine:

See Future: Man Backs into His Future. 2 Mar'68 Hiatrocial Event Cognition, 2 Mar'68

Bow Tic:

"You cannot have foldability without the bow tie because there is a minimum six--- inherently."

- Cite RBF on telephone to EJA. from Philadelphia, 25 Nov * 73

RBF DEFINITIUNS

Sow Tie:

"Ab we play our 'bow tie¹ strategy in synergetics, we open our dividers and weld them open so that we only have one module to deal with. That module does not represent vacant space. It is a vector of discrete length: the product of its mass times the velocity of

its force,

"Automatically, the bow tie is a plane, but they did not so recognize it."

- Cite RBF SYNERGETICS draft Modelability pp. 14/15, Sept. 1971.

(Deleted by RBF as not to be introduced at that place.)

Bow Ties:

"The sum of the areas of the four great circle discs elegantly equals the surfacearea of the sphere they define. The area of one circle is πr^2 . The area of the surface of a sphere is $4 \pi r^2$. The four folded great circle planes all go through the exact center of the sphere and contain no volume at all. The sphere contains the most volume with the least surface enclosure of any form. Here we witness the same surface with no volume at WBMHHb which qualifies the vector equilibrium as the most economic nuclear 'nothingness' whose coordinate conceptual-ity rationally accommodates all radiational and gravitational interper-turbational transformation accounting."

- Cite SYNERGETICS draft Sec. 455.02, 6 Oct*72

Bow Ties:

"Now we come to a very interesting discovery and that is that we can take a disc of paper at 360 degrees and we can do the trigonometry of the 31 great circles and the 25 great circles, the way they interfere with one another, and we will find that they are all omnitriangulated and we find what the spherical arcs are between them. HeifipSer that spherical arc always subtends a central angle. /we know what the central angles are and so therefore we can lay this out and we find that it is possible to take whole triangles and fold them in such a way that they HMM form sort of bow knot things-- they are folded and make kind of conic things. The cones come together and fasten edge-to-edge with no duplication. And they form the same great circles. This is an important phenomenon because it is a basic characteristic of wave phenomena that really acts like a propeller blade. That is, all waves always come back upon themselves. We have then a perfect wave control by dealing in 360 degrees--- and it comes back on itself, yet we have precessional interferences with itself where it makes itself into little local bow ties--- actually folded up like a great circle."

_____ • Cite Oregon Lecture #7., p. 268. 11 Jul*62

- SFO 55.01 - .oil

P?w readability of Great Circles:

"This may be a pure accident but I could say something to you now categorically that is really very fascinating, that is, I found that you could fold and make all the 25 and 31 great circles. There are no other circles thought that I know how to fold and make any other kind of great circle patterns on spheres. They and they alone seem to be foldable into these conditions. This seems to be a very strange kind of control because if they did they all relate, they are the ways of the grand central station and all the shortest, most economical railroad tracks between all the points in Universe--- flying either concave or convex."

- Cite Oregon Lecture /7, p. 271. 11 Jul*62

rets

BQW Ties: Genesis of Bow Tie:

"First move: a quasi-sphere as the vectorial radius of construction. Second move: to establish the center. Third move: a surface circle. The radius is uniform and the lesser circle is uniform. The dividers are welded at a fixed angle. . . From the triangle to the tetrahedron, the dividers go to direct opposites to make two tetrahedra with a common vertex at the center. Two tetrahedra have six internal faces - Hexagon » Genesis of the Bow Tie - Genesis of modelability - vector equilibrium. Only the dividers are used. You start with two events any distance apart: Only one module with no subdivisions. Ergo, timeless, Ergo, eternal. Ergo, no frequency. Playing the game in a timeless manner. You have to have division of the line to have frequency, ergo to have time."

- Cite RBF to EJA, Beverly Hotels N.Y., 12 Sep (71,

PQM UM: Groat Circles foldable into Bow Ties:

See Foldability of Great Circles Symmetry: Seven Axes Of Holding Patterns

Bow Uc Modal a •'

Sea Ball at the Center Model

Diecontinuoue Wave Pattern of Indigo

Tetrahedral Octave Phase Model

X Configuration with One Ball at the Center Wave Quanta & Indig Bow Ties Indig Bow Tie Model

B.OW Tit Swbol:

See Equal Sign

Equation Symbol

Parallel: Quaei-parallel Lines Teleology: Bow Tie Symbol Indig Bow Tie Model

See GenesiB of Modelability □ Vector Equilibrium Teleologic Quanta Series

See Modelability. 12 Sep'71

Wave, 11 Jul^f62

Zero Volume Tetrahedron, 10 Dec'75

.Sow ^wavaa-

See Ship's Bow Waves

Bails, Rytsrt: (1627-1691) Snc.Uatl «n<» Physicist:

TisXT CITATIONS Bovle. Robert: Intuition, p.18, May '72

Brahe: Tycho:

Intuition, p.23, May '73 + p.25

Brahe, Tvcho: {1546-1601)

See Blind Man's Bluff, 1 Oct'71

Brahmin:

See Penance: Penitent, 22 Apr`71

See Tapestry

Weaving

Variable Strands Braiding

Brain:

"Many creatures have brains. Brains MB always and only coordinatingly apprehend, store, and recall, only the special-case input information provided by humans* senses: smelling, tasting, touching, hearing, seeing, and possibly an ultra-high-frequency electromagnetic wave tune-in-ability. Brains of all the brain-equipped creatures always and only apprehend, memory-bank, and reconsider the special case information sense-harvested from their succession of special case experiences."

- Citation A. context at Human Mind & Physical Evolution. (4)(5)

> Jun*75

Brain:

"Brain would like to have everything begin and end.... All Inputs to the brain are finite."

- Citation 4. context at Generalisation 8c Special Cane, 20 Jan'75

Brain:

"...The conceptual geometry picturing and memory storing of each individual's evolutionary accumulation of special-case experience happenings, which human inventories are accumulatively stored isotropic-vector-matrix-wise in the brain and are conceptually retrievable by brain..." ``

- Citation and context at Field: IVM Fields of Thought or Physical Articulation, "Nov*72

Brain:

"The phenomenon lag is simply due to the limited mechanism of the brain; we have to wait for the after-image to- realise."

- Citation and context at Eternal Instantaneity (1), 22 Jun»72

Brain;

"The human brain is a physical mechanism for storing, retrieving and re-attaching again, each special case experience. The experience is often a packaged concept. Such packages consist of complexly interrelated and not as-yet differentially analyzed phenomena which, as initially unit cognitions, are potentially re-experienciable. A 'rose' for instance, grows, has thorns, blossoms, and fragrance, but often is stored in the brain only under the single word--- 'rose.'

- Cite SYNERGETICS draft. Chitrani, p. 3, from Nehru Speech, as rewritten by RBF J Jun'72

Brain:

"Brain always and only

Isolates, tunes in, documents, Stores and retrieves

Special case concepts."

"Brains apprehend and register Store and retrieve The sensorial information Regarding each special-case experience, . . . «

"Once discovered by mind

The concepts of the generalised principles Become additional special-case experiences, And are stored in the brain bank

And are retrievable thereafter by the brain.

But brains and their externalized

Detachedly operating descendants—

The electronic computers—

Can only search out and program

The already experienced concepts. . . . "

Brain;

"Whether our experience episodes MB Are voluntary or involuntary, Passive or active, Subjective or objective, Our brains always and only Isolate, tune-in, Modulate and document, Store, retrieve and compare informedly, Or speculatively formulate, In special-case increments of unique concepts.

KBF JFIUTIUUS

Brain:

"Brain is always and only dealing with special case experiences. It's always putting down a way of memorizing and retrieving for you the special case experiences."

international Meditation Seminar, 22 July «71, p. 11

- Cite ilBF at Students

U. i-lass., Amherst,

Brain;

"Our human brains consist of quadrillions of atoms, all operating in superb coordination--- in none of which activity have we any conscious participation."

- th Ufa Hi*
- Citation k context at Automation. Dec'69

Brain;

"The concept of life Is unique to the mind. Brain apprehends Only the physical.

Brain does not differentiate life and death."

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan»69

Brain;

"Brain which atones the memories and all the special case experiences does find" relationships "any more than a

A

library in itself can find or does find the interrelationships of the data which it houses."

(Adapted: 'relationship'
made plural.)

» Citation A context at RlatlQDfhlB.Ami Tall (1), Jun'66

UHivtrtSE - 1W0 to. 31 5.61 \

Tr.IT CITATIONS

BraJLn^ta Alara.Clocka and Chromosome Ticker Tape Instructions:

Music of the New Life, U or 0, pp, 24-32

Prevailing Conditions in the Arts, U or 0, pp. 107-108

[These citations are to UTOPIA OR OBLIVION]

Brain's Automatica YB. Mind*a Intellectlong:

*..The mind's intellections--- in contradistinction to the brain's
automatics--- apparently are humanity's last and highest order of
survival recourse."

- Cite BRAIN &. MIND, p.flO, second verse, May'72

(t)

See Awareness Processing Facility Memory Bank Brain's TV Studio

Memory Album of Patternings

B^raln Panfr! grain* g Neuron Bank:

(2)

See Furniture of Remembered Experiences. May*71 Universe: All the
Known. 13 May*73 Unknowable. 8 Mar*73 Unknown: A Priori Un-
known, 13 May'73 Life, 25 Mar*71

Brain Control:

See Intuition: Hot Line Of, Jan'72

See Education: Evolutionary Touchdowns, May*65 Planetary Democracy, (5)(6)

Brain, an Product of a Billion-nltin tour* ot Evolution;

See Computer, (1) Feedback Comprehensivity: Computers ts. Humans

13 Aug'64

Brain May B_g Lacking Certain Gears:

Sea Diet, 11 Feb'73

BjaMJaos

See Intuition, 27 May'72; 22 Jun'72

Praia sa Mbrary:

*Exclusively energetic brain, which stores the sensorial input data of all the special-case experiences, cannot find the synergetic interrelationships existing only between and never in any of the special-case systems considered only separately, any more than a library building in itself can find the unique interrelationships existing between the separate data that it houses."

- Cite SYNERGETICS 2nd. Ed. draft Sec. 325.08, 15 Nov'74

Er*In aa Library:

See Brain, Jun'66

I Brain an4

"... Human inventories are a c cumulating]./ stored isotropic-vector matrix-wise in the brain and are conceptually retrievable by brain and are both subconsciously and consciously recohsidered reflexively or by reflex-shunning mind."

- Citation and context at Figld: IVM Fields of Thought or Physical Articulation, 5u Nov'72

KBF UWJMTIOKS

SMI "rain and Mind:

(1)

"God gave humans a faculty

Beyond that of their and other creatures' Magnificent physical brains--- And that unique faculty

Is the metaphysically operative mind. • • •

"hind alone can and does discover heretofore unknown Integral pattern concepts And generalized principles, Apparently holding true Throughout whole fields of experience. And once discovered by mind

The concepts of the generalized principles

Become additional special-case experiences, And are stored in the brain bank And are retrievable thereafter by the brain. But brains and their externalized Detachedly operating descendents--- The electronic computers--- Can only search out and program The already experienced concepts, And mind alone can recognize and capture

-Cite IhTULTIub, p.15, toy ` 72

RBF DtFINITIOhb

HflB Brain and Mind:

(2)

"The unknown and unexpectedly existent, Ergo,
unsearchable, unwatched-for--- Generalized
principles.

If you do not know
The behaviors exist,
You cannot be
On watch for them.

"Weightless, perceptive, prescient mind Alone
enabled humanity

Also to conceive of new, original

And objective ways to employ

The (only subjectively acquired) concepts Of
generalized principles, Such for instance as
leverage.

Which empowered men

To conceive of practical ways

To both elevate and move

Objects manifold their own weights, Or that of
their direct muscles' Lifting, pushing and pulling
abilities.^{1'}

- Cite IN9VI0ION, pp.15-16, Nay '72

Brain and hind:

(3)

"Or mind enables

A co-operative succession of humans

Both to discover and objectively employ
 A complex family
 Of generalized principles
 Brought from
 The weightless, timeless,
 Metaphysical integrity and fidelity
 Of absolutely orderly
 Eternal Universe;
 Brought into
 Time and energy synchronized consciousness
 Of the physical evolution scenario;
 Brought by
 A plurality of individually
 And remotely operating—
 But interregeneratively—
 Inspiring and educating
 Exquisitely prescient minds.”
 - Site INTUITION, p.17, May '72
Bra*_n and Mind-

"Brain is physical--- weighable; thought la metaphysical weightless.
 l<iany creatures have brains, Man alone has mind. Parrots cannot do
 algebra; only mind can abstract.

Brains are physical devices for storing and retrieving special case ex-
 perience data. Mind alone can discover and employ the generalized
 scientific priniples holding true in every special case experience."

- Cite RBF Introduction to Gene Youngblood's EXPANDED CINEMA.
 Pp. 20-21. Oct'70

i Brain & Mind:

"Sensoriality is a corporeal external phenomena /sic/ --- reportedly relayed inwardly to the brain and therein imaginatively scanned by the mind which conceptualized independently in generalized formulations such as the conception of a nuclear grouping around a nucleus, quite independently of size. Size and intensity are sensorial comparing functions of the special case experiences by brain and not by mind. Mind is concerned only with principles that hold true independently of size yet govern the relative size relationships."

- Cite NEHRU SPEECH, p. 12, 13 Nov *69

BMi Brain and Mind:

'The difference between mind and brain is that brain deals only with memorized, subjective, special-case experiences and objective experiments, while mind extracts and employs the generalized principles and integrates and interrelates their effective employment. Brain deals exclusively with the physical, and mind exclusively with the metaphysical.'

- RBF quote from "Buckminster Fuller header," r.d. Feller, from Review in Times Literary Supplement. 19 Feb*70

Brain and Mind;

'The concept of life is unique to the mind.

Brain apprehends

Only the physical.

Brain does not differentiate life and death."

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan'69

Brain and Mind:

"The brain differentiates; the mind integrates."

- CITE UNESCO TIFLIS » 1968, p. 6

MB ^{Brain} and Mind:

"The difference between mind and brain is the ability to generalize."

-Cite MERGERS 4. ACQUISITIONS

Spring 196b, Vol.1., No.J., p. 46

Brain and Mind;

"Brain" performs a "data storage" function;

"Mind" performs a "pattern seeking function,"

{Adapted.)

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE , May'67

RBF DEFINITIONS

OH Brain and Mind:

"Man's brain and mind are to concentrate on the function of integration, and leave the functions of differentiation to the machine."

- Cite MERGERS & ACQUISITIONS Spring 196b, Vol 1., No. 3., p. 45

MHB Brain and Mind;

"The difference between mind and brain is that brain deals only with memorised, subjective, specialcase experiences and objective experiments, while mind extracts and employs the generalized principles and interrelates their effective employment."

- Cite OPERATING MANUAL, p.94 of 1960

Brain Distinction Between:

(1)

See Dog Has Brains But Not Mind Skinner, B.F. Generalization & Special Case Conceptual vs. Quantitative Concept vs. Information Apprehending & Comprehending Apprehension + Comprehension • Awareness

Brain & Mind: Distinction Between:

(2A)

See Communications Hierarchy, (4) Dead Animal, 28 Jan'69 Design,
 May* 67 Eternal, 22 Jun'75 Eternal Designing Capability, (1)(2) Field:
 IVM Fields, of Thought 30 Nov'72* Generalisation Sequence, (1)-(4)
 Hunan Tolerance Limits, (4) Intellect: Equation Of, (1) Intellection,
 Kay'72 Knowledge, Pay'72 Life i Death, 28 Jan'69 Plan as a Function
 of Universe, (C) (D) Metaphysical & Physical, 1967 Piano Top. 1969
 Picture, 1938 Side Effects, 10 Dec'73 Size, 13 Nov'69** Special-case
 Experience 6 Nov'73 Relationship Analysis, (1)(2)

See Tension, (3)(4)

Universe: All the Known, 15 Jan'74
 Creation, 29 far*77

Life is Rot Physical, (1)

Hunan Beings 4 Complex Universe, (1)12)

Jill, 20 Apr'78; (f)(2)

Brain-to-mind "Phyaical-to-wetaphYBlGal;

See Process Relationships, 28 Jan'69

brain-reflossing *

See Intuition, 22 Jun'72

Brain-aorting:

See Thinking, 9 Sep*75 10 Sep*75

Brain*a TV Stwdlg?

"We may insist that we see each other out in the field. But all vision actually
 operates inside the brain in organic, neuron-transistored, TV sets."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 801.21, 22 Nov'73

"...I am convinced of the weightlessness of all metaphysics, which weigh&essness
 in turn implies immortality. Because the human's tactile sense has been operative
 months before birth as the only communication means between the pregnant mother
 and the live child she is bearing, the tactile sense becomes the comparative base

for all the post-natally and successively acquired sensibilities. After birth, first the olfactoral sense comes into play, as the child breathes in its own oxygen and sucks in its own nutriment. Considerably later the sound tuning is added to the apprehending-comprehending teleologic conversion of information from subjective awareness to objective use in the ever developing capability to adjust and cope with environmental events. Lastly, the optical tuning and scanning capability comes into play in the human imaginations 'TV Studio.' Because primitive sensing is tactile, man measures his distances horizontally in feet, vertically in hands. Because light's speed of 700 million miles per hour is too fast for man to sense tactilely, he has misinterpreted the visual received information as being instantaneous, thus he mistakenly thinks he 'sees' objects and events occurring outside his physical organism, whereas radiation has bounced off and relayed the information through the human's optical"

- Cite Ltr. to Jose Arguelles, 6 Jun'69

Brain's TV Studio; (2)

"system through to the brain's TV studio where the information is scanned on one TV set to be tactically compared with the documentary recall playbacks in another TV set— almost instantly, followed by the imagination's authoring of a proposed action scenario involving safe and advantageous teleologic employment of previous experience or information to cope with the evolving challenges.

"As a consequence of humans* mistaken assumption of instantaneity, man not only thinks he sees objects outside himself, but also identifies the external objects by their tactile surfaces. Thus men tend to 'think' of one another in the form of their tactile modeling. Men do not think of one another, as do dogs, in the forms of their smellable stature, or in the terms of their hearable dimension. Nonetheless, when we hear the word 'atom*' we are hearing Democritus, for it was he who evolved the sound word 'atom' to identify his unique metaphysical conclusions in regard to the nature of the physical world. Democritus is as large and as persistent in time dimension as may the word 'atom*' persist in man's communicable thought. Because concept 'atom' provides our cognition of metaphysically immortal Democritus, the more we"

- Cite RBF Ltr. to Jose Arguelles, 6 Jun'69

"think of it the more astonishing it is that we identify man only as the clothes-bedecked chemistry complex through which metaphysical subconsciousness communicates to consciousness of self or others. The error of our spontaneous behavior and cognition is equivalent to our identifying those with whom we communicate via the telephone as being the telephone itself."

- Cite RBF Ltr. to Jodo Arguelles, 6 Jun'69

Praino TV Stujlp:

"Generalized systematic conceptuality's omnidirectional relationships are only angularly configured and are independent of size or Ml dimension. No man has ever 'seen' outside himself. His brain is a multifrequency (four sensory ranges) scanning TV integrator continually operating in coordination with a multitude of memory, kinescope-taped, TV scanners. The whole array of new and memory TV's is frequently monitored by an angular and-frequency modulated pattern commonality scoring and score-predicting conceptual coordination capability. The TV coordinating conceptual cility includes a score-guessing and score-guess testing faculty, as well as a strategic-tests-contriving- pattern considerator, all of which conceptual patterning proclivities are self-started and regenerated by synergetical intellection."

- Cite OkNIDIfteCTIUNAL HALO, pp.135-136, I960

See Sight: No Man Has Ever Seen Outside of Himself

See Television, 5 Jul'62

(1)

See Intelligence Machines

No Mechanical Mind

Memory Bank

Mind

Pattern Processing Machines

Telephotograph to the Brain

See Autonaton, Dec'69*

Beautiful, Aug*64

Computer, Jun'69

Eternal Instantaneity, (1)*

Field: IVM Field of Thought, 30 Nov'72* Generalized Principle, (2J Intensity. 13 Nov'69

Reading, 29 May*72

Relationship Analysis, (1)*

Sleep, 11 Feb'73 Thinking, (A); i960 Identity, 24 Jan*75 Spherical Triangle, 23 Jan*75 Model vs. Form, 8 Apr'75 Womb Population, (1)(2) Human Mind & Physical Evolution, (4)(5)* Limit Speed, 11 Sep*75 In, Out & Around, Nov*71 Convergent vs. Parallel Perception. 13 Nov*75 Frequency Islands of Perception, 1j Nov*75 Recall Set, 28 Apr'77

See Brain's Alarm Clocks and Chromosome Ticker-tape Instructions

Brain's Automatics ya. Mind's Intellections

Brain Bank: Brain's Neuron Bank

Brain Control

Brain: Electrical Exploration of Brain Functioning Brain as Product of Billion Years of Evolution Brain May Be Lacking Certain Gears

Brain Lags

Brain & Mind

Brain to Mind - Physical to Metaphysical

Brain Reflexing

Brain's TV Studio

Brain as Library

Brain-sort!ng

See No Breadth

(2}

See Tine-81ie, 30 Oct'72

Break: "... There eventually comes a limit of the orderly rearrangeability of the atomic and molecular structuring beyond which it will no longer flex and at which point it breaks, i.e., disconnects because exceeding its critical-proximity interattraction limits."

- Cite SYNERGETICS text at Sec. 1024.19, rewrite *of* 27 Dec'73
(1)

See Buckle Disconnect Discontinuity Skybreak Opening Bubble Bursting

See Angle, 7 Nov'75
KBF DEFINITIONS

W breakwater works precessionally. The energy has to go somewhere and it goes at 90 degrees. It will be turned into a power machine.*

- Cite Tape #3, p. 11; RBF to W. Wolf, Phila., PA, 15 Jun*74
See Mother: Infant Nursing at Mother's Breasts
See Energy, 1960
Bmii: Breathing:

See Automation, Dec'69 Photosynthesis, (2)

See Crossbreeding
Genetics: Genetic Code
Inbreeding
Darwin: Evolution May Be Going the Other Way
HBF DEFINITIONS
Brick;

"... They had come to a concept of a solid Earth, solid brick, and brick on brick as a priori. . . ` `

• Cite Oregon Lecture #8, p. 279. 12 Jul'62
Bridge:

"To each of us environment means: everything that is not me. Environment is subdivisible into two parts, physical and metaphysical. The metaphysical environment consists of human thoughts, generalised principles, and customs. The Leonardo types seem to have avoided attempting to reform the metaphysical environment. They are documented only for their employment of the metaphysically generalised principles to reorganize the physical constituents of the scenery, apparently assuming intuitively that a more manfavoring rearrangement of the environment would be conducive to humanity's spontaneous self-realization of its higher potentials. Human travellers coming to a river find a bridge across it spontaneously use the bridge instead of 'hazarding themselves in the torrents.'"

- Cite LEONARDO TYPE, p.32, 13 Nov '69

ToXT CITATIONS

Bridge:

645.01

046.03

See Cosmic Bridge

Education: Knowing Where the Bridges Are Suspension Bridge

See Artifact#, (1): 15 Jun*74 Technology, (1)

See General System Theory Operations Research Operational Science

See Environmental Inventory. 28 Apr*77 Operational, 2 Jul'62; 12 Jul*62 Synergetic Hierarchy, (2) Universe, (1)

Bright: Brightacgg:

"That's what we mean when we say that people are 'bright,' that they have minimum lags,, minimum lags in comprehending. Bright people really see things in quite a different way than that of the long-lag people of Wall Street and Chase binhattan."

- Cite RBF to EJA, 3200 Idaho, Wash., DC,, 8 Apr'75

TEXT CITATIONS

Prttlah lalOB an Uneinkable Shina:

"Approaching the Benign Environment," p.41. • 1970

ExlUah Xalofl. na l/MlnkaUa Shies:

See Millay, Edna St. Vincent, (2) Navy Sequence, (3)(4) Navy: Theory
Of, 22 Dec `74 Sea Power, 23 Jan'75

British:

See Anglo-American

(1)

British:

See Culture, 27 Jan*77

(2)

Broadcast:

"An isotropic vector matrix can be only omnisymmetrically, radiantly,
and 'broadcastingly' generated, that is, propagated and radiantly re-
generated, from only one vector equilibrium origin, although it may be
tuned in, or frequency-received, at any point in Universe and thus re-
generate local congruence with any of its radiantly broadcast vector
structurings."

□ Cite RBF correction to SYNERGETICS galley at Sec. 426.01, Nov 2,
'73

Broadcast;

"When we broadcast energies

They are very greatly dissipated. Radiant energies can be concentrated, however By reflective beaming and lensing, As was candlelight in a lighthouse, Reflectors and lenses concentrated them. Hefelec-
tively beamed seaward, They were sometimes Visible for ten miles."

- Cite BRAIN & MIND, p.161 May *72

glMAgaatlutlv Ganaratad:

See leotropic Vector Matrix, 30 Nov'72

PrMdcflatlnr

See Industry as Broadcasting System of Truth to Individualism

Radio Programs: Invisible Operation of Thousands Of Radio Programs

Television: TV

Tunability

Incasting vs. Broadcasting

PmdcficUng;

(2)

Sea Valvability, 30 Nov'72

Precession &. Degrees of Freedom, (1)

Now House, (4)

Broadway Billboard:

See Billboard Model

Bronted Training Fame:

See Obnoxico, 1971

Brouwer's Thgprgn;

- Another very powerful mathematician was Brouwer. Hie theorem demonstrates that if a number of points on a plane are stirred around, it will be found after all the stirring that one of the points did not move relative to all the others. One point is always the center of the total

movement of all the points, but the mathematicians oversimplified the planar concept. In synergetics the plane has to be the surface of a system that not only has insideness and outsideness but also has an obverse and re-exterior. Therefore, in view of Brouwer, there must also always be another point on the opposite side of the system stirring that also does not move.

system has two opposed polar points two polar points identify the
 "Every fluidly bestirred that do not move. These system's neutral axis."
 - Cite BYKLKGaTICb, 2nd. Ed. at Sec. 1C07.28, 1 Jan'75
 Bfguwr'g Thegren:

"Brouwer'* theorem shows that when £ number of points are stirred randomly on a plane, it can be proved mathematically--- when the stirring is stopped--- that one of the points was always at the center of the total stirring, and was therefore never disturbed in respect to all the others. It is also demonstrable that any plane surface suitable for stirring things upon, must be part of a system that has an obverse surface polarly opposite to that used for the stirring; and the two produce poles in any bestirred complex system."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 703.12, 10 Nov»73
 KtiF D&FIkITIUNS

"Brouwer's mathematical theorem states that if any number of points on a plane are stirred around an x amount, on cessation of the stirring, one of the points may be shown to have been the center point of the stirring--- and never to have moved in relation to the others. In order to be 'stirred,' these points must have multidimensionality and the cluster of stirred points must have obverse and reverse sides. Therefore, the obverse-reverse sides must each have visible points that were the centers of the stirring and, short though the

distance between the obverse-reverse surface neutral center points, the short line between the obverse-reverse visible central points' obverse-reverse poles constitutes a neutral axis of the system of points and isolates two points for axial functioning in every point system swarm. Pauli's exclusion principle verifies that each of the stirred points in Brouwer's theorem and the point which did not move have their inherently separate counterpart points which discloses both the neutral axis formed by the two points that do not move and the obverse and reverse sets of moving points. Thus we discover that even a point's angular topological difference between its definiteness and its finiteness is 720° ."

- Cite 01-11 IdlKECTIOUAL HALO, p.148, 1960

Brouwer¹⁸ Theorem;

See Neutral Axis

See Axle of Spin, (2)

Coincidental Articulation Sequence, (1)-(4)

Synergetic Hierarchy, (2)

Topology: Synergetic and Eulerean, (3)

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Intuition, p.48 toy *72 530.07

yrownlan Mo«ea«nt:

See Noneinultaneoua. undated Relativity, i960

Brush and Chisel Artist.:

See Joyce, James, 1965

Bubbles:

"A bubble is only a spherical bubble by itself. The minute you get two bubbles together they develop a plane between them."

- Cite SYNERGETICS text at Sec. 536.44: RBF galley rewrite.

7 Nov*73

Bubbles: (1)

"Here is a structure that is a three-frequency of modular subdivision, they are six-frequency octahedra. We truncate its corners and we get six little squares and we get eight hexagons, and that is called the tetrakaidecahedron. a fourteen-faceted figure, and it is called Lord Kelvin's 'solid.' Lord Kelvin discovered that this was an all-space filler. There are three (regular) all-space fillers in geometry: the cube, the rhombic dodecahedron, and the tetrakaidecahedron. The volume of the tetrakaidecahedron is 96. It again is a nice even number, but it is a very complex frequency phenomenon. There are various coincidences of our geometry, our mathematical accounting, with that of the viruses and the algae and the radiolaria--- but then we get into all the living phenomena and all the living phenomena are characterised by life cells. And all life cells are little chambers. Life cells and bubbles have the same fundamental characteristic with one another. If you take a glass jar and put a little glycerin in with some soap and get them all homogenised . . .**

- Cite Oregon Lecture #6, p. 224. 10 Jul'62

Bubbles: (2)

"• • . Living phenomena are characterized by life cells and all life cells are little chambers. Life cells and bubbles have the same fundamental characteristic. A glass jar with a little glycerin in with some soap well homogenized makes bubbles which hold their shape very nicely. The top layer of bubbles when there is air above them are

round but where the bubbles are adjacent to one another and there is no free space or air around them, they will have flat membranes between the individual bubbles. The top layer tends to round like bubbles do but in between them their facets are stretched tensional membranes. A characteristic of all the bubbles and all the life cells is that while they are quite asymmetrical chambers, some facets are big and some are small and some are hexagons and strange polygons, they are all fourteen faceted. The fourteen faces correspond to the tetrafluoridecappedhedron or to the vector equilibrium. The vector equilibrium has six square faces and eight triangular faces, so $8 + 6 = 14$. A tetrahedron has four vertexes, four faces, and six edges, and $4 + 4 + 6 = 14$ they correspond to the fourteen facets

- Cite Oregon Lecture #6, pp.224-225, 10 Jul'62

Bubbles;

(3)

"of all the bubble and life cell; the reason is that they are a different kind of frequency tetrahedra which are truncatable,.. We then suddenly begin to see the coordination of our tetrahedroning of very high frequency nodular subdivision to all the life cell and all the bubbles."

- Cite Oregon Lecture #6, pp. 224-225, 10 Jul'62

Bubbles:

"Little exquisite bubble domes, too small for manoccupancy, are made by nature at possibly the highest mass production velocity anywhere manifest to man. Some are of split-second longevity. Some are of great longevity. Nature combines these minuscule domical structures in myriad varieties of complex structural arrangements occurring as both organic and inorganic compounds and as cellular agglomerates. Most of these complex domical structuring accomplishments by nature are realized at modular frequency magnitudes infra to man's sensorial tunability and apprehension."

- Cite I&I, DOMES, p. 146.

Bybbllf Bursting:

"Bubble bursting is not a mechanical breakage at all. As we know, liquids are bivalent, hinge-connected. . . the liquid bubble surface is stretched as one single layer of the octet truss, which single truss layer accommodates two layers of closest packed spheres in which the atoms appear in critical proximity.

"When the critical proximity of the atoms is severed, and the atoms separate into single spheres, we have the single-bonded, corner-tethered condition of gases with holes in between the atoms, ergo there is still gas, but there is no longer any membrane. In this condition the gas molecules equal what they call particles, separate energy packages too diffuse to form a structural membrane. Separate gas particles are thus mixed up and nontunable with other systems. Each particle behaves like the isolated tetrahedron that connects any two points in Universe across what they call space and what we call nontunable."

- Cite RBF to EJA from Pacific Palisades, CA ; 20 Jan'78

See Invisible Pneumatics, 27 Dec'73

Bubbles in the Wake of a Ship:

"I remember looking at the ship's wake which was all white. The wake is white because of different refractions of light, and that whiteness was refracted by bubbles. I said, 'How many bubbles am I looking at?*' I made some quick estimates. I tried to count the bubbles in a spoonful. I found I was getting into the multi-billions, into astronomical numbers.

"So then I said, 'Each one of these little bubbles is a sphere, and I have been taught that in order to design a sphere I have to employ π .' I had learned by mathematical logic that π is a transcendental irrational and can't be resolved. I said, 'To how many places does nature carry out π as she manufactures each bubble before deciding that because she cannot get a final answer she must make an arbitrary or artificial cut off and thus attempt to sneak out a fake or imperfect bubble.' I said, 'I don't think nature is using π .' Nature is too elegant to put up with such hidden tricks."

- Cite RBF marginalia in old Chap. 2, "Synergy," 1.12, 18 Mar'69

"If the XYZ-90 degree coordinate system were not the one employed by nature, then the awkward roughness of the XYZ's irrational constants would be understandable. This was made evident to me while I was in the Navy. Looking back at the wake of my ship one day in 1917 I became interested in its beautiful white path. I said to myself, 'That path is white because of the different refractions of light by the bubbles of water--- H_2O (not $H_{\pi}O$). The bubbles are beautiful little spheres, I wonder how many bubbles I am looking at stretching miles astern?'

"I began to make calculations of how many bubbles there were per cubic foot of water. I began to find that in calculating the ship's white wake I was dealing in quintillions to the fourth power or some such fantastically absurd number of bubbles. And nature was making these bubbles in sublimely swift ease!

"Any time one looks carefully at a bubble one is impressed with the beauty of its structure, its beautiful sphericity glinting with the colors of the spectrum. It is ephemeral---"

- Cite Conceptuality of Fundamental Structures (Kepes), p.71,196\$
Bubbles in the Wake of a Ship Sequence: (2)

"elegantly conceived, beautifully manufactured, and readily broken.

"Inasmuch as the kind of mathematics I had learned of in school required the use of the XYZ coordinate system and the necessity of employing pi in calculating the spheres, I wondered 'to how many decimal places does nature carry out pi before she decides that the computation can't be

concluded?' Next I wondered, 'to how many arbitrary decimal places does nature carry out the transcendental irrational before she decides to say it's a bad job and call it off?' If nature uses pi she has to do what we call fudging of her design which means improvising, compromisingly. I thought sympathetically of nature's having to make all those myriad frustrated decisions each time she makes a bubble. I didn't see how she managed to formulate the wake of every ship while managing the rest of the Universe if she had to make all those decisions. So I said to myself, 'I don't think nature uses pi. I think she has some other mathematical way of coordinating her undertakings.'

"It seemed preposterous to go on trying to force nature to"

- Cite Conceptuality of Fundamental Structures (Kepes) p.71, 1965

"explain herself through our awkward XYZ coordinate system, fictional of this 1917 event will have given you a close-up on what I am convinced must be the mental reorientation necessary to comprehension of the principles governing structures."

L Closest Packing of Spheres Sequence. 19657

- Cite Conceptuality of Fundamental Structure (Kepea), p.71, 1965

See Nature Has No Separate Departments

Bubbles in the Wake of a Ship:

(2)

See Thrahedron, 5 Jul*62

ftubblea Par Second in. the,-Wat-sra of Niagara Falla:

See Nature Has No Separate Departments, 1965

See Fourteen Monometric Bubble Skybreak Bubble Tetrakaidecahedron

ce Domain of a Point, 7 Nov'73

Domain & Quantum, (1}

Fourteen Axes of Truncated Tetrahedron. (2)

Hex-pent Sphere: Transformation into Geodesic

Spiral Tube, (1){2)

Privacy, 22 Apr'61

Trigonometric Limit: First 14 Primes, 14 Jan'74

Vector Equilibrium 3 Jan'75

Wave Pattern of a £tone Dropped in Liquid, (b)

Buckle:

"As a coapreaaion comba tenda to buckle, the buckling point becone a leverage fulcrum and the remainder of the coapreaaion member above acta as a lever are. ao that it become incroaaingly effective in accelerating the failure by cruahing ita firat buckled-in aide."

Buckle:

See Break

See Redundancy: Reduction Of, 22 Apr'71

Buddha: Christ: tdohamed t

(1)

"The moot difficult problem we have today is that we've gone from 90 percent illiterate to 90 percent literate.

"Humanity historically has thought of life as just a trial--- a question of how to survive, not how to live today. Go back to the pharaohs, even their lives were so bad that they thought it was a test---so they built pyramids for afterlife.

"Then there was the rich middle class---the Greeks and Romans. They built mausoleums. Suddenly along came Buddha...and 600 years later, Christ... Mohamed followed... and he said we can take care of everyone with our mosaups and temnles. There was so much technology by this time they thought, 'we can get everybody through the natural life and we can take care of the kings and nobles too.*

"We push buttons. We turn the wheel of the car to get it around the corner, but we don't know how it works. The problem is how to get everybody on Spaceship Earth to understand technology. We are still playing the game of the pharaoh...getting through life without stopping to try and understand it. de don't need a pharaoh to use a lever.

- Cite RBF to Karen Winner, Copley News Service, 9 Apr*77

Buddha: Christ: Mohamed:

(2)

"Children know how to take the lid off naturally. We should learn from children---from their comprehensive perspective of the Universe."

- Cite RBF interview with Karen Winner. Copley News Service as clipped from Baton Rouge, LA 'Advocate'; 9 Apr'7?

Buddha: Christ: Mohamed:

"Buddha, Christ, and Mohamed, respectively, lived only 75.60, and 42 billion heartbeats ago."

- Citation and context at Heartbeat Magnitude Sequence (2), 13 Mar *75
- Cite RBF marginalia at HEARTBEATS AND iLLiUMi, World, 13 Mar»73

correction made with EJA at Beverly Hotel, 15 Jul>73

Bgddhft: Christ: Mohamed

See Pyramid Technology, Uec'71

Religion, (1)

Hudnets:

See Politicians 4 Defense Budgets

Buggy Industry Could Never Invent Automobile:

See Doing What Needs to Be Done, (2) Energy Environment-harvesting Machines, 27 Jan*77

Building:

"In windmills the total frontal area le viiat counts. Just as that is what counts in designing buildings. We have a penetrating body in a penetrating medium. The bigger it is the more low pressure it builds up "

- Citation &. context at Windmill r 28 Jan'75

Building;

"A building can ba thought of aa a clock, a feedback circuitry where the pushes and pulls are locally regenerative. The critical spiral path of progressiva accomplishment flf leading to humans reaching the Moon and returning safely to Earth involves not a linear montha-and-years progression but an around-the-Sun-by-Earth orbiting and an around-the-Earth-byMoon orbiting progression, wherein we progressively establish one feedback circuitry system overlapping another, and another, and so on as the year goes round* With each year the chain of

omniinterrelated local circuitry feedback closures integrate synergetically to produce a spiral complex of Sun-Earth-Moon orbiting events which finally reaches out to the Moon and back; all of which is a complex dynamic structural operation ever expanding humanity's local Universe involvement.'

- Cite RBF holograph, second rewrite, 3200 Idaho, 10 Sep'74

Building:

"A building can be thought of as a clock, a feedback circuitry where the pushes and pulls are locally regenerative. The critical spiral paths of progressive accomplishments leading to humans' reaching the Moon and safely returning to Earth involves not a linear progression, but an around-the-Sun-by-Earth orbit progression when we progressively establish one feedback circuitry system and then another and another, as the year goes round and with each year the chain of omniinterrelated local circuitry closures produces a spiral of Earth-orbiting events which finally reaches out to the Moen."

Cite RBF Holograph, first rewrite, 3200 Idaho, 10 Sep'74

Building:

"A building can be thought of as a clock: you get it going until it reaches up to the Moon. . . a critical, spiral path of subcycle coordinated feedbacks: gears, levers."

- Cite RBF to EJA, 3200 Idaho, Wash., DC, 10 Sep'74

Building:

"A building is a circuit, a feedback system. When we go out to the Moon we have to plan to get back again. Man may think that he is being linear, but he is actually just increasing the radius of larger and larger solar orbits. Each year is a circuit. Each circuit is a year. Tears are not linear."

- Cite RBF to EJA, J200 Idaho, Wash., DC, 10 Sep'74

See No Building Blocks

Building Business: (1) .

"I don't want to dwell on the negatives. I feel that the answer to the question of how urban sprawl happened is that there is no social organisation. Though there are a great many studies and planners, planners have no authority and they find the plans for communities continually overridden by people with ingenious ways for making money. And we've seen orchard after orchard belonging to a fanner go out of farming because the real estate man came along and showed that he could make some money out of it. And so he gets an option on it and all kinds of federal help with which he can manipulate to get in the sewers, and so forth... not making a very large amount of money. It's entirely a matter of individual ingenuity and how to make money: that's why we have urban sprawl.

"I would like to talk a little on the positive side here. I've been thinking about and concerned with this problem since back in the early 20s---fully half a century---and I've been... In the building arts we have very great lags in the rate of realisation of inventions. In the electronic arts there is only a two-year lag between invention and industrial use. There's a five-year . lag in aeronautics. A ten-year lag in automobile building.

A 15-year lag in railroading. A 25-year lag in large buildings And a 50-year lag in individual homes."

- Cite RBF to "Town Meeting of the Air," Wash, DC; 10 Sep'75

Building business: (2)

**We had world War I. It became a world war because it involved not just the agricultural advantages of the different countries, but suddenly the realization that taking metals and tins from the Malay Straits and throwing it thinly onto steel sheets to make tin cans which would hermetically seal food, and food that used to rot and never reach mouths, could suddenly feed people around the world. An entirely new world resource was the metals that came into use. That's why it was called World War I, rather than the local fanning identities of individual nations,

"We have then in World War I the development of enormous production capability. After the war the production capability, the buildings, did not go away. And it was invested in two main ways. Producing automobiles, which the banks did not like because they did not like that kind of mortgage. But later they went into farm machinery and sold the farm machinery to the farmer on time payments; and the banks did like that because they took in not only chattel mortgages on the machinery but mortgages on the farms as well. In the bad year, 1926, the farmers could not pay their instalments on the machinery and gradually all the farms were taken in on foreclosed mortgages. This would be the whole basis of the great '29 crash." - Cite HUF to "Town Meeting of the Air," V/ash., DC: 10 Sep'75

Building Business: (3)

"When the United States New Deal came in and they found that the banks really did not have any money but they had a lot of mortgages... and we the people had to rehabilitate our economy, we then tried first to rehabilitate those mortgages. So we started---even with negative interest loans---to get people to put on a new roof, or to put a bathroom in the house, which they didn't have before, Any way, to Improve the value of those equities which the government was then underwriting.

"And the United States undertook to underwrite the inequities of the building arts when the priority was for weapons--- that's the whole building industry. Now the building industry in contradistinction to weaponry industry---there has to be a priority and every priority has its antipriority. Priority has always been for the weaponry industry on the assumption that there is not enough to go around for all and that would lead to war. The antipriority was always on the home front. And in contradistinction to the kind of structures we build to go into the skies---like a Boeing 747, fantastic kinds of structures, what goes into the building of homes has really been what was left over, what was not wanted for other kinds"

- Cite RBF to "Town Meeting of the Air," Wash., DC: 10 Sep*75

RHF D&FIKTIONS

" purposes. So the bigger and heavier and higher the walls up to the time of the Maginot line, the more secure people felt.

"So this has been---1*11 simply say to you---the building industry, what's called the building industry is approximately 5,000 years behind the aeronautical.

"You go to the Island of Crete, which I've done many times, and you find the old palace with the water running and the plumbing system. It's exactly the same system you have today. No improvement in 3400 years. No scientist has ever been engaged to look at the plumbing, to so what to do with all the beautiful valuable chemistry, the valuable energy that we're letting go back into pollution.

"Now that I have over 100,000 geodesic dome structures around the world, most of them delivered by air, I can tell you, I can give you 30 buildings for one against the best alternate engineering strategies known for that clear spanning. So that I know that we are being very wasteful in our buildings and we didn't have to meet the present engineering codes, but if we"

- Cite RBF to "Town Meeting of the Air," Wash., DC; 10 Sep*75
Building Business; (5)

"us® the aeronautical kinds of engineering we could give you JOO-to-1 clear span engineering capability. I know that humanity is going to stay on our planet. We are going very shortly to have to come to comprehensive disarmament. When we come to disarmament, the aeronautical and airspace technology and their productivity will be really released to be devoted to human problems. That became clear in the aircraft designing industry dealing with the top scientists as much as 10 years ago---we found it would be possible to build a whole city skyscraper horizontally in an aircraft plant under controlled conditions and not out under the rain and the wind and all that nonsense---it could be managed to be delivered horizontally by air, and then up-ended. It would be perfectly possible to deliver a whole city in a day. And that's what we're going to do... not repair the old mountains and caves."

"Our building business is 5,000 years behind. At the time of the New Deal the national debt was only \$32 billion, but we have run it up to \$800 billion with \$400 billion in interest; with the federal mortgages underwriting obsolete housing on which we can't even meet the debt service."

- Cite i<BF to "Town Meeting of the Air," Wash., DC; 10 Sep*75
Building Business:

"The building business... is the most ignorant and most prodigious of men's fumbling activities."

- Cite RBF in "The Listener," transcript by John Donat, 26 Sep*68
Building Industries <¹)

"At the time of the 1929 crash and following depression and at the beginning of the New Deal in 1933, the United States government took over the underwriting of the obsolete building industry. Cutting loose from the historical earned-savings purchasing capability, and instituting purchasing-capability based on future earnings of the people, The U.S. Government instituted 20-, 30- and 40-year mortgages that need, in effect, never be reduced so long as the periodically renegotiated obligations' interest was being paid.

"If the buildings were as efficient as airspace technology could render them, they would have paid for themselves in five years or better---as does all good machinery. What the government financed was continuation and multiplication of inefficiency, as manifest today---1976---in the fact that out of every 100 units of energy consumed in the U.S. only five units of effective life-supporting physical work is realised; that is, our 'system' has an overall techno- economic efficiency of only five percent.

"People can have incomes only through employment. Seventy percent of all the jobs in the U.S.A, are invented and" - Cite ACCOM. ODA TING HUMAN UNSET' LEI .NT, p.17; ?O Sep'76

PttWlnr. Indqavry: (2)

"produce no life support whatever. The last quarter century's vast transformation of cities all around the world to skyscraper clusters has produced space within which no life support is produced and only to accommodate job-making and money-making, 'le have all around the world the typewriters sleeping with the good plumbing and the people sleeping in the slums---fancy and otherwise. All the money-making drives toward omni-automation and complete unemployment. Politics keeps inventing the jobs by law.

"Forty-three years of post-1913 housing finance has shown that when the price of the median house goes above three times the median annual family income (wage) the median family cannot demonstrate creditable capability to purchase their homes. A general condition of such inability has now been reached.

"Since the median family's life expectancy is 70 years and since the age of the median family's earners is 35 years, they have only 35 years of life ahead but only 25 years before mandatory retirement, ergo, have no more life-expectancy years, ergo no more future earning years to hypothecate for home 'buying' on the installment plan which"

- Cite ACCOMMODATING HUI .AN UL.SETTLEi-li.NT, pp. 18-19; 20 Sep'76
Building. .Indvptry: (3)

"theoretically leads toward ultimate---but rarely realised--- •owning.' To keep on underwriting the inefficiencies of miniature castle building of the Building &. Real Estate enterprise system, their governments would now have to give the housing to the median class and 'forget about the lower half of humanity as unhousable.*

"When corporate managements unilaterally raise prices to pi in more profits for their particular stockholders (who will throw out the management if it does not do so} the now well-organised labor unions hit for equivalent wage increases (lest the labor leaders themselves lose their jobs).

"To own your own private home's physical prototype house prototype was the private castle of yesteryear's land barons, which it was economically feasible to build only because the building workers were paid little or nothing more than their daily grub, sleeping in servants' quarters or in huts on the master's land, receiving nothing to save toward buying their own homes.

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, p.18; 20 Sep '76
Building Industry: (5)

"Organized labor successfully established 'fair' building wages, that is, enough to provide mass-purchasing ability without which mass production could not have been undertaken and without which management could not hold its jobs.

"Because of the rocketing costs of TV time and other public relations organizations, politicians have become electable only by the money power either of unions or of business management; and since World War II's close, it has been left to the politicians to keep the mass-production economy going and growing---a task which politicians of all sides found could be best accomplished through \$50-100 billion-a-year 'defense' budgets, and having their military (or their satellite governments' military) establishments continually buy ever-advancing power, range, and accuracy of their armaments' hitting power in anticipation of the always politically logical assumption of the 'next' vastly more sophisticated war.

"John Paul Jones continually engaged battleship of the US revolutionary times cost less than \$100,000. A modern aircraft carrier costs some 30,000 times that amount, i.e.,"

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, p. 18; 20 Sep '76
Building Industry: (5)

"\$3 billion; and it becomes obsolete before being used for anything except a lethal 'thrill' in the world's political-balance-of-power poker game known for the moment as 'Detente.'

"The multiteraced waterfalls of wages to be paid and profits to be made in all the subcontracting ramifications of the original U.S. government's 'defense' commitments now of \$100 billion a year, then induce progressive resettlement of wageearners in various new lo-

calities which are exploited by real-estate who enormously inflate previous farm-land values by staking out lots and running water and sewer lines, a few paved streets and sidewalks, maintenance of which become the legal responsibility of the owners and their local governments and are funded by tax assessments, the anticipation of which is used to repay moneys borrowed by the local governments through issuance of bonds whose ultimate payment is guaranteed by the up-to-now-seemingly-certain resale value of the physical properties themselves and their costly 'infrastructure' of streets, sewers, water, gas, and electricity lines, transportation systems, and government buildings, etc.

- Cite ACCO-KOUATING HLIAN UKSETTLEIXUT, pp.18-19; 20 Sep<76
building Industry: (6)

"So-called private individual homes are only superficially individual, for the hydraulic wash-away of the Earth surrounding their foundations discloses the private houses to be only fancy terminal boxes mounted on the ends of pipes with the whole community functionally a unit mechanical organism.

"Not only has the progressive unsettlement of humanity completely upset all the historical expectancy, but as with the individual median family's inability ever again to but its homes, so, too, have we exhausted the possibility of any way in which the future possibility of its people and its businesses to pay for any further government's underwriting of the obsolete building industry. When I became 21 years of age we had no US national debt whatever. We now have a debt of almost \$700 billion dollars demanding an annual Interest of \$40 billion dollars,

"Starting with Nix®on we had the first annual negative federal budget, admitting in advance that at the end of the year, the government would be in greater debt by \$250, or 70 billion dollars. These negative budgets have since persisted." - Cite ACCOMODATING HUMAN UNSETTELEMENT, p.19; 20 Sep'76

Building Industry: (7)

"The government can no longer pay the debt service to the banks on the monies they have borrowed to underwrite the utterly obsolete building industry. The banks themselves had loaded themselves up with an additional half-trillion dollars of second mortgages in order to pyramid the moneymaking advantage extended to them by the fundamental federal underwriting.

"Like icebergs whose greater part is underwater, all the water, sewage, and electric services of cities and suburbs are underground while the markets, stores, streets, and parking areas essential to those who dwell there, as well as the police, firemen, hospitals, and their management, are vital and integral parts of the ability to live in such a manner. The banks have realised that these individual properties aggregated to more per capita than the value of the individual homes, ergo the banks have 'invested* heavily in municipal loans and long-term bonds, all of which cities themselves have become obsolete and necessitous of ever longer time to pay off their obligations. These formidable facts take us back to the beginning of our report on Vancouver.

- Cite ACCOMODATING HUMAN UNSETTELEMENT, p.19; 20 Sep* 76

HdF iJEEIWITIOKS

Building Industry: (8)

Despite that they were going to have to move out of town and then out of state within only five years and would have preferred to be allowed to rent acceptably built and furnished homes in acceptable localities, these humans necessitous of getting to and holding their jobs while providing their families with favorable living, learning, playing, and growing conditions. have been forced to buy the acceptable homes by the speculative builders, who for the last half-century have been escalating land costs which priced the houses at figures that would require a minimum of 30- and 40-years to 'pay off* all of which required continual refinancing in which only the obtaining of guaranteed deed business within the USA runs into seven-billion-dollars-a-year expense.

"Humanity in the nonsocialistic world is now being propagandized, coerced, and often forced to purchase all the immobile home properties, which gave rise to condominium or cooperative offices, apartment houses, and owned single-family dwellings. The great industrial corporations have, however, found such immobility to be untenable. Having now become transnational, they are concerned only with investments in service industries which rent---rather than sell-telephones,"

- Cite ACCOM-U/ATING HUIAK DNCETTLhLLLT, p.20; 30 Sep'76
building Industry: (9)

"computers, Hertz cars, world hotelling, Etc., and sell only armaments.

"Eventual and probably imminent world-around disarmament will release the vast weapons industries to production of airdeliverable dwelling machines. This disarmament will occur as the major world enterprise corporations who have become supranational find that they do not need armaments to protect their know-how selling and

the latter's service industries; and the Russian leaders, long exasperated by the USA-paced armaments race, and now attaining military supremacy over the US, and realising that further delay in world disarmament could easily permit the integration and acceleration of an Arab armaments-buying program that might well challenge Russia's supremacy, ergo, Russia will hasten to impose disarmament in order also to fulfill their long-overdue promise to their people to turn the industrial advantage to the improvement of their citizens' living standards and in direct support of communism's long-pronounced claims of inherent overall superiority as a social economic system."

- Cite ACCO11 :ODATING HUIAK UNSETTLWO.NT, pp.20-21; 20 Sep'76
Building Industry; (10)

"With general world disarmament and the release to life-promoting account of the fabulous production capacity of the world's industrial complexes will come the one-day air-delivery of whole cities similar to the Old Ilan River .Project wherein the operating energy efficiencies will be significantly multiplied and the social conditions provided by the omni-visible central community and the completely private, deployed dwelling areas, or the air-delivery of single family dwelling machines to the remotest of sites, or of whole clusters of single-family dwelling machines to near or far sites.

"Before 1985 we will have abandoned the concept of having to earn a living. We will have given life-long scholarships to everyone. We will have converted all the big city buildings to apartments and will have eliminated 70 percent of local commuting while vastly increasing long-distance travel.

"In Vancouver in June 1976, the young world, in its own right, in contradistinction to the strategic more-with-lessing of the weaponry industry--or of a few individuals like myself---opened the chapter of human society itself becoming committed realistically to doing more with less. Long before the end of the 20th century we will find all of humanity"

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, p.21 ; 20 Sep'76
building Industry: (11)

"doing so much more with bo much less that it will be enjoying a higher, legitimately richer and ethically decent standard of living than has ever been experienced by any humans before us. With economic, physical, and environmental success for all will come completely new economic accounting. We now have the metals comprehensively recirculating and the know-how to accomplish all these tasks within the limits of already-mined metals.

"Since all political systems are predicated upon the misconception of fundamental inadequacy of human life support on our planet, their premise will have been proven invalid. We know how to live entirely within the scope of our daily star-emanating radiation and gravity energies income, ergo, within a 10-year world program we can provide all humanity with an equal amount of energy annually to that enjoyed exclusively by North Americans in 1972, while concurrently phasing out all use of fossil fuels. Nor need we longer have recourse to burning up oUr Spaceship Earth's capital inventory of atoms."

"Because the either-you-or-me-but-not-enough-for-both"
 - Cite ACCOM .ODATING HU PAN UKSETTLEKLKT, pp. 21-22; 20 Sep'?6
Puildins industry: (12)

"raison d'etre of world politics will be obsolete, the wars with which humanity has heretofore allowed it to be resolved which political community was fittest to survive, will be obsolete."

(For conclusion see Cosmic Accounting. 20 Sep*76)

See Dwelling Service Industry

Housing

Airspace Technology Environment Controls

Real Estate Development Unhousable Half of Humanity

PpainMas BiUldlng .tom:

(2)

See Air Delivered City, 30 Mar*70

Housing, 1 Feb'75

Secondhand, 1946

Humane City, (1)(2)

Transnational Capitalism & Export of Know-how, (1)-(3)

Human Unsettlement, (2)(3)

Energy Environment-harvesting Machines, 27 Jan'77 Psychiatry, (4)

For full sequence of RBF statements as a panelist on the "National Town Meeting of the Air" on the topic of The Humane City: Urban Hope? see the following citations, in sequence:

Human City, (1)-(3)

Building Business, (1)-(5)

Paolo Soler!, 10 Sep'75

North-sAh Mobility of World Man, (1) (2)

Success, 10 Sep'75

Everybody's Business, (1)-(3)

RBF DEFINITIONS

"While buildings expand and contract physically between summer's heat and winter's cold, and even between night and day temperatures, those site changings are Invisible to the human eye. >"/hiLe buildings are stressed Importantly by great wind loads and snow loads— great skyscrapers sway as much as a foot, but relatively slowly— the deflective motions are invisible to man. Invisible also are the motions of the hands of the clock, or of atomic components of matter, though the latter hither-and-yon radiationally and locally, as matter, at 700 million mph, speeds. So also invisible to man are the vast high speed motions of the stars and the relatively slow growth of trees, ./hen man cannot see the motion, he rarely chinks realistically about it. He is not prone to be usefully critical of the invisible, yet real kinetics of design function suitability, nor of relative performance efficiency. I. or are humans inclined to put their experience to inventive advan*age for others until they have had a long series of personal inconveniences and accidents to prompt them into comprehending the involved critical events which they cannot see." - Lite LwONArtDO TfPE, 13 Nov'69, p.79

'Humans tend to identify as machines only those complex devices which they can see move. Unable to see their buildings* seasonally slow energy transformations functioning as machines, which indeed they are, humans fail to design their buildings with the same degree of scientific integrity with which, for instance, they conduct the 10 million discrete, but mostly invisible, tasks that have to be completed from the outset of countdown to the successful blast-off of a rocketed, humanly manned, extraterrestrially traveling capsule. As a consequence of man's inability to see the energy transformation motions involved, the structural design of his land buildings and his livingry mechanics, such as plumbing equipment, lag three thousand years behind the evolution in airspace technology standards. Humanity's housing structures and livingry in general are, to a high degreee, only nuperstit- iously-evolved economic prowess symbols, inefficiently repetitious of all yesterday's make-do mistakes."

- Cite LEUL.nRDO TYPE, p.80, Nov*69

Buildings aa Machines:

See Machines vs.

Structures

"We see all these enormous numbers of office buildings being built because we have laws in all the cities that you can't live and work and sleep in the same place; so we see all the plumbing sleeping with all the typewriters and all the people sleeping in the slums. The minute we get over this nonsqe--- all those buildings just being built to make money rather than to serve humanity--- then you won't really have to have a job any more. We can really convert all those buildings with all their plumbing into family houses, or apartment hotels, or whatever you want, while you are in the city coming together to do what you and I are doing, to have a metaphysical exchange. You can deploy into the country for physical development and then converge for the metaphysical. Suddenly all those buildings that are empty out there all night would be full of people qnd being used and you really wouldn't need all those jobs."

- Tape transcript, p.18: RBF to B. Brooks, 200 Locust, PHila, Pa, JO Apr*74

See Office Buildings; Conversion to Apartments

See Air Space, May'65

Empty, May*70 Building Industry, (2)

Bulldint as s Tool:

See Symbolism in Buildings, 1 Feb'75

See Displacement of Ships *k* Buildings

Land Technology

Office Buildings

Permanent Symbolic Conmuni cat ions Devices

Quadrangular Buildings

Real Estate Development

Weight of Buildings

Pneumatic Structures

Pneumatic-hydraulic Structures

Symbolism in Buildings

House: Housing

Miniature Castle Building

See Dome: Rationale For (IV) Labor: American Labor, 1960 Load
Distribution, 9 Dec'73; 13 Dec*73 Real, 20 Apr'72 More With Less:
Sea Technology (5) Safety Factor, 25 Sep*72 Orbital Feedbacks, 10
Sep'74 Scrap Sorting & Mongering (1) (2) Inertia, 20 Apr*72 Windmill,
28 Jan'75* Everybody*8 Business, (1)

ElUlai: Tracer Bullets:

See Tracer Bullet Sequenc

anithrenimion ar Bulletr.. through klrrlane Propeller Bladea:

See Frequency Modulation, Jun'66

Synchronisation, Apr'?1

Bumblebee:

See Bee

Bee: Honey-aeeking Bee

Bumblng:

See Avian Bumblng

Bunch;

"...Nor are five loose, irregular and dissimilar somethings recognizable
in one glance as a number; it is a bunch."

- Citation and context at Hand. 5 Mar*73

See Cluster: Clustering

Bundle of Experiences;

"Each of the sumtotal variety of biological forms represents in simple principle the complex bundling of unique internal experience continuities, and the latter's individual accumulations of external periodic experience, within the greater bundle of persistently unique environmental sequences-- of variable geographic frequency bundle limitations. Humans have abstract 'tree rings' of experience."

- Citation & context at Periodic Experience, (10), F'ay'49

See Cyclic Bundling of Experiences

See Harmonic Intervals, May*49 Comprehensive Realiter, May'49
Personality, May*49

Bundi, of Principle.:

See Word, May'49 Energy & Intellect, May*49

Burpacra<?y:

"Bureaoracles don't think man is designed to be a success

- Cite Tina Jeffrey in Newport News Daily Press, quoting RBF at
Williamsburg, 1 Apr'73

Bureaucracy:

"All ideologically founded enterprises or political parties require dogmatic compliance to the founders' thoughts. Only local ingenuity within the game-rule limits are to be tolerated. The individual has enormous advantage over any great private or public bureaucracy because the individual can simply start to think."

- Cite Museum Keynote Address Denver, p. 2| 2 Jun*71

Bureacracy: Bureacrata:

See Individual Economic Initiative, 2 Jun¹71

Linear Programming. 5 Jun'73

Thinking, 10 Dec'73; 2 Jun'71

No Energy Crisis, (A)

Burial of the Dead:

"We can put the touchable things in the ground, but we can't put the thinking and thinkable you in the ground."

- Citation and context at Thinkable Tou. (2), 22 Nov'73

RBF DEFINITIONS

BurlaX Of Th? Dgacy

"Misassumlng that both the animate and the inanimate are physical, humanity misidentified 'civilization' with the burial of its dead. That is where man broke away from all the animals. Animals recognize that the carcass is not life.

__ Citation and context at Life Is Not Physical, 29 Jun'72

See Pyramid Technology

BBUaLs£_ills_Bsai

(2)

See Nature Peralta It Sequence, CBMMHI P)

Burning Ug:

See Fireplace Log

Business:

"... The economic games that men play for survival in ignorant, short-sighted and local ways."

- Cite Museums Keynote Address Denver, p. 4. 2 Jun*71

ftialasas- Ion Mind Tour Buslnaas: I'll Mind Bverbody'a Business:

See Divide &. Conquer Sequence

Pirates: Great Pirates

Buelnesa: BualMSSgsn:

**See Capitalism Corporation Real Estate Status Quo. Whitehead's Ev-
erybody's Enterprise**

(1)

Development

Dilemma Business

Business: Businessmen:

(2)

**See Doing What Needs to Be Done, (1) Politicians k Defense Budgets,
20 Sep'76**

Butler Grain ^U1ⁿ:

**See Bernoulli! Principle, 31 Jan*75 Ghana Boae: Salt-chilling Ma-
chine, (2)**

Butterfly:

See Afterimage, 1970

Scenario, 4 Apr'67

RBF DEFINITIONS

BUT or Dig:

- The eray eaye buy or die.'

Site BBC at Corcoran Gallery addreea, Wash. DC, 23 Feb'72

BBF DEFINITIONS

Bay. **M** ^Dlg«

"Finally it comes to an impasse and there is going to be a war. So the politicians say to the military: 'All right, we're going to have a war. What are you going to need?' "The military says: 'Well, our side has leveled off here, but our spies tell us that the other side is going to start at this higher level of technology. They are going to be able to fire five or ten thousand yards, whatever it is, with great accuracy,* "Naturally the politicians want to know: 'What's it going to cost to beat them?' and when they hear the answer: 'We don't have that kind of money. We can't afford it.'

"The military says: 'Buy or die.' •

"'Can you produce?'

"Yes, we can produce.*

"Well, no telling how we'll ever pay for it, but go ahead and produce it,'" - Cite RBF in Franklin Lecture, Auburn, Ala., 1970

By-product Heat of 98.6°:

See Temperature of the Human Body

See Domestic Technology Low Priority Aids

C

Cable: (1)

See Closest Packing of Rods

Fish: Playing the Fish on a Reel

Wire

Cable: (2)

See Copper (1) Chemical Bonds (1)

Calculation: Calculator;

See Accounting

Blind Calculation

Mensuration

Pocket Calculator Synergetics Calculation

Calculus:

Q. "How does your synergetics mathematics accommodate

the calculus? How does it handle differential equations?"

RBF: "I don't use differential equations. I understand

those catenaries and all that... but I just use straight synergetics."

- Cite R3F to World Game Workshop'77; Phlla., PA; 22 Jun'77

kBE UuUNITIGHS

Calculus ?

"Calculus was necessary because they had such a blind man's bluff game. They got a proprietary interest in blind man's bluff."

- Ci ter-

- Citation i context at Blind Man's Bluff. 1 Oct'71

BB yaXculu3:

' "This transformative progression in dynamically and oscillatively produced orderliness is dealt with incisively by the calculus and is the fundamental pulsating principle governing omnidirectional electromagnetic wave propagation."

- Cite Synergetics draft, "Symmetry," Sec 5, J. H. Ojck, July 1971.

Calculus;

"Calculus treat® discretely and predictively with frequency rates and discrete direction of angles of

change of the can!curvilinear event quanta's

successively recurring positionijgs: fixes."

- citrH-nr wiGnnmrn Bufxiar'Tr

- Citation at Fiy, Mar'71

Calculus: (1)

"To implement the invention of the calculus, man has used the XYZ coordinate system formalized by Descartes out of the Greeks' 90-degree symmetrical 'crosstree' of three supposedly straight and supposedly continuous'infinite lines.' We have learned to reason only in terms of these experimentally demonstrated fallacious suppositions and only in three dimensions: of width (X), breadth (Y), and depth (Z), But width, depth, and breadth do not include consideration of how hot a local structural event may be, not how long it has been there, nor how much it weighs. There are a lot of other aspects of Nature which the ghostly Greek kind of geometry did not accommodate, as for instance, the experimental information that two actions cannot take place through the same point at the same time— i.e., two lines cannot run simultaneously through the same point. In the Greeks' three-dimensional conception- ings, 90-degree perpendicularity and nonparallelism to a plane already established, were essential to

qualification as a new dimension. Thus in the development of the XYZ coordinate system, we have found only three unique 90-degree line convergences in a common 'point.' All our analytical geometry, and the technically difficult structures we build with it, are translated through the XYZ coordinate system."

- ;ite Kepes: CONCEPTUALITY,Etc. p.68, 1965

Calculus: (?)

"The calculus is used to figure the relative acceleration curves in the drag tank pattern tests for a ship like the Queen Mary. Then the points along the curves are graphically accommodated by translation through analytical geometry and geometrical identification of the relative positions of the various points in a three-dimensional grid cube of XYZ coordinates.

"By 1913 I saw that man had come to regard the three-dimensional coordinate system as exclusively fundamental. But, I thought, that while the XYZ coordination served useful purposes, it might also be possible that nature had some other quite superior, rational, and comprehensive kind of coordinate system.

This occurred to me because the XYZ coordinate system inherently requires recognition of such irrationalities as π and the paradoxical recognition that we cannot finitely subdivide the circumference of a finite circle by its radius. There are a great many irrational numbers occurring as 'fundamental' constants in the mathematical coordination between mutually remote scientific disciplines which I thought might be the consequence of our arbitrary use of the XYZ coordinate system. Chemistry seemed to laugh at our coordinate awkwardness as"

71

- Cite Kepes: CONCEPTUALITY, Etc. p.68, 1965

Calculus;

(3)

"nature contrived all of our physical 'matter' entirely out of rational, whole integer simplexes."

- Cite Kepes: CONCEPTUALITY, Etc. p.71, 1965

1 1 11 I :

** . . The phenomenon 'infinity' of the calculus is inherently finite."

"We find the local spherical systems of Universe are definite rather than infinite as presupposed by the calculus's erroneous assumption of 360 degreeeness of surface plane azimuth around every point on a sphere."

- Cite OMNIDIRECTIONAL HALO, p. 151, 1960
JJCalculus :

"The calculus assumes that a plane is infinitesimally congruent with the surface of a sphere at the point of the plane's tangency of the sphere. The calculus and the spherical trigonometry therefore also assumes that the sums of the angles around any point of any sphere are always 360°." But "the sums of the angles around all the vertices of a sphere will always be 720° or one tetrahedron less than the sum of the vertices times 360°, ergo, one basic assumption of the calculus is invalid."

- Cite OMNIDIRECTIONAL HALO, p. 150, 1960

"Synergy is to energy what in the calculus integration is to differentiation."

" Citation at Energetic-synergetic. 1960

Calculus:

"As with the waves of progressive advantage obtainable in the successive operations of the calculus, has man only now come in his evolution . . . to the ability to identify in principle the systematic chemistry of his personal process continuity and his position on and the direction of the curves of his trending, and the rates of acceleration thereon."

- Citation in context at Charting Alternating Experiences Of man and Nature (3f, "Uav^t&V

See Intuition: Second Intuition

See Environmental Evonta Hierarchy (5)

Calculus:

Nine Chains	to the Moon (AO-29) pp. 112-113
207.00	982.81 8505.63
224.07	
224.11	
223.82	1001.16
400.24	1221.11

508.10

520.02

532.12

535.01

535.04

540.09

825.33

See Blind Man's Buff Descartes Rate & Terminal

See Cartography: Conventional Projections. (2) Disparity, 1960
Energetic-synergetic, 1960* Fix, Mar` 71* Knight's Move in Chess, 24
Sep'73 Limit, 26 Sep'73 Probability, 19 Feb'72 Synergy, 26 May'72
XYZ Coordinate System, (1); (B) Zero Condition, 14 Feb'66 Means, 22
Jun'75 Halo Concept, Nov'71 General Systems Theory, (0) Model of
Toothpicks 4. Semi-dried Peas, (1)

See Memory Call-ups

Recalls

Caro: Cams:

See Triangular-cammed Model

Camera:

See Eye-beamed Thought, (IIKill) Reflection Sequence: Apple, (1)(2)
Push-pull Members, 28 Oct'72

Canada:

"In our East-West world, Canada seemed to be In the sideshow, with main harbors too far up the St. Lawrence. Suddenly with the airocean world there is very much of the American multinational companies having to go over the poles. In the center of this is Canada."

- Cite Tape #3, p.14; RBF to W. Wolf, Phila. PA, 15 Jun»74

Candelabraa: Electric Lights Replaced Candles But the Candelabras Were Not Changed;

See Electric Lights, 15 Oct¹64
Weapons Technology, (1)

See Chain Stronger than its Weakest Link, (1) Matrix, 13 Nov'69

Mwlg:

See Invisible Architecture, (B)

Cannon PFAXB?

See Stacking of Cannon Halle

Capability: "All humans, endowed at birth with a billion capabilities.. beyond the knowledge of the parents, evolve in ways that are utter mystery to them. The exquisite, myriadly endowed child employs that mysterious endowment and intuition-ally apprehends itself as an inventor of ways of using the orderly laws of Universe to produce tools, substances, and service integrities, to communicate and allow humans to participate in Universe's ever-transforming evolutionary events in an as yet preposterously meager degree..."

^{ci}bationAcontxt at Natura's Subvlalbla Ordar (f)(2), 27 Dec'73

Capability :

"I like to dwell on these relationships which can all be identified with the physical. I often have people say to me, 'If you're one of these hard technologists--- you're a technocrat---' I'm really not a hard technologist at all. I've been given these faculties, and I'd like to use the faculties that are given. I realize that there are a great many of my fellow men who are trying to break through great mysteries. Rather than using what we have, they were trying to operate in an area where we couldn't operate. And I said, we are given a fantastic inventory of capabilities--- which we don't know much about. We better find out what are the capabilities we have and ramify those. Then the mysteries may yield some more to us. But we must use what we have, rather than trying to use what we don't have,"

- Cite Univ, of Alaska Address, pp.23-24, 20 Apr '72

hBF DnEINITIUMS

Capability;

'Wealth is the capability to live.**

- . i r i, ¹¹ ii Hu in nr_r n

- Citation at Wealth, 21 Dec'71

Capability?

"Energy is the capability or the capacity to rearrange elemental order."

- Citation & context at Energy. 1967

"Continuous man's intellectual capability multiplies geometric ally as his experiences accumulate and their observed data are recorded and converted to the extracorporeal chromosomic function of anticipatory patterning."

- Citation 4 context at Continuous Man (3), 1963

See Average Man

Cops: Coping Design Capability

Eternal Designing Capability Fail-safe Intellectual Capability Life-supporting Capability Mental Capability Prototyped Capabilities Synergetic Capability King's Capability Forecasting Capability Vectors - Capabilities

Capability;

(2)

See Christ, 7 Oct*71 Continuous Man. (3)* Design, 28 Mar'77; 29 Mar¹77 Energy. 1967* Evolution, (1} Generalization, 2 Jul'62 God, 1 lay'65 Hunan Being, 2 Jun'71; 10 Dec'73 Industrialization. Jun'66 Nature's Subvisible Order, (1)(2)* Transcendental, 6 '•□' '62 Wealth, 21 Dec*7'. ; 10 Dec¹74; 20 Sep'76

Capitalism:

'•The capitalist comes to a situation where all the others are specializing and he alone integrates their intelligence. He comes upon the synergies before the others of society. Realizing that society does not identify the synergetic augmentations with the parts in which they deal, he sees that he can claim the synergetic, ergo unexpected, benefit of his proprty and right. This is the basis of the profit system. Those who can see the prize before the others--- they act as if it were theirs, when it is a product of nature and not of their own, ergo had 'earned' his profit. The augmentation is inherent in nature. That's the point! Herein lies much of the fallacy of so-called capitalism.'

- Cite KbF to EJA, Haverford, Penna. 11 Oct. 1971.

Capita 11 PF”!

"Sociology pennits such fantasticM asymmetrical extremes that we're looking at special cases instead of principles. . □ . Such a high frequency of asymmetry. . . . Aad not knowing this, they don't realize that communism induces capitalism."

- CIU—Utpi rrrnnfuiript RDF <J • ErfA and _t¹
- Citation and context at Communism,. 31 May*71

Capitalism:

"Socialism is now as obsolete as the stone hammer. So also is undeveloped static property, or gold capitalism. Gold coins wear out; land erodes. That is why capitalism is obsolete. Industry and biology are metabolic; they grow."

~ Citation and context at Socialism. 1962

__ Thu USIIOLiEHO A>iD THk rOLITIGiM.6, p.)04.

Capitalise Your Life Hours:

**See Lifetime: Personal Lifetime Experience for Elective Investment,
31 May'74**

rtBF UEFINiThuNS

"After the censuses of 1790 and 1810, Congress decided it would be a good idea to have an economic census of the country. As the beautiful document in Washington shows, there were one million human families in the United States in 1810. There were also one million human slaves, a formidable figure, obviously all the families didn't have slaves. Very few did, but the point is that the one-for-one ratio must be recognized.

"The census found that the average homestead was worth \$350 and the average slave was estimated to be worth \$440; so the human machine was deemed more valuable than the homestead.

"Taking the total valuation, including canals, highways, and so forth, and the estimated value of the wilderness at \$1500 per family, the U.S. Treasury came to the conclusion that the value of the United States in 1810 was \$3 billion.

"despite many inflation-deflation fluctuations since 1810, there is relative magnitude significance in the fact that last"

* Cite THillKING UUT LuuD (2): ./E ARE NOTHING BUT A SPACE PROGRAM, World fag., 17 Jul'73

KBF DEFINITIONS

Capital Worth of the U.b»;

(2)

' 'year, the gross national income for the first time reached \$1 trillion. Now, to earn a conservative trillion dollars at five percent means that our invested capital worth has gone from \$3 billion to \$20 billion. That is about a six-th®sand- i'old increase.

13_T 000_f 000,000 \$20,000,000,000 ,000

1 bbb6 ”

- Ulte TtlIWMWU UU1 LOUD (Z): Wh. AttJE. NUltilhG Bui A oPAujj. PRuUkAm, World lag., 1? Jul'73

C_apUal Worth of U.S.:

Seo Energy Slave, (1)

caiiial: AtaiUUaa:

(D

See Competition

Cosmic vs. Terrestrial Accounting

Depreciation

Economic Accounting System

Energy Capital

Enterprise

Individual Economic Initiative

Labor: American Labor

Nonproduction
Private Enterprise
Private Property
Profit
Savings
Scarcity
Transnational finpliwaUm Corporations
Corporation
Building Business: Building Industry
Sawyer-capitalism
Regenerative Economic Sustenance
See Charity, 7 Nov'67
Circuitry: Thermionic & Political Analogy, 23 Jan'72
Communism, 31 May*71*
Self-experience, 19 Feb'73
Socialism, 1962*
Wealth, 8 Dec'75
Disarmament, 11 Aug'76
Selfishness, 20 Sep'76
Fail-safe, 13 Sep'77
Caplow: Prof. Theodore:

See Social Sciences: Analogue to Physical Sciences 24 Jan¹66

Capstan:
See Lever, (b)
Capsule;
See Space Capsule

Carbon:

"The first closest packed omnitriangulated, ergo structurally stabilized, cube has 14 spheres, but without a nucleus. This could be carbon and carbon is the initially closest packed omnisymmetrical polyhedral fourteenness providing further closest packability surface nests suitable for structurally mounting hydrogen atoms to produce all organic matter.

"Also the cube is the first minimum symmetrical all-space filler. Therefore it is structurally prone to self-reassociation. In order to serve as the carbon ring (with its six-sidedness), the cube of 14 spheres (with its six faces) could be joined with six other cubes by single atoms nestable in its six square face centers, which singleness of sphericity linkage potential is unavoidable by hydrogen one."

- Cite SYNERGETICS draft at Secs. 415.21 +22, 8 Jun'72

Carbon:

"Organic chemistry begins with the cube: carbon."

- Citation & context at Cube. 31 May*71

See Hydrocarbons

Organic Chemistry

See Chemical Bonds: Quadruple Bond, 1y Dec*73

fortonfrJ.fi QXX1M, *

"What I need in my office is something like an automatic bilge pump. We're trying to see nature in the biggest way. and we don't pick on the little indirections. I'm personally very content that things are going beautifully despite these things that make you sick at the stomach to think about....

"I've been sick in my stomach about the messiness of my office, but I've been glad that the young world was coming in for one reason or another--- using my phone, my credit cards-- and finally they've even begun to take things away. So I've had to close up to some extent."

- Cite transcript of RBF tape to Barry Farrell 1, Bear Island 10 Aug'70

Carcass:

See Dead Animal

See File Cards with Triangular Array of Holes

See Ninety-two Elements as Cargoes of Energy

rtBF DEFINITIONS

Carnation;

, .at least during my present carnation . . . ”

- Cite RBF in Letter to Dame Margot Fonteyn, 1970 (?)

Carination:

See Incarnation

Carrier Wave;

"As the nine columns of Indig Table 2 show, I have integrated the digits of all the different multiplication systems and have always found the positively-negatively pulsative, octave zero-nine-intervaled, ergo interference-free, carrier-wave pattern to be permeating all of them □ in four alternative integer-mix sequences; with ain, four positively and four negatively ordered sequence M sets, all octavely ventilated by zero nines cyclically, ergo inherently, ergo eternally synchronized to non-inter-interferences."

- Cite SYNERGETICS draft at Sec. 1223.12, 9 Ear*73

SaixXaEjfeMi

See Octave Wave, 5 M&r'73

Cartliar, vs. Bona:

"Here we have nature's own trick of local stiffening as accomplished by the higher frequency 'closest packing' pattern of isotropically modulated, local cartilages and even higher frequency local bone structuring, as related to the frequency of tissue cells of animal flesh."

- Citation in context at Tensar's: Unlimited Frequency Of Geodesic Tensar's T31, Derivative frequency j.

"The geometric constants or controls of all conventional projections are predicated upon a three-dimensional coordinate system--- comprised of an admixture of great circles with a variety of nonuniform lesser circles-- that the constants which provide the original reference controls inherently are broken open and their finite quality converted to infinite--- in respect to some part of their transformation data.

"The internal Earth lines formed in the intersection of all three-dimensional coordinate planes of all predecessor world projection methods represents a hodge-podge of lengths and angles-of-incidence to the Earth's external surface.

When the surfaces are stripped off the Earth and arranged in projected planar condition, these lines and angles look like a runover porcupine."

- Cite Undated Sheet: DYKAXIUN AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

Cartography:

(2)

"The lack of coincidence of three-dimensional coordinates with the spherical radii and nonuniform radial length of the three-dimensional coordinate and nonperpendicular incidence of three-dimensional radials upon the spherical surfaces, has caused

a heterogeneity of angles and lengths in respect to all conventional projections, which in turn has added frustration and entirely unnecessary awkwardness and complexity to the trigonometric problems of navigational science.

"This unnecessary awkwardness of three-dimensionality has also promoted the 'calculus-blind' calculations, where visual transformations might otherwise have accrued to a simplified multidimensional spherical trigonometry

- Cite Undated Sheet: DYMATION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

See Charts

Constant Zenith Projection Dymation Airocean World Map Flat-out World Map Projection Grid Basis

Mercator Projection

Three-way Great Circling: Three-way Grid Transformational Projection

Twenty-foot Earth Globe & 200-foot Celestial Globe Azimuthal Gnomonic

See Plumbing, (1)(2)

Large Patterns, (1)

Cage:

See Fundamental Case General Case Largest Case Limit Case Special Case No Largest Case Simplest Case Minimum Limit Case No Maximum Limits Terminal Case: Terminal Condition Physical Case Maximum Limit Case

Casket:

See Inventions which Decrease the Degrees of Freedom, 1965

Castle:

See Miniature Castle Building Yesterday's Private Castle Mentality

Catalog aLAHrtrnata TrfinafflFJBtalYc Options:

See Pendulua Model va« Scenario Model, 23 Dec*68 Truth, 10 Nov»72

C&VUQ£lng:

See Ecology, 5 Jul'62

RBF DEFINITIONS

"It was category!tin that was one of the things that helped kill NINE CHAINS TO THE MOON when it first came out. Lippincott said the stores wanted to know what the subject was--- where to pigeonhole it."

- Cite RBF to EJA, in telephone call from Phila., 22 May*74

See Nature Has No Separate Departments

cay?/wry: mwrrtttr

(2)

See Dwelling Service Industry, (1) Verb: I Seem to Be A Vero, May*70

See Suspension vs. Category

Catenary*

See Calculus, 22 Jun*77

(2)

S&ftUULAX:

See Scenario, 24 Apr'6?

Cathedral:

See Permanent Symbolic Pyramid Technology Religious Edifices

Communication Device

9 torch:

See Life Is Not Phyeical, 13 Jul*74; 12 Dec'75 Confeseien, 7 Jan'76

RBF DEFINITIONS

Causality:

Stephan H. Pike paper, p.66: "We live in a dynamic field in which thoughts not only interact and affect each other but the field as well."

RHF Marginalia: "Causality is --fr

linear... go, no,go.

- Cite RBF marginalia on Pike 's paper "Geometrodynamics of thought," ; Jan'77

See Determinism

Teleology Reason f Cause No End in Itself

See Charting Alternating Experiences of Man & Nature, (3) Interpositioning, 4
Oct*72 Reason, Aug'73*

Cave:

See Snow Mound

Pggpirtry:

See Connie Structuring, (2)

Jjwsrtgi

(D

See iKpoundment

Starduat

See Blologlcel Life, (1)

Celestial Position Integrity;

"Inertia is dynamic, as the Earth going around the Sun at 60,000 m.p.h, An enormous mass, so enormous that the little man on board it, who is also going at 60,000 m.p.h., steps around the surface pushing the Earth in the opposite direction, but negligibly. So negligibly that the little man has invented the concept of inert, which is celestial position integrity, not a standing-still in universe, but implicit in its mass times velocity acceleration in vacuo around

the Sun.”

- Citation at Inertia. 24 Apr*71

April 1971

Celestial Radiation Accumulators;

"Sight requires light, however, and light derives only from radiation of celestial entropy, where Sunlight is starlight and fossil fuels and fire-productng wood logs are celestial radiation accumulators, ergo all the sensings are Imposed by cosmic environment eventings."

- Citation & context at Sensings k Eventings. 28 Apr*77

ffeleatial Sphere

See Twenty-foot Earth Globe and 200-foot Celestial Sphere

See Time-energy Economics, 15 Jun'74

Celaatial Theater:

Sea Conatellar, May*71

**See Celestial Geometry Celestial Imports Celestial Position Integrity
Celstial Sphere Celestial System Celestial Theater Celestial Radiation
Accumulators**

See Biological Cell

Bubble

Colloidal Chemistry

**Experience: Cell-time-man-experienced Events Flesh: Animal Flesh
Life Cells Light Cells No Building Blocks Tissue Cells**

**See Darwin: Evolution May Be Going the Other Way, 24 Mar*71 Equi-
librium, 25 Feb'69 Synergy: Degrees of, (4) Human Beings & Complex
Universe, (6)**

See Preetressed Concrete Sequence

See Sixty Degreeneaa, 1965

Census of 1610:

See Capital Worth of U.S., (1) Energy Slave, (1) Invention Sequence,
(1)(2)

Cena us:

See Capital Worth of U.S. Population

Center:

"You cannot improve on the center. The center is where we function in omnidirectional observation. If you were linear- like that--- maybe you could learn to jump a little higher or run a little faster.,. But at the center, you can't Improve upon it.

"The ffct that there is lag means that we are inherently aberrated and out of phase with the absolute, the center,"

'•han is one way of Universe's checking up with its cwn principles while it can aberrate,"

- Cite RBF at Penn Bell videotaping session, Philadelphia, PA., 21 Jan'75

Center:

"The only dimension is time; the time dimension being the radial dimension in respect to any regenerative center, which may always be anywhere, yet ctyracterized by always being at the center of system regeneration."

- Citation at Dimension. 16 Nov*72

See Ball at the Center

TtXT CITATIONS

PalV

1053.31	8261.04
1053.32	8537.43
1223.14 (Footnote)	s1O53.812
1223.15	81073.15

441.03

445.12

460.07

461.01

527.52-527.53

782.20

905.48

Table 943

1012.11-1012.20

1032.11

1053.16

$c_m < ?r$ PaU:

See Heaven & Hell, 31 May*71

Inside-outing, 17 Jun*75

(2)

Cenr-tQ-ggatw:

See Point, 16 Nov'72

Pf Effort:

See Modules: A AB Quanta Modules: Centers Of, 21 Feb'72

C₇ry;erg Of Energy Rgbjrth:

"Because the energy is in packages and the packages are always spherical the centers of energy rebirth are polyhedrmal and accommodated by the isotropic vector matrix."

- Citation and context at Dimensional Supremacy. 16 Nov'72

Center of Event:

See Event Center

Canter QI flaXd?

See Modules: A & B Quanta Modules: Centers Of, 21 Feb*72

M £mflr_2f. PrftYltYs

**"There is no pointal center of gravity. There is a gravitational system
sone of concentration with min-max zone system limits."**

- Citation and context at Gravitational System Zone. 14 Jan'55

SMtflTfl of CrflYlty:

See Modules: A it B Quanta Modules: Centers Of 21 Feb*72

Multidimensionality, (1)

See Modules: A 4 B Quanta Modules: Centers Of 21 Feb'72

Vector Equilibrium, 15 May*73

See Center. 16 Nov*72 Dimensional Growth, 20 Dec¹73

Centers of Equilibrrious Symmetry (C.E.S.);

"In the same way that systems

Have 'Centers of Gravity* — C.G.

And 'Neutral Axii of Gyration'

Identified by engineers as

/Systems/ also have

'Centers of Omni-equilibrrious Symmetry'

At which their kinetic transformings never pause

But relative to which kinetic action centers

They oscillatingly traffic T4!iUij,roKHzj
The frequencies and geometries
Of those internally-externally coordinated trendings
Are always uniquely asymmetric

**To the local systems' symmetrically coordinate Centers of equilibrious
symmetry --- C.E.S.**

And because the unassimilatable asymmetries
Are inherently exported
These internal-external events propagate
Both inward and outward bound waves.”

- Cite RBF Draft BRAIN A MIND, p. 7 May'72

Centers of Abstract Truths:

See Relativity, May'49
See Concentric Centers of Volume
factor of Ytlaw:

See Modules: A < B Quanta Modules: Centers Of 21 Feb'72

Multidimensionality, (1)

**See Absolute `` Center Ball at the Center Communication Center
Congruence at the Center Dead Center of Universe Decentralise
vs. Centralize Domain Energy Centers Event Center Export-import
Centers Focal Center Concentric Centers Hole in the Victrola Disc
Indispensable Center Line between Two Sphere Centers Modular
Center Modules: A & B Quanta Modules: Centers Of Neutral Center
No Center of Gravity Off-center Effects Recentering**

See Sphere Center
System Center
System Center of Observation

Tetrahedron as Primitively Central to Life Time Center

Time or Timeless Center

Transforming Center

**Universal Vertex Center Model Universe Centers Vector Center Fix
Zero Point Zoned System: Center of Zone Human Usings at the
Center Kiddle: •□•iddleness**

See Complementary, bay*72

Dimension, 16 Nov'72*

Leaning May'49

Point, 16 Nov*72; 6 Nov'73

Self-now, 1938

Dynaxion Airocean World Map, (g)

Enuilibrium & Disequilibrium, (1)

See Central Angle

Central Angles & Surface Angles

Central Ball

Center-to-center

Center of Effort

Center of Energy Rebirth

Center of Event

Center of Field

Center of Gravity Center of Radiation

Center of System Regeneration

Central Set

Centers of Equilibrinous Symmetry

Centers of Abstract Truths

Center of Volume

Centrally Triangulated

Central Nothingness Equilibrium

*ruU<? =

"Radiation is wavelinearly and radially distributive; ergo, it is central-angle partitioned. Circularly, it means a single central angle. Spherically, it means a minimum of three central angles: those of a tetrahedron formed with a circumferential limit of the surface of the speed-of-light radial reach."

- Cite SYNERGETICS draft at Sec. 541.08, 23 Sep '73

Central Angle;

•"The difference between atoms and chemical compounds is a question of the number of central angle systems."

" synVh?fttc< W?shinS?n₁?C> 21 Bec- '71> incorporated at oinnKUbiitb, Sec, Z5i.14«

See Central Angles t Surface Angles Internal Angle

See InfinityFlinity, Feb'72 Nuclear, 23 liar'74 Package, 23 Sep'73

Central Amice feSurfflce Aml*g:

"The tetrahedral integrity of internal (central) angles and external (surface) angles of systems permits the integration of the topological and quantum hierarchies. It is exciting that the three internal radii give us three edges of the tetrahedron's six edges; while the arc chords give us the three other of the tetrahedron's six relationships; and the center of the spheric system and the surface triangle's three cornervertexes give us the four-vertex-events having the inherent six system relationships; which six are our coincidentally six-positive, six-negative, equieconomical vectorial freedoms. The central angles give us what we call the chords of the central-angle arcs. Thus all-system-embracing geodesic lines are expressible in angular fractions of whole circles or cycles."

- Cite RdF rewrite of SYNiiRGETICS galley at Sec. 1051.20, 9 Jan'74

Cmtrftl Aflgloa fc Surfftsg Aaglaa-

"The edges of all spherical triangles are arcs of great circles of a sphere and those arc edges are measured in term of their central angles (i.e., from the center of the sphere). But plane surface triangles have no Inherent central angles and their edges are measured in relative lengths of one of themselves or in special-case linear increments. Spherical triangles have three surface (corner) angles and three central (edge) angles."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 902.20, 20 Dec*73

Central Angles fc Surface Angle;

"As a result of the surface-angle concave-convex takeouts to provide self-closing finiteness of insideness and outsideness, central angles are generated, and they then function in respect to unique systems and differentiate between compoundings of systems.

One of the differences between atoms and chemical compounds is the number of central-angle systems.

- Cite RBF rewrite of STNERGETICS galley at Secs. 251.13+14. 28 Oct'73

c?ntrfl ARKIPI ft Swrfrcj-AMIM!

"Synergetics introduces angular topology as both central and surface angle phenomena with the surface angles accounting for concavity and convexity and the thereby derived structural integrity of systems."

• Citation at Structural Integrity, 21 Dec'71

• -Cite i?1 inQQFpe»at»d

~TTT~b iHiUwfi 11 Go a L Gee ,—2-f, .12;—

Central AMlea A Surface Anglee:

"As a result of the surface angle concave-convex take-outs of insideness and outsideness, central angles are generated and they then function in respect to unique systems and differentiate between compoundings of systems."

- Cite KBF to EJA. Washington DC, 21 Dec. '71, incorporated in SYNERGETICS at Sec. 251.1 J.

O Central Angles & Surface Angles?

"Only the vector equilibrium has the same surface and central angles."

-Cite RBE to EJA. Washington DC, 21 Dec. '71, incorporated in SYNERGETICS at Sec. 251.1 J.

* - Citation at Vector Equilibrium. 21 Dec. '71

RBE* to EJA. Washington DC, 21 Dec. '71

— Citation at Vector Equilibrium. 21 Dec. '71

"Gravity is circumferential. All the superficial surface angles are the gravity. Central angles are the radiation

Radiation-Gravitation, - Citation at 21 Dec. '71

— Citation at Vector Equilibrium. 21 Dec. '71

". . . Topological domains are clearly defined in terms of

the systems involved having unique centrally angled insideness and surface angle defined outsideness.'

(N.H. After RBE wrote above marginalia he told EJA that this was the first time he had made the identification of central angle with insideness.)

- Cite RBE re-write of SYNERGETICS, Sec.356.10, 20 Dec. 1971. at 3200 Idaho, Washington, DC.

Central Angles & Surface Angles:

"If we start synergetically with whole systems, such as spherical trigonometry, then you avoid the concept of an edge and instead learn of the accommodation of surface angles and central angles. Then, having both surface angles and central angles, we discover that spherical trigonometry is always dealing with tetrahedra whose interior apexes are at the center of the system."

- Citation at IrlgQnQJigtrY; Spherical Trigonometry, Aug'71

Central Angles & Surface Angles;

' • As you go from one great circle to another ... in hierarchies, where the internal angles become surface angles and the surface angles become internal angles.

I have shown you where a triangle on the surface of the icosahedron folds itself up and becomes a tetrahedron and plunges down into the internal angles of the icosahedron.''

- Cite RBF tape transcript Chicago, Blackstone Hotel, 1 June 1971 - Synergetics V, p. 17.

fHHMMHMI Central Angles vs Surface Angles:

"The internal angles and the external angles of systems permit the integration of the topological and the quantum hierarchies. It is exciting that the internal angles give us what we call the chords of the arcs."

- jHUlsztfraty-ec £\$2.., August 1971.
- Citation & context at Synergetic Hierarchies (B), 31 May'71

RBF DEFINITIONS

"The sum of the exterior angles of every system's convexity is always the same as the sum of the interior angles of the system's concavity."

- Citation & context at Concave & Convex, 10 Dec'64
- SfUV-al Angles Surface Angles:

"The internal angles and the external angles of systems permit the integration of the topological and the quantum hierarchies. It is exciting that the internal angles give us what we call the chords of the arcs." ⁶

- Citation at Synergetic Hierarchy. 31 May*71

See Circumferential Field

Chords & Arce

Great-circle Spinnable Symmetries: Hierarchy Of

Trigonometry: Spherical Trigonometry Radiation-gravitation: Angular Functions Omnitopological Domains T Quanta Module, (1)(2)

See Angular Topology, 21 Dec*71 Convex & Concave, 10 Dec'64* Fourth Dimension, 29 Nov'72 Nonpolar Points. 29 Nov'72 Processional Thinking, Aug'71 Radiation-gravitation, Aug'71; 21 Dec'71* Spherical Octahedron, Aug'72 Spherical Triangle Sequence, (e) Structural Integrity, 21 Dec'71* Synergetic Hierarchy. Aug'71; 31 May'71» Vector Equilibrium, 21 Dec'71* Trigonometry, 18 Jul'76

See Internal Angle Edges - Central Angles

See Gravity: Speed Of, 21 Oct*72

"...The cantral sphere has a volume of five and the central sphere is in fact the spherical icosahedron, giving complete rational value to the sphere in terms of the vector equilibrium's twentyness, the ocathedron's Tournees, the rhombic dodecahedron's sixness, the cube's threeness and the tetrahedron's oneness."

- Citation *tc*, context at Volumetric Hierarchy. (1); 13 Nov'75

See Ball at the Center

Nuclear Sphere

See Nine, 16 May«75

See Physical Reality, 1 May'71 Vector Equilibrium, 1 May*71

KBF DEFINITIONS

Central Sypnetry:

"The vector equilibrium ia the central symetry through which both balanced and unbalanced asymmetries pulsatingly and complexedly intercompensate and synchronise."

- Citation *It.* context at Two Kinds of Twones_t (A), 10 Nov'7A

See Symmetry A Aaymmetry, 13 Nov*75 Equilibrium & Diseauilib-
rium, 20 Feb*77 Human Heines at the Center, (1)(2)

Centrally Triangulated:

See Vector Equilibrium, 23 Oct*72

Central:

See Center: Central

TEXT CITATIONS

CmrXfwral!

Synergeticon text at Sec. 1009.86

See Centripetel-eentrifugsl

See Preceeaion, 5 Jun'73

See Seven Axes of Symmetry, 13 May'73 Precession & Degrees of
Freedom, (2)

Cerebrate:

See Thinking, 10 Sep»75

Certainty:

See Exactitude

Yesterday*B Certainties

KBF UiiFINITIUNS

CGS: c g a bystem:

This 1B an aspect of the XYZ Coordinate System which
KBF prefers to inscribe as:

C g_t »

with the t representing temperature, i.e., one cc.
of water at a specific temperature.

- Cite KBF to EJA Beverly Hotel, New York, Sept. 1971 •

RBF DEFINITIONS

CGS: C b System: "Planck's constant corrects for the error of science's predicating its comprehensive coordinate mensurating system upon the cubic centimeter of water at a specific temperature as the volume-weight geometrical coordinating factor, whose centimeter of edge-length-height on the XYZ three-dimensional system became the distance of anti-gravitational work to be accomplished in one second of time as constituting the most logical system for integrating the energy information science was acquiring Instrumentally from the vast invisible ranges of physical reality."

- Cite RBF holograph of 7 October 1971 on entry under Planck's Constant.

CGS:

c g s System:

See Planck's Constant, (A)-(C); *J* Oct'71* Avogadro, 27 Jan'75 Quantum Sequence,
(3)

See Necklace

String-connected Polyhedra

(2)

See Strut, 1950's

Necklace, Nov'71

Minimum System: Minimum Structural System, Nov'71

RBF DEFINITIONS

Chain Reaction:

"Four of the nucleons on the surface of one of the square faces of the vector equilibrium's closest packed aggregation of nucleons, may be separated out without impairing the structural stability integrity of the balance of the aggregate. This leaves a residue of 234 nucleons which is the fissionable state of Uranium, which must go on chain reacting due to its asymmetry."

- Citation & context at 5 Nov*73
- Super Atomics

See also Synergetics~Hraft, August 1971, Sec.

R5F DcFIKITILNS

Chain Reaction:

"!.'here syntropy is gaining over entropy life prevails .

This exponentia 11 *y gg* regenerative inter) lay

Is described in information theory

As * self-accelerating feedback'

and in nuclear physics it is manifest as chain reacting.

- Citation at Feedback, Feb'71

See Feedback

Feedback: Self-accelerating Feedback

(2)

See Environment: Altering the Environment, 1970 Superatomice Sequence (4)*

"Speaking of structures, we have in chrome-nickel-steel an example of symetry in alloys. The chromium per se, the iron per se, about 60,000 p.s.i. tensile strength ultimate; the chromium about 70,000 pounds ultimate; the nickel 80,000 pounds ultimate. People used to say a chain is no stronger than its weakest link. So you see whichever

is the weakest one ought to adulterate it. For instance, if you took peanuts and sugar and made sugar candy with nuts in it, whatever dissolves the easiest--- and the whole thing comes apart. The weakest tells you, like the weakest link in the chain. So we ought to say then of chrome-nickel-steel that it couldn't be any stronger than the 60,000 pounds of the iron. In fact this chrome-nickel-steel is very much stronger. You may say I'm being unreasonable, maybe this chain is $\frac{1}{2}$ as strong as its strongest link. So that says out of the 80,000 the chrome still has 350,000. Well, maybe I better add up the strength of the chain. So I'm going to have a new kind of law: the chain is as strong as the sum of the strengths of all its links. So I'm going to add 60,000 iron to 70,000 chromium and that gives me 130,000; to which I add 80,000 for the nickel. That comes to 210,000. Then I add in the manganese-- 250,000 total. But chromenickel steel is 350,000, or 50 percent stronger than the sum"

- Cite Univ. of Alaska Address, p.16, 20 Apr '72

"of its links... If you don't understand this energy behavior, you can't understand the whole change in the relationship of man to his environment--- going from being absolutely divided to suddenly being able to come together. It really can be everybody tied up with this kind of information."

- Cite Univ. of Alaska Address, p.16, 20 Apr '72

See Alloy Tensile Strength of Chrome-nickel-steel

See Chairone

Chairone: (Pronounced "chair-wun**):

Above is RBF solution for chairwoman-chairperson dilemma- eja.

- Cite RBF via telephone from Philadelphia, to EJA, 13 Apr*75

See Concrete Poetry Craftone

Challenging Set:

See Thinking, 6 Nov'73

See Probability Random Element

See Technocracy, 1938

Change ?

"People are afraid of change and I find that these conditioned reflexes of fear are just overwhelming. People don't like to admit fear because they are so full of fear. And they are full of fear because of the unknown, of how little man really knows, and so afraid that those dependent on them are going to be in jeopardy. So we have a really basic fear of change and it's very very difficult to cope with that conditioned reflex.

"Hence, we have to be comprehensive in our thinking, to be infinitely tolerant, to understand rates of change, to understand the inertia, to understand the fear. We must avoid doing things that will excite the fear and do everything that will eliminate it. I don't mean then to eliminate challenge** - for challenge we must have. We will continue to have challenge because the Universe is continually changing and we are going to continue to be confronted with the new. We are here to be problem-solvers; that's our function in the Universe. And we have the capability and the responsibility....

"Clearly, if something needs to be done, it really can be done."

- Cite RBF draft introduction to "Abet Innovation," by Naimark & Barba, 2 Nov'73.

Change:

"We learn there is individuality and magnitude change: then we learn that due to the energy losses and gains of systems occasioned by the continual variations of omnidirectional proximities and omnivariability of expansioncontraction system accumulating rates, that there is a degree of freedom phenomena rate as well as a terminal condition."

- Cite RBF to EJA, 3200 Idaho, incorporated in SYNERGETICS draft at Sec. 411.3? (c), 9 Nov'72

34

Change;

"Change involves time and a total experience change is complex."

- Citation 4 context at Evolution, 15 Sep*71

- 04° Tfaf 1Mr.,ion. oiL ±vo±at ion, 3 • Ti 3ep^r?1

RBF DEFINITIONS

Change:

"Very, very slow changes humans identify as inanimate.

Slow change of pattern they call animate and natural. Fast changes they call explosive, and faster events than that

humans cannot see directly."

- Citation 4. Context at Electromagnetic Spectrum. Oct'70

Change:

"Nothing can change locally without changing everything else."

- 285.12 Jul'62

- Context at Platonic Solida. 12 Jul*62

See Intuition. 1 Feb'?5

New Took city, (2)(3),

See Acceleration of Change Alteration Angular Change Changeless Epigenetic Epigenetic Landscape Feedback Inexorability Interchange korphosis

No Change

Rate

Status Quo

Accommodation

Tetrahedron: Dissimilar Rate of Change No Local Change

See Design Revolution: Pulling the Bottom Up (1) Electromagnetic Spectrum, Oct-'70 Evolution, 15 Sep-'71* Is, 24 Apr-'72 Platonic Solids, 12 Jul-'62* Self-seeking, 8 Nov-'72 Technocracy, 1938 ,, , .

Custom: Lest One Good Custom Corrupt the World, (B)

"The timeless and changeless are intercomplementary aspects of ideal synergetics."

- Citation k context at Timeless. 1 Apr-'72

KBF D&FINHIUNS

Ph^anK^el?ga' TPi

(scenario 01 > "The definition of Universe as aXnonsimultaneous and only

partially overlapping events, all the physical components of which are ever transforming, and all the generalised metaphysical discoveries of which ever clarify more economically as eternally changeless."

- Citation at Metaphysical & Physical. 26 Jan-'72

- "oroniilee, fn illin r'iT,

. V, Febr '72.

See Eternal No Change Timelesse

See Metaphysical 4 Physical. 26 Jan'72»

Invisible Architecture (1)

Chaos:

"The opposite of design is chaos.*

- Citation and context at Design (1), 9 Apr*71

Chaoa:

. There la a great deal of difference

Between absolute disorder, which is chaos

And that which we may recognise

As relative asymmetry

Which is only relative disorder."

(Adapted)

- Cite RBF DBaft, BRAIN AND MIND p. 9, 1971

Chaos:

"There is no true ¹ only uncomprehended, and Chaos and ignorance
are senses unenlightened by mind,"

noise' or 'static'. Theree is as yet undifferentiated orders, both conditions of the
brain's the order seeking and finding

- -04-trrfi Sneirtiy-p. 6—Jan166.

- Citation at Order, Jul'71

sec. 531. •531.7*?]

Chaos:

"The physicists now assume that there never could have been an
universal condition of chaos for a basic orderliness of universe
is provided by the always co-existing proton and neutron, which
though complexedly intertransformable, are not mirror images of one
another, nor are of equal mass or weight."

Cite NEHRU SPEECH, p.2J, U Nov'69
never anything other than superficial."

Chaos:

"Chaos is

{Adapted.)

-Cite NASA Speech, p. 95 > Jun'66

Chaos:

"Chaos is erosive, explosive, shattering, and therefore the antithesis

of the only potential survival means
of homo sapiens:

through the harmonic integration of knowledge whose kinetic is ttni-
versal.*

- Cite NO MORE SECONDHAND GOD, P. 4 (Anchor) 9 Apr'40

Chaos: IfrXh That Sfilsnllftfl WfMt Odfdr \mathcal{L}_{nn} 98 ' 4

"It has been customarily said by the public Journals, assumedly be-
speaking public opinion, that 'the scientists wrest order out of chaos,¹
despite that the great scientists, who have made the great discover-
ies, have been trying their best to tell the public that as scientists they
have never found chaos to be anything other than the superfical con-
fusin o? innately a priori human ignorance at birth which often bur-
dened biases of others remains gropingly unenlightened throughout
its life."

- Cite Synergetics Draft, "Symmetry," Sec 532.0, July 1971

Chaos: Myth That Scientists Wrest Order From Chaos?

. . . scientists point out . . . that there never could have been chaos. There had perforce always to have been the orderly fundamental complementarity. All the legendary ways of taking at universe as having had a beginning in disofHer have/for the three last years/ been completely upset by the astrophysical inventorying of the relative abundance of the fundamental atomic Isotopes and their intertransformational accounting on a cosmic scale. We find we are now confronted with an apparently eternal a priori order. The idea of probability gradually converting a disorder to order is invalidated."

- Cite SENATE HEARING, p. U , 4 Mar»69

Chaos: Myth that Scientists Wrest Order from Chaos:

See Einstein: Cosmic Religious Sense, (1)(2) Order, Feb'67

Chaos of Thought Beducad to an Answer;

See Noun, 1938

See Diminishing Chaos

Disorder

No Absolute Disorder Primordial No Chaos

Design vs. Chaos

See Biologicale, Oct'69

Design, (1)*

Dymaxion Airocean World, (II)

Gravity, (A) Integrity. 24 Jan'72 Nature's Subvisible Order, (1) Nucleus, (1) Omnidirectional, 2J Sep'73 Omnidirectional: Physical Existence Environment

Surrounds, (2) Order, Jul'71* Point: Outbound Point, (2) Relative Asymmetry Sequence, (1)

Charity;

"And I don't want you to think that keeping a one hundred percent majority of humanity alive with a high standard of living is in any way linked to those preconceptions of society's which we label ¹ charity.¹ One of the myths of the moment suggests that wealth comes from individual bankers and capitalists. This concept is manifest in the myriad of charities that have to beg alms for the poor, disabled, and helpless, young and old in general. These charities are a holdover from the old pirate days when it was thought that there would never be enough to go around. Counseled by our bankers, our politicians say we can't afford the warring and the Great Society too. And because of the mythical concept that the wealth which is dispersed is coming from some magically secret private source, no free and healthy individual wants that 'handout' from the other man, whoever he may be, nor does the individual wish to be p on the publicly degrading dole."

- Cite Syracuse Address, Pp. 46-48. ? Nov 2.67

Sharliy.:

(D

See Do-gooders Are Futile

See Population Explosion, (1)

Poverty. May `72

Revolution By Inadvertence, 10 Oct '73

Charts:

"The norm of our charts la no change at all: that the basic ordinate."

- Cite RBF in Milton Eisenhower Lecture. Johns Hopkins. Baltimore, 3 Oct '73

Charting Alternating Experiences of Man & Nature: (1)

Man has been lacking in comprehensive disciplines and the developed ability to synthesize, essentially because of the bewildering arrays of complex behavior items of natural phenomena. Man shows synergetic genius inferior to Nature's regeneration.

"Only by recourse to fundamental principles may man possibly comprehend (aware of the significance of his own species in the world of species, and of the significance of all his experience to all Universe) to realize comprehensive advantage for his species, as a function of Universe, by employment of the mathematical principles with which complex groups may be handled comprehensively by man, as a responsible anticipatory designer of his own evolutionary mutations.

"The mental processes may run as follows:

"Consciously or unconsciously, life is systematically pulsive. The heart pulses without conscious authority. It propagates.

"Continuity of conscious life becomes personality and is a product of complex periodic interactions known as cycles, or"

- Cite TOTAL THINKING, 1*1, pp.226-227, Fay*49

"periodic recurrences of a higher frequency order.

"Primarily, as the trending of men's lives and their spontaneous actions, as well as their premeditated undertakings in establishment and conservation of technical advantage seem, retrospectively, only to have been subjectively motivated and steered by the ricocheting succession of randomly willed impulses and unpredictable repulsions of maximum and minimum experience, by the push-pulling alternations of scarcity and plenty, heat and cold, wetness and dryness, joy and sorrow, loving and hating, longing and fear, sum totally operating on cyclic frequencies so transcendental to man's limited experience as almost to preclude attempts to analyze and predict the intercessional recurrences.

"Gradually apprehending the reciprocal and integrated nature of alternating experience, man has learned to measure and to plot relative degrees and magnitudes of nature's behavior (including his own) and also, therefrom, to plot, not informative but provocative curves, so designated provocative because only possibly containing secondary keys which might unlock the doors*

- Cite TOTAL THINKING, I&I, p.227, Kay'49

Charting Alternating Experiences of Man & Nature: U)

"to laws partially governing the non-self-requested experience of life.

"The keys are only possible keys because the directional causes are not evidenced in the first order of plotted curves (only the latest maxima and minima of record are) without any indication whatsoever that the thus-far-experienced extremes constitute Inherent limits of the variable. Limits would, if detected, constitute the possible turning points of trend.

'•Only after sufficient measurement gained by his intuitive probing in the direction of causes, with toolsbf assumption, may informed questions be asked by man, and calculated answers potentially be had. As with the waves of progressive advantage obtainable in the successive operations of the calculus, has man only now come in his evolution, as by the second and subsequent derivatives of his historical experience-equating, to the ability to identify in principle the systematic chemistry of his personal-process-continuity and his position on and the direction of the curves of his trending, and the rates of acceleration thereon."

- Cite TOTAL THINKING, I&I, pp. 227-228, Kay*49

Charting Alternating Experiences of Man & Nature: (4 J

"Man first applied his newly won tools, of derived superior advantage of measurement-in-principle by realizing the predictable behavior of energy interactions, in shaping the designs of his accelerated velocity and magnitude extensions, his hurled, rolled, levered devices, his shots and ships. This priority of application was natural to man's having in boyhood thrown stones and sticks, hour after hour, into water, against rocks, through membranes and having later tried progressive acceleration in slingshots, archery, and guns, and still later in propelled carriers in general.

"The second derivative advantage accrued initially to the plotting of the data relative not only to the records of his running and jumping, but to his javelin-throwing sports, as well as accelerated mechanical novelties of impelled, flown, floated, wheeled, slid, levered, and geared devices.

"Turning to gain momentum, he could, unencumbered, jump over a six-foot bar; then, paradoxically, encumbering himself with a long pole, he could run with the same speed to vault over a twelve-foot bar. A regeneratively excited sense of perspective accrued to the relatively remote yet personally significant"

- Cite TOTAL THINKING, I&I, p.2.28, May'49

Charting Alternating Experiences of Man fc Nature: (5)

"events of further extension--- personal because the events were not only self-witnessed or experienced, but also were selfdesigned and self-executed--- and proved on trial of the imagined conception to be accelerations to velocities and magnitudes greater than attainable by man's personal propulsion mechanics alone.

"Thus, man accelerated extended communication to unexpected distances and with unexpected speed. Next he accelerated his personal conveyance, accelerating the evolution of his own extension from, for instance, the echoed voice of a poling raftsman to the forwardly informative radar manipulations of the stratojet piloting airman.

"In order to apply the same degrees of skillfully interpolated advantage of knowledge in principle: of position, direction, and relative acceleration, to man's immediate, everyday, and far less 'exciting' environment-shaping, he must be able to write the cogent formula of comprehensive functions of the coordinate system of his own physical complex--- of his life (personal, family, and species) as reciprocally embraced by the complex of dynamic Universe. This requires in essence : (a) the comprehensive-intuitive, that is, total subjective-"

- Cite TOTAL THINKING, 14,1, pp. 228-229, Fay'49

Charting Alternating Experiences of I-»an &. Nature; (6)

"objective thinking; (b) the assumption of the systematic or comprehensive special idea in view of its reciprocal implications; and (c) the rigorous test, of physical trial, by precision tools and under the family of possible-and-probable variable conditions accelerated and amplified beyond working requirements.

"Not having as yet applied scientific advantage to anticipatory design of the immediate environment continuities, the environment runs the man. Men may take at first none, and secondarily but little credit for their personal survival. Even in their nature years, primarily pitting themselves against other men, but few of the species may claim conscious participation in the survival of the species and none for the conscious contribution to the continuity of Universe."

- Cite TOTAL THINKING, I&I, p.229, May'49

carting. .Alternating EXBWIPJMB of Kan & Nature;

See Life Alters Environment A Environment Alters Life Heisenberg-
Eliot-Pound Sequence

Charts: Economica Charts:

"We can't see the economic charta realistically: Humanity geta out of
the way only when it aeea the motion."

- Citation and context at Sensorial Reflex. 13 Mar¹73

~~%£W .towte Cftarte <?a_Da<r.ae>_Sa-the Upwrđ Curvaa Laval Off---~~
Into Equilibrium:

See All-acceleration Iniverae, (1)(2) Intuition, 1 Feb*75 Charts, 3
Oct'73 New Tork City, (2)(3),

See Industrialisation: Curve Of Ninety-two Eelements: Chart of Rate
of Acquisition Industrial Revolution: Profile Of

Graphable Slides: Graphics vs. Words World Man Curve

liaria: S-mtM ft Tm<UL«=
12)

See Calculus. May'49

Lags (1)(2)

Visual Symphony (2)

See Graphable Slides: Graphics vs. Words Tendril Curve

Cheap:

"Don't say cheap when you mean inexpensive. Cheap involves delib-
erate inefficiency."

- Cite RBF to EJA, 3200 Idaho, Wash, DC; 19 Jul'76

Sett Kxpenaivtt □ Nonthinking

Checker*:

See Computer Aake an Original Question

Checklist of Univerwl Pesim R.ouiroaents:

See Environment Events Hierarchy Universal Requirements of a
Dwelling Advantage

OhtttM Pplrhdla:

"The production of notion and spiral and wave by alteration



"All apparent motion and growth and variable time frequencies of local occurrences of Universe are permitted by tetrahedron* local asymmetrical alterability without ever altering absolute integrity of symmetry of the whole system. The tetrahedron is the supreme conceptual synergy of Universe."

- Citation at Tgrhdren Coordinate Symmetry, Nov*71

~~-1, -~~ KSVTTt:

RHF DEFINITIONS

Cheeac Tetrahedron • '

"The cheese tetrahedron is the only polyhedron the integrity of whose symmetry is not violated by accommodating local aberrations; this is inherently a four-dimensional phenomenon

- Cite RdF at Penn Bell videotaping session. Philadelphia, PA 20 Jan'75

Chaeao Tetrahedron:

See Tetrahedron: Coordinate Symmetry

Tetrahedron: The Transmitting differential tetrahedron Displacement

Cheese;

See Matter, 3 Oct'72

Chaoleal Behaviors:

See Inventory *of* Chemical Behaviors

Chemical Bonds;

"We find Euler and Gibbs coming together in the vertexial bonds, or polyhedrMal 'corners,* or point convergency of polyhedrmal lines. The bonds have nothing to do with 'faces and 'edges,' per se. Two bonds provide the hinge which is an edge bonding. One bond gives a universal joint. Triple or areal bonding gives rigidity.

"J>ss attraction is always involved in bonding. You may not have a bond without attraction, mass or magnetic (integral or induced), all of which are precessional effects. As the Sun's pull on the Earth produces orbiting, orbiting electrons produce directional field pulls. This was not considered by Euler because he was dealing with aspects of a single system.

"Gibbs requires the mass attraction without saying so. Kass attraction is necessary to produce a bond. Gases may be tetrahedrally bonded singly, corner-to-corner, or as a universal joint. Gibbs does not say this. But Ido."

- Cite SYNERGETICS draft At Secs. 1054.57-59, 6 Lar'7J

Chemical Bonds: (1)

"While tension and compression always and only coexist their respective structural behaviors differ greatly. Structural columns function most predominantly in compression of inherent limit of length to cross section, whereas tension cables or rods have no cross section diameter-to-length ratio*

"Pass attraction is always involved in bonding. There may not be atomic bonding without either electromagnetic or mass attraction: either will suffice.

"As man's knowledge of chemical element interalloying improves it becomes apparent that critically effective mass attractive atomic proximities are intensified by symmetrical congruence. The mass attractions increase as of the second power with each halving of the distance of atomic interstices-- the length of structural tensile members, such as those of suspension bridge cables, relative to a given cross section of cable diameter, or of any given stress. The overall length trends to amplify in ever multiplying degree thus approaching infinite lengths with no cross section at all. Incredible? No!"

- Cite RBF to EJA, Beverly Hotel, NYC, Jun'72 as rewritten by RBF for SYNERGETICS at Sec.646, 1 Oct'72

Chemical Ponds: (2)

"Look at the Moon and the earth flying coheringly around the Sun. every use of gravity is a use of such sectionless tensioning. The electrical tensioning first employed by man to pull energy through the non-ferrous conductors, and later to close the wireless circuit, was none other than such universally available sectionless tension.

"electromagnetic energy is produced by accelerating the inexhaustible mass attraction into other permitted patterns as we may stir water in a bathtub to develop cyclic rotation."

- Cite KBF to eJA, Beverly Hotel. NYC, Jun'72 as rwwritten by RBF for SYNERGETICS, Sec. 646, 1 Oct'72

Chemical Bonds: "A single-bonded fluttering

Or into double-bonded hinging

Or into triple-bonded rigidity

Or into quadruple-bonded deBnlfication---

Ergo all pyramided upon Exponentially compounded Synergies of mass attraction and precession.

RdF DEFINITIONS

Chemical Bonds:

"base attraction is always involved in bonding. You may not have a bond without mass attraction."

- Citation at Maaa Attraction. Aug'7'

Chemical Bonds:

"Spheres are just very high frequency geodesics. If you closest pack geodesics they will take up just a little more room as polnt*-bonded (gas), than as edge-bonded (liquid), than as face-bonded (crystal)."

- CitOjBBF to EJA_r Fairfield, Conn., Chas Wolf.

_f f Junfl *Hunt** /fa . 4>

Chemical Bonds:

"...a single-bonded fluttering.

Or double-bonded hinging.

Or triple-bonded fixity.

Or quadruple-bonded densifiction—

Ergo all pyramided upon

Synergies of mass attraction and precession."

(Adapted.)

- Cite INJUNCTION, Draft Feb '71., p. 28

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secs -?

Chemical Bonds:

"Chemical bonds as demonstrated by arrangements of tetrahedra:

"a. The single bonded tetrahedron system is like an engineering pin Joint: it can move in any direction. It characterises the behavior of gas.

"b. The double bonded tetrahedron system is like an engineering hinge joint: it can rotate about an axis. It characterizes the behavior of liquid.

"c. The triple bdled tetrahedron system is like an engineering fixed joint: it is rigid. It demonstrates the behavior of crystalline substances.

"d. The quadri-bond and mid-edge coordinate tetrahedron systems demonstarte the super strength of substances such as diamond and the metals."

(See Illustration #21.)

— Cite SYNERGETICS ILLUSTRATIONS, Caption #21 T£ 7 X* Hfl»/ - C iff
UK ML Sfc, ¹

£hemical Bonds:

"When two or more structural systems are joined vertex to vertex, edge tcjedge, or face to face, or to omnicongruence--- in single, double, triple or quadruple bonding, then the topological accounting must take cognizance of the congruent components."

__ Cite NASA. SPEECH, pp. 61-62 , Jun '66

KBF DEFINITIONS

Chemical Bonds:

"in 1885 van't Hoff demonstrated to organic chemists that all organic chemistry is tetrahedrally configured. We have tetrahedra vertex to vertex: single bond. A constellation of tetrahedra linked together entirely by such universal jointing, which is called single bonded, uses lots of space and is very characteristic of the gases. Engineers speak of a single bond as 'pin ended.' Double vertex: double bond. Two vertexes line up to form what engineers call a 'hinge.* A constellation of tetrahedra interlinked only with double or hinge bonding is as yet flexible, but sum-totally as an aggregation and space-filling complex, is noncompressible--- as are liquids.

"When tetrahedra are attached to one another by three vertexes they are triple bonded. Engineers call triple bonds 'fixed ends.' They are rigid--- or they are stable like three-point landings of airplanes, or like three-legged stools on uneven ground, or, like camera tripods. Quadrivalent: four bonded--- as when soft light weight carbon contracts to form dense diamond. All four vertexes are congruent."

sfc.

- Cite NASA Speech, pp. 56-57. Jun '66

Chemical Bonds: Metals:

"But metallurgists found no vertexial bonds in metals. Fifty years later came x-ray diffraction. In 1932 Linus Pauling made x-ray diffraction analysis of the structures of many metals. All of the metals thus far x-ray diffraction analyzed, 35 years later, have proven to be tetrahedrally coordinated but in a great variety of nonvertexial associa-

tions Instead of the tetrahedra being coordinated vertex to vertex in the metallic assemblages, their centers of gravity are usually congruently coordinate. Sometimes the metals are also mid-edge coordinated. Those are the metals."

- Cite NASA Speech, p, 57» Jun '66

Chemical Bonds;

"The openaoat condition or single bonding corresponds in flexibility or Mutability witji the behavior of gases. The medium packed condition or double bonded hinged arrangement corresponds to the behaviors of liquid aggregates. The closest packing triple bonded fixed-end arrangement corresponds with rigid structural molecular compounds; the closest packing concept which was developed in respect to spherical aggregates only with their concave octa and vector equilibrium spaces between spheres, overlooks a much closer packed condition of energy structures, which however had been comprehended in organic chemistry, that of quadrivalente and four-fold bonding which corresponds to outright congruence of the octahedra or tetrahedra with themselves. When carbon transforms from its soft, pressed ckke, carbon-black powder, ofc charcoal arrangement to its diamond arrangement it converts from triple bonding km or so-called closest arrangement to quadrivalence. We might call this self-congruence packing, as a single tetrahedron arrangement in contradistinction to closest packing as a neighboring group arrangement of spheres."

- Cite RBF Ltr. To Prof, Von Hochstetter, 28 Oct. *64, p. 2.

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RBF DEFINITIONS

Chemical Bonds:

"In a single bonded affair all the tetrahedra are joined to one another by one vertex. If two vertexes of the tetrahedra touch then it is called double bonding--- joined like a hinge. When three vertexes come together it is called a fixed bond, a three-point landing, triple-bonding. When we have four vertexes congruent then you have quadrivalent ... as if carbon suddenly became very dense like a diamond."

- Cite OREGON Lecture #2 - p. 73 , 2 Jul '62

- *ci/eHtcHL qq/. o? - a S']*

Pond as SImXb Pgn4:

"In a single-bonded or univalent aggregate, all the tetrahedra are joined to one another by only one vertex. The connection is like an electromagnetic universal Joint or like a structural engineering pinJoint; it can rotate in any direction around the Joint. The mutability of behavior of single bonds elucidates the compressible and load-distributing behavior of gases."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 931.20, 19 Dec'73
aisaUaUasia: Single Ponfl:

See Vertexial Connections Univalent Monovalent

Chemical Bonds: Double Bond;

"If two vertexes of the tetrahedra touch each other, it is called double-bonding. The systems are joined like an engineering hinge; it can rotate only perpendicularly about an axis. Double-bonding characterises the load-distributing but noncompressible behavior of liquids. This is edgebonding."

- Cite SYNERGETICS text at Sec. 931.30, galley rewrite, 19 Dec<73

ggqdg: Tripl? gond:

"When three vertexes come together, it is called a fixed bond, a three-point landing. It is like an engineering fixed Joint; it is rigid. Triple bonding elucidates both the fonnational and continuing behavior of crystalline substances. This is also face-bonding."

- Cite SYNERGETICS text at Sec. 931.40, galley rewrite, Dec'73

Chemical Bonds: Quadruple Bond:

"When four vertexes are congruent, we have quadruple-bonded densification. The relationship is quadrivalent. Quadri-bond and mid-edge coordinat- tetrahedron systems demonstrate the super-strengths of substances such as diamonds and metals. This is the way carbon suddenly becomes very dense, as in a diamond. This is multiple self-congruence."

- Cite SYNERGETICS text at Sec. ¥11.50, galley rewrite, 19 Dec¹?!

See Congruence

Bonding Hierarchies Geometry of Vectors Gravity & Bonding Load Distribution Bonds: Bonding Valence: Valent

See Liquid, 31 May'71j 1967

Nucleus, 18 Jun'71

Structural System, Nov'71

Flywheel. 11 Dec*75

Aural, 22 Feb'77

Olfactoral, 22 Feb'77

Tactile, 22 Feb'77

Visual, 22 Feb'77

Chemical Cogpounds:

See Compounds

Phenlcfl fclcmntfl:

(D

See blementality

**Matter aa Interference of Energy Events Ninety-two Elements Unique
Frequencies**

Family of Chemical Elements

See Design Science, Dec*72

Reality, 14 Oct'69

Chemical Fueling'

See Meale, May*49

Shfialcal Hax?

See Hex: Chemical

See Temperature of the Hunan Body, (A)

ghoalGAl NonaurabliltYj

See Vector *quilibrlunj, (2)

RBF DEFINITIONS

Chemical Phenomenon:

"Every chemical phenomenon

Can be identified

Either by its mass characteristics,

Such as weight £er volume.

Or by its radiation-frequency bands.

Both the frequencies and the natter

Are behavioral states of the same phenomenon.

- Cite BRAIN 4 KIND, p.106 May »72

RBF DEFINITIONS

Chemistry:

"Chemistry... is linearly programable as a code, all of which is characterized by sequence and intervals which altogether are realized at various levels of intercomplexity

- Citation and context at DNA-RNA. 16 Feb'73

RBF DEFINITIONS

£h^anigvryi

""All the /internal or nuclear affaire of the atom occur internally to the vector equilibrium and all the external or chemical agglomeration occur externally to the vector equilibrium.'*

- Cite Carbondale- Draft Return to Mnrtlnabi 11 ty_t -pr-

- Citation and context at Vector Equilibrium (I), Jun'66

RBF DEFINITIONS

Chemistry;

"Chemistry ... is always operating-- associating and disassociating--- in whole, rational low order number structural systems."

- Carhndale - Draf<

WYtrn tin Kadslahilily, pji Y.K V,9

NASA Speech, p. 75, Jun*oo

RBF DEFINITIONS

PMrtry:

"All the phenomena larger and more complex than vector equilibria do relate to the chemical compounds and anything smaller than vector equilibrium relates to the single atoms and the single atoms do get into the symmetries whereas the chemical compounds get into a polarized system."

- Citation and context at Vector Equilibrium. 11 Jul'62 -fti-Vw QRS-fCQII-LuuiBFT~f7r-S:W>

'vf*}, Ttxo nl»c-L - Tec'uTfTjl

Chemistry:

"The physicist deals with the internal affairs and the chemist with the external affairs of the atom."

-ffi 1~?!.!> Hi'k TI III111 IIJ.i>=HUU » * n Ayn t j,Q

Stltsrenst-SaiMten Physics and Chemistry.

- UJttt

- Citation at PhvBice:

9 Apr*40

Cheaiatry:

"... Cheaiatry is basic structure, ergo architecture.*

- Cite IDEAS *k* INTEGRITIES, p, 75

"Comprehensive Man," *

Jan'59

RBF DEFINITIONS

.Qhepifitry External Affaire pf the At on:

"The cube relates to cheaietry, the external affaire of the aton,"

- Citation and context at Phyalcfli Difference Between Qwdetrv and Phv8ica, 31 May'71

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See Simplex, 196\$

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CITATIONS

Chemistry: Chemical;

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1230.11

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8201.21

8201.22

8901.19

81005.612

81007.16

81044.08

81052.69

See Compound: Difference Between Atone & Compound

Colloidal Chemistry

Inorganic Chemistry

Ninety-two Elements

Organic Chemistry

Organic i Inorganic

Valuable Chemistry

Electrochemical

No Chemistry of Life

Inventory of Chemical Behaviors

See DNA-RNA, 16 Feb*73*

Invention, 2? Dec'73 Nature Permits It Sequence. (1)(2) Plastics, 10 Aug'70 Pollution, 12 Jun'69 Structure, 16 Dec*73 Pollution, 12 Jun'69 Wood Technology, (1j)-(4) Man, 6 Jun*69 Topology, 11 Dec'75

RBF DEFINITIONS

Chemical: Chemistry:

(3)

See Chemical Behaviors Chemical Bonds Chemical Compounds
Chemical Elements Chemical Hex Chemical Limit Chosical Measura-
bility Chemical phenomenon Chemical Fueling

Imrentt^a <*)» « c*llgd "Ufg"- (>)

"You come then to the very extraordinary mystery of what is life. For Instance, it does seem to manifest me. Physical abstractions. The principles themselves could not be principles in having beginnings and endings; they are inherently eternal. We have discovered a number of principles operating in Universe none of which contradict the others, and all of which are interaccommodative. So that there is such an integrity of interaccommodation in these eternal, weightless abstract principles. . . Something which can only be discovered by intellect and it apparently implies an a priori intellect, because you discover the reliabilities. This is all that I mean by an a priori intellect, testing the validity of its principles, that it invents a game called 'life' where part of the Xinciples are that there are no straight lines, only waves. It would be a fantastic kind of a game, like chess, where it's

not just in a plane but omnidirectionally played and it can double back on itself, where every move has six moves. There are six parts to every move. And if you are playing it at a different frequency from the other moves, then"

- Cite WATTS TxPt, pp. 27-28, 19 Oct '70

rtuh bc.r'IM'1'IONS

Ch...: A Priori Intellect Invents a Cam* Called "Ur»*: (2)

"you're not going to interfere with another. So you have al} the variety of all the known frequencies as part of the chess game. And all these extraordinary things you could do with six positive and six negative degrees of freeddm, at any one moment. So it's a fantastic kind of a game, a beautiful game. And you say: How do you play it? And it could be that each one of us is one WHpMMBHRBBp □□□Bof the ways in which the game comes out. There is maximum deployment of Universe. We may be the greatest concentration of Universe."

krs Watts: "You're talking about one-dimensional terms?"

Watts: "Three dimensional."

hriF: "X wasn't talking about three. I gave you six dimensions. I said six dimensional degrees of freedom."

- Cite WATTS TAPE, p. 28, 19 Oct '70

"Th® game of Universe la like cheat with 92 unique men, each of which hag four different frequencies available to it--- absolutely unique--- qnd it work* on 12 degrees of freedom instead of a planar checkerboard. The vector equilibrium becomes the checkerboard and you can change the frequency to suit anybody. . . Wow-Wow. . Synchronisations ... A Wow is an interference. . • Adding to it the complexity of mass-attraction and the critical proximity between precessing and falling in. And there are also electromagnetic repulsions built into the game."

- Cite RBF to EJA, Washington, DC, 7 Oct. '71. IT. a*“ F/fetOiMr SEC. itBF

Chess: Game of Universe:

**.#hen we think of Universe as a game of chess with each individual having his alternate degrees of freedom, we begin to see that each one of us is a game---a way the game can be played, but not the player."

-Cite RBF to White House Fellows. 'Watergate Hotel, Wash. DC: 28 Mar'77

*nut . wtjdhAXluNi**

^ch?as: Game of Universe:

"So we begin to think about the game of Universe with all its degrees of freedom of motion, where we find that there are apparently six positive and six negative degrees of freedom in relation to any one event. It isn't a game where either or all works. It is a very complicated kind of chess game where from any point any one of the men can be moved 12 different ways.

"Suppose we atart with Universe as a closed system of complementary patterns that is regenerative, that is adequate to itself, that has at any one moment for any one of its subpatterns 12 degrees of freedom. There is an enormous complexity of choice. We will start playing the game and it is the most complicated game of chess that has ever been played. We start to play the game with Universe. But there must be an integrity from now on. You made that move--- and from there you can only make so many moves. The number of moves that can be made are really billionsfold or quadrillionfold the sum total of the complexity of the moves that can be made in Universe."

- Cite Oregon Lecture #5, pp.172-173, 9 Jul'62 it. oecitefs o' ooiA- sec. 5 3 7')
Cheaa:

See Knight's Move in Cheas

See Computer Asks an Original Question, (C) How Little I Know, 1
Feb'75 Individuality & Degrees of Freedom, (1)

Chicago:

See Interrelatedness vs Names

See Eggshell, Dec*72

Young World, 15 Sep'71

ChlrtTO with Cut Off:

See Life Is Not Physical, 13 Jul*74

Chicken:

See Egg: Egg Enbryo

Child:

...Every little child coning out of the mb likes to know how to get back
in again... Children like to go inalde and outside things... Every child
wante to solve things by

- Cite RBF talk at A. Museum of Natural History, NYC. EJA transcript
p.10; 1 May*77

Child:

*A child is comprehensive. He wants to understand the whole thing..
.Universe.**

- Cite RBF quoted by Can Smith in RBF TO CHILDREN OF EARTH, Dee*72
KBF uEFDiirlUNS

Child:

"If you really want to get any important kind of information you really have to start with the Universe and not with the parts. And that's exactly where a child always starts. A child is always interested in that whole Universe."

- Citation and context at Hierarchies. 16 Jun'72

saw

"I observe that every child demonstrates a comprehensive curiosity. Children are interested in everything and are •I forever embarrassing their specialised parents by the wholeness of their interests. Children demonstrate right from the beginning that their genes are organised to help them to apprehend, comprehend, coordinate, and employ--- in all directions."

Child Sequence: (¹)

"There's no question about it: Man is looking for meaning. I think our young world is discontented with what they were told by religions, and their dogmatic interpretations, and the assumed identity of the significance of the experience which came along with religion. They're getting out from under, very much as a child. A little child and a great scientist both want experimental information, they don't want axioms, they don't want dogma, they want to find out their own.

(Tearing a piece of tissue paper)... Does this hold together? Can I hold on to that when I'm falling? No I can't. I've got to find out. A child is apt to find out very directly and personally. He's not going to believe anything anybody says. •You just hold on to that and it won't tear.' The child says. 'I'm going to find out whether it tears or not by ripping it.' So the child is a scientist. Society in its great ignorance has been subject to the most powerful leader. The leader said, 'All right, gentlemen, I'm running this place. These are the rules and you've got

to get on, and I like this minister and he's got a religion that suits me fine. And you all catch on.' In the past people have buckled down in an extraordinary way and are more or less accustomed to not doing their own thinking. They've found that thinking got"

- Cite RBF interview in "Friends" (London), 14 Apr*70

Child Sequence:

(2)

"them into trouble. They had this wonderful capability and capacity a little child uses until the grownups say 'Darling, it just doesn't pay to use that little brain of yours; you catch on to this is the way the rules are because I'd like you to survive. I don't want you to get in a lot of trouble. Every one of my friends when I was young that carried on the way you are got into trouble, so you stop that. At any rate, the young world is getting out from under, and it is looking for its own meanings. It is really a child that has not been discouraged too much and is out seeking very very vigorously.

"The fact is you don't have to teach being truthful. The child by itself says. "TAJit's what I see. That's what I smell,' because that's the equipment he has and that's the reaction he's

getting. And that is the truth. I find that lying and prevarication to get on with the system proliferates very very rapidly but has to be taught. It's taught when the children are quite young, and then once when people begin to get on, everyone's playing poker and playing politics, in corporations and governments, how to get on, look after your family. The game from then on is not the truth. We get so involve! with prevarication that it seems as though truth would be alvery"

- Cite RBF interview in "Friends" (London), 14 Apr'70

Child Sequence: (3)

"difficult matter to learn--- that people have to learn to be truthful. What excited me is that I've discovered that truth is innate, and the lying is superficial, superimposed* and the young world I find is making out, is holding with its innate truthfulness, and it no longer wants to go along with the symbols of power structures. They really dare to get out from under and have also been attracted by moving pictures. Moving pictures have made visible the visualisations you had just through the novel of yesterday or through history, and it's very appealing to see this character, whether it's an imaginary Sir Galahad, or it's an interpretation of Genghis Khan, or whoever it is. Billions and billions have been spent on getting these images in the heads of children because they would like for the moment to try out being a Genghis Khan looking character, or to be Sir Galahad. Well, why not?

I certainly as a little child enjoyed this sort of thing tremendously, and pretty soon the grownups said, 'You've got to stop.'

"I was taking great tea boxes lined with beautiful foil, very heavy foil, I could make armour when I was young, that's"

- Cite RBF interview in "Friends" (London), 14 Apr'70

ChUd Sfqueng?:

"all right up to four years' old. Then they said. •You'd better take off all that armour now darling, you're going to have to go to school and make some sense.' And I find the young world enjoying costume and what feels good, in contradistinction to what are considered the clothes of distinction, the superficial thing, is very important. In other words I find truth is sticking out all over and it's very surprising to an older world to see nonconformity.

I have very very great encouragement from everything I see.

- Cite RBF interview in "Friends" (London), 14 Apr'70, by Colin Moorcraft.

KBF DaFlMThuNu

Child:

"The child is really the trim tab of the future."

- by I R*“ x~‘ ‘4TT~I ill~i 11,

- Citation at Trim Tab. 8 Jan'66

Child Hap Everything It Npgdp EHgatlgally Right frgn Pirtle

See Education: Evolutionary Touchdown®, May*65

guild'a Integrity:

See Invisible Architecture, (3) Morley, Christopher: The Greatest Poem Ever Known,

3 Oct'64; 10 Oct'63

Subconscious Coordination, Aug'64

ShllAAa Momon: (i)

`` People of the older world are so apprehensive for the young. They see the young are going to encounter the pains that they have encountered. They are continually cautioning. As the new life reaches out, they say 'Darling, you'll get burnt. You better not do that,' And so we find the valves getting shut off in all our love. Then when the parents don't say to the child, 'You better not do that,' and the child is exploring, trying to understand tension and pulling on a cable and suddenly the lamp comes off the table on to their head. And they say, 'Why didn't somebody say "Don't"?' Or 'Why is that there?' So that they get discouraged, either by the grownups or the kind of environment the grownups have organised about themselves with loose lamps,,, and so forth.

"I'm quite confident it could all be avoided. But we have to realize that every little child is a superb laboratory. Watch the child tearing paper. It tears all kinds of paper. And having torn some fairly common newspaper and wrapping paper, it's then liable to get into your best books in the library and wanting to tear them. Because your child has to find out what it is when he holds on to it--- and what's not going to tear when he really needs it."

- Cite RBF in Ed Newman TV Interview, Feb*73

Child As Laboratory?

(2)

"That child is very aware of gravity, to start off with. The child tries to stand up, and gravity brings it back down again--- very vehemently. And he learns this sliding out of bed, having gravity act as a brake while he's horizontal and how gravity acts as an accelerator when he's vertical. He wants to have some way to rest himself, but he can't get back to the horizontal, so he has a feeling for that tension, something he can hold on to. So I find every child, then, is really a brilliantly designed laboratory, trying to find out what the reliable behaviors are in order to be able to employ them methodically. I would think--- in view of the fact that there really are fundamentals of structure, of tensions and compressions; there are fundamentals of mechanics--- that we ought to be able to really make available to the child exactly what it needs to get the very best information, in way where they won't get hurt and where nobody will be tempted to say 'Don't.*

- "Is this what you mean when you speak of circumstance- pruned individuals? Circumstances prune people. They narrow them, do they?"

- Cite RBF in Ed Newman TV Interview, Feb*73

chUA.Ag MfrsrMgry?

(3)

"Well, the circumstances certainly do spell out the conditions to be met, and some comprehend and some do not. The ones who comprehend, then, I would call them circumstance-proved."

- Cite EBP in Ed Newman TV Interview, Feb'73

See Learning, (1)(2)

ChUl; A Little Child Shall Lead Them;

"The most important way in which women are going to accomplish world merging and stability will be through their education by their own children rather than vice versa as of yesterday. The Bible was right, *A little child shall lead them."

- Cite RBF in AAUW JOURNAL, p. 178, May *65

Hex-born Child's Contact with Eternity:

See Degeniue, 22 Jul*71

HBF DEFINITIONS

Child Puahcfl Swan Off MEO qX Tabla?

"My idea or education is really highly inductive. The child must experience gravity many, many ways before you give him the word-- gravity. He doesn't need the word--- gravity--- he really learning how the thing works."

- Citation in context at World Game. 15 Jun'74

'Then a little child pushes a spoon to the edge of the table and it falls off and the parents pick it up and put it back. And then the child does it again. . . And if after it does it about ten times, the parents say, 'Maybe I've got a dumb child here. But the child is so normal to Universe that if he did this out in space the spoon would just stay where he put it. it wouldn't fall off at all. This child has a very healthy surprise at this phenomenon going on, Nothing is quite so prominent in a child's life. His mother is not always around but gravity is always there. And every time he tries to stand up--- Boom! Down he goes again! Everything keeps going this way. Now I find that because our earth is so big we don't seem to see this thing being pulled toward that. Because the Earth's mass is so very great and this little mass here (on the table) is so tiny. That's the prominent one, so friction is dominant. But we don't tend to see it, to experience this falling-in.'^t

- Cite KBF Address, transcript p.5, Tel Aviv, 1 e> Jun'72

See Normal to Universe, 10 Sep*74

World Game, 15 Jun'74*

children* a

"All . . . work . . . must be cooperatively initiated as with children's games."

- Context and citation at Work. Dec*72

child Turing Fap ar;

"A child tears paper--- and he tends to take your best paper--- because he is trying to find out about things. Tearing up the paper is the only way that child can find out what does cohere and what does not cohere. This is what the child is trying to do. When you see it from his viewpoint you can help him avoid using the electric cord to find out about tension.*

Cite RBF at Bell Studio Videotaping, Phila. PA., 26 Jan'75
Child

See Child as Laboratory, (1)

Children»_B Pictures of the Sun and the Moon:

"Children will draw pictures with everything in them.. houses and trees and people and animals..and the Sun and the Moon. Grown-up says, 'That's a nice picture. Honey, but you put the Moon and the Sun in the sky at the same time and that isn't right.' But the child is right! The Sun and the Moon are in the sky at the same time.'*

- Cite RBF quoted by Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72
Children¹a Picture of the Sun And the Moon? (1)

"The age-long fallacious propensity which has frustrated adult man's adequate conception of Universe is that of spontaneously assuming that Universe must consist of a simultaneously unit conceptuality--- ergo, of simultaneous geometry or shape, i.e., a simultaneous structure. What is the shape of the Universe? What are its boundaries? These are unitary, simultaneous, static questions. They have no logical answer for Universe, though finite, is a nonsimultaneous structure. Children know this better than their parents through their innate conception as yet unspoiled by erroneous logic. They remember the Juggler putting a simultaneous array in the sky with nonsimultaneous tosses.

The childhood representational pictures depict their dynamically arrayed concept of the 'whole world' inventory, of mentally juggled arrays of nonsimultaneously occurring experiences agglomerated without any intended geometrical interrelationships. In all lands the children's spontaneous pictures contain 'the* house, trees, birds,

dogs, flowers, grass, clouds, stars, the Sun and the Moon. The parents say, 'Darling a nice picture, but we don't have both the Moon and the Sun at the same time.' The parents are wrong--- both the Sun and the Moon coexist at all times whether temporarily"

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, Pp. 132-3, 1959
Children Pictures of the Sun and the Moon:

(2)

"covisible or not. The parents' rationale has been damaged so that it can only consider and associate those items which are simultaneously grouped in unitarily static array. Yet in equal illogic the parents keep on attempting to see the Universe of nonsimultaneity in unitary, static, and simultaneous geometrical array as a 'thing'²¹ --- a very big `thing*` --- the biggest 'thing*.'"

Children's Pictures of the Sun & the Moon:

Synergetics : Sec. 530.03

See Coaprehensiveness, May'70

Children ftp Only P"rc sGlenUctc:

"Children conduct their spontaneous explorations and experiments with naive perceptivity. They have an innate urge: first, subjectively to sort out, find order in, integratively comprehend, and synergetically memory-bank their experience harvests as intertransformability system sets, which thereafter they eagerly seek to demonstrate and redemonstrate as manifest of their comprehension and mastery of the synergetic realizability of the system's physical principles. Consequently children are the only rigorously pure physical scientists. They accept only sensorially apprehensible, experimentally redemonstrable physical evidence,"

21 Cite BMX INTRODUCTION TO OMNIDIRECTIONAL HALO, P.133, 1959

Cite SYNERGETICS 2 draft at i>ec. 100.017; 28 Apr'77

RBF bLFwrnois

Children ?P. *PRIY. Fars. rclentistp* (1 j

"The number one characteristic of life is awareness. The child has access only to a priori cognitions. The perception of children is innately naive: they explore and experiment spontaneously, with the urge first to sort out, and then to find order In, and finally to integratively comprehend the harvests of their daily experiences. Thus children emerge as the only rigorous, pure, physical scientists.

"Although they have the most superb imaginative faculties, when children explore they rely strategically only upon their own direct recalls of experimental evidence. With anticipatory imagination they may venture to ask: 'foppose I do so and so---what then?*'---projecting a physical experiment that they know entails pure, unprecedented risk, which they may Intuitively appraise as being 'barely possible,* as for instance a ditch over which they may conceivably jump today even though it is wider than any over which they have previously leapt, and.only to be attempted now because they also have learned experientially that, as they grow older and bigger, they often find that they can jump further and higher than before. 'How do I feel about it?' and 'Shall T or shall I not try' become exquisitely aesthetic questions"

- Cite SYNERGETICS 2 drA at Secs. 100.01 +.02; 22 Feb'7?

Chll.lren a» Only Pure Seienti.te:

(2)

"leading to synergetically integrated, physical-metaphysical, split-second appraisals and intuitive decisions...,

"Thu child's initial awareness of otherness phenomena can be apprehended only through the human senses---and the instrumentally-augmented, macro-micro extensions of the human senses.

- Cite SYNERGETICS 2 draft at Secs. 1C0.02 +.03; 22 Feb*77

"Let yourself be a child, . . . Do the drawings have meaning for a child? The greatest scientists are children. They want to experience everything for themselves, You say the paint is wet, and they still want to touch it. It looks wet, smells wet, but is it wet?

"•Tetrascroll* is the distillation of everything I think and feel in mathematics.,.. But it is all told through the mouth of Goldylocks., and the story of the Three Bears in Goldy's words.

"It all boils down to a new way of looking at the Universe. The tetrahedron---not the cube, as we were taught in school--- is the basic pattern. A cube will collapse under pressure, a tetrahedron never, since each side pushes against and holds up the other---like a lever. There are 30 different relationships in a tetrahedron, among faces, edges, and corners. So there are 30 different ways of looking at anything.

"Tetrahedrons, like people or snakes, when they move forward, do so from side to side, not straight ahead. So the way to look for solutions is to your side, not to the front of you.,..

- Cite RBF to Amei Wallach in NEWSDAY, 6 Feb*77
RBF UTILITIES

"I know that we have the options to make it. That's different from being optimistic.... It's touch and go.,. Goldy is very concerned. That's what this is all about. I'm Interested in making artifacts that give us options."

---Cite RBF quoted by Amei Wallach in "Bucky and Tatyana," NEWSDAY, 6 Feb'77

Child's Spontaneous Interest in Totality;

See Divide It Conquer Sequence, (1) Buddha: Christ: Mohamed, (2)

Children: Synergetics Makes Phyeice Lucidly, Clear to Children:

See Kindergarten Level of Comprehension

See Baby

Creativity of Children

Degenius Genius: Children are Bom Geniuses Intuition of the Child
Kindergarten Level of Comprehension Morley Poem: Greatest Poem
Ever Known Mothers Parents Piaget, Jean: Child's Sponateous Geom-
etry Spontaneous Truth of Childhood Young Life Sensitivity of Child-
hood Scenario of the Child

Hunan Beings & Complex Universe, (3)(7) See Antientroplc, Jun'69
Death, 11 Sep'73 Education, (2) Fear, 1938 Fresh, 3 Oct'71 Hierarchy,
16 Jun'72* Mine: That's Mine, 18 Nov*72 Responsibility. Feb'73 To-
morrow, Feb'07 Totality, 28 Jun'?2 Touch Dec'72 Trim Tab, 8 Jan'66*
Specialist: born With One Eye, 1970* Subconscious Coordinate Func-
tioning, 10 Oct'63 Whole, Dec'72 Natural, 20 Jan'75 Naivete, 1 Feb'75
Perfect 1938 News to Evolution, (4) Sensings 6c Eventings, 28 Apr*77
Ice, 29 Apr'77 Tine-angle-sdze Aspects, 30 Apr'77

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Child: Children:

(3)

See Child Has Everything It Needs Educationally Right From Birth

Child's Pure Integrity

Child As Laboratory

Child: A Little Child Shall Lead Them

Child: New-born Child's Contact with Eternity

Child Pushes Spoon Off Edge of Table Children's Games Child Tearing
Paper Children's Pictures of the Sun & the Moon Children As Plane-
tarium Audiences Child's Spontaneous Interest in Totality Children:
Synergetics Makes Physics Lucidly

Clear to Children

Children as Only Pure Scientists

See Lamp Chimney

See Fire, (A); 20 Apr'72

Pollution, 1966

China:

"By 1977 after only 25 years, China will have switched ever from a
land of flB independent, corrupt, and military anarchies to 800 million
people coordinated in an organic whole bound together in common
cause.*

- Cite YORTY LTR draft, p. 7, 1 Apr '71

China: (.

"Of all the complex forces operating, one of the most powerful of all is
the fact that China, in order to pull 750 million people together, sepa-
rated over thousands of years--- nothing would possibly do but to get
out of the agricultural economy. That is the essence of what Russia
took on with its 25-year plans. Russia had 00 million people die of
starvation during the first two five-year plans. How do you hold peo-
ple together over a long time? The only way you can do it is to exclude
subversives. You have to go on the offensive and become a subver-
sive outside: all the rest of the world is your enemy. Russia had only
125 million to do it when she started it; and China had 750 million and
she saw that Russia had made a great mistake by pouring its energies

into armaments. So China has been very determined not to do that. So they've gone in for psychological warfare in the very, very biggest way. The idea is to go out and keep everybody so preoccupied with their own mess as to leave them alone.

"The psycho-guerrilla warfare is fantastic and it takes many, many forms. And all the kids get involved in it because it's so brilliantly done psychologically that they don't know what they're doing

- Cite transcript of RBF tape to Barry Farrel, Tape #1, Side A, p.2; Bear Island, 10 Aug'70

China:

"The Latin America world is still an agricultural world; it's still a hacienda world. And it's not until you get into this other plan of industrialisation--- that China is now doing, and Russia, where you go in for 25-year long pulls and a great deal of suffering and austerity-- but in the end you're going to take care of a great many more people. Very much higher standards are coming. My only hope for Latin America is that China will convince the entire world that success is possible for all men everywhere. China is going to be much more successful much earlier than anybody expected her to be. That's one of the most fortunate things I can see in history. They are going to accomplish their industrialization really very rapidly. And they are brilliant; the Chinese are just inherently brilliant. They have a fantastic amount of experience gathered over thousands and thousands of years and they really are philosophically very powerful people. Any students I've ever had who were Chinese I've found to be fantastically keen. Once China gets off this business of protecting herself against being corrupted from outside and becomes successful, she'll completely stop the offensive against the other fellow and will begin to disseminate technology and information in a very brilliant way."

- Cite transcript of RBF tape to Barry Farrel, Tape #3. Side A, p.7»
Bear Island, 12 Aug'70

China; (C)

"I'm running into this in India. India could very easily be put upon by the sword and thought to be inferior. I find their courage about good thinking very strong. I think they will start doing very logical things in a hurry. Both China and India. And it will get the Latin Americans over the hump while they get industrialised. The trouble is that Latin America is still completely immersed in agriculture which is the thing that doesn't work.

"But the largest patterns of industrialization will never be done in terms of countries. The idea of 'countries' was never more than a convenience to the Great Pirates, the men of power who divide and conquer. The Great Pirate is glad to have everyone speaking different languages and all those things. That's all breaking up and we'll have the young people out of the Third World mixing with World Fan everywhere and they will simply become successful along with an ever-larger proportion of world man. None of these economies can be self-supporting in the terms of industrialization, because the chemical elements which are necessary aren't present in any one place. China, Russia, and the US are large enough continental masses to have"

- Cite transcript of RBF tape to Barry Farrell, Tape #3, Side A, p.8; Bwr Island, 12 Aug'70

"a very large number of resources; enough to be fairly independent. but not completely. They've all had to go into the underdeveloped countries to get what they needed. America had to get manganese from Russia through all our times. And I'm sure you can find China and the US interexchanging today... Very critical materials, very secretly. In fact, subversively. But the little countries can't possibly do it.

- Cite transcript of RBF tape to Barry Farrel, Tape #3, Side A. pp.S-9; Bear Island, 12 Aug'70

China:

"By 1975 China may be most impressively modern nation, highly automated."

- Cite I SEEM TO BE A VERB, Bantam, 1970

China:

"We find that new countries come in where others left off, not where they started. Japan did not start flying with the Wright Brothers biplanes, but with the 'Zerfl and ' Spitfire' types; China has never flown anything but jets. China came into the world of industrialisation, after the transistors, computers and atomic fission were available--* so she will come to industrial parity with the West in about five years."

- Cite 2000, San- Jeae State Ce-ttege

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- Citation and context at 1 Population Sequence (2)(3), Feb*67

C|

"We are very tiny. We are only 200 million and" in China "one deals with billions. Our own interpretation of our own experience is not even mildly adequate, I find it so affected by bias that we view it * only as the inside of our own triangle. China is the big triangle; we are the small one. They are liable to be a little bigger than we are about our misunderstandings and differences

in general, because they have had more experience. The Orient's social and intellectual process has been going on in continuity for a longer time than has our 'Euro-American' transplant, though we probably have all been on the Earth for the same amount of time. In

their 5.000 years of continuously recorded experience * the Chinese have been seeking for those generalized principles constituting natural law, in respect to which they might hopefully develop social conventions or law. There is an intuitive objection on their part to all that is artificially frustrating to the success of all mankind. The erroneously taught Creek bias, which characterizes 'our side's¹ superiority complex, seems invalid to China,"

- RBF in AAU'J Journal, p. 177, Fay '65

China:

"Then we Westerners learn more of the East's brilliant scientific and philosophical history and commit ourselves to trust intellectual integrity, China, who in the meantime will have risen to powerful automated industrial stature, will greet us warmly.

- Cite RBF in AAUW Journal, p. 177, May *65

See Industrialization: Successive Halving Time of National Industrialization

Narcotics as a Political Strategy

See Cosmic Accounting, 2 Jun¹⁷⁴

Energy Slave. (4)

Excrement: Human Excrement, Dec*70 Industrialization. Jun*69

Population: Stabilization Of, Jun'69

^chlM an Hw't Shfluidact-

See Aggregate, 20 Dec*71

See Enantiomorph Handedness Left for Right

(D

Chalco:

See Alternate: Alternatives

Options: Optional Spontaneous Education of Choice

Choice:

See Information, 1967

Self-discipline, 28 Mar* 77

Choke: Choking;

See Valving, 13 May'73

Chomsky, Noam:

See Structuralist in Language, 1 Feb'?5

Chord:

"A chord is abstract, yet tensive, A chord has pull: wo would probably not think about the connections unless there was some pull between them. The function of the chords is to relate. The event is the vertex. The reaction is the chord, the pulling away. And the resultant is the inadvertent definition of the nothingness of the areal and volumetric spaces..."

- Citation and context at Connections and Relatedness, 20 Feb'73

Chords:

"Since nature always interrelates in the most economical manner and since great circles are the shortest distances between points on spheres, and since ehords are shorter distances than arcs, then nature must interrelate the spheric aggregated events by the chords, and chords always emerge to converge, ergo converge convexly around each<M|) spheric syrt.em vertex, ergo the sums of the angles around the vertexes of spheric systems never add to 360°."

- Citation and context at Sphere. 26 Jan*73

RBF DEFINITIONS

Chord:

"The middle of the chord of an arc is always nearer to the center of the sphere than the ends of the chord.

Chord ends are always pushing the net outwardly from the system's spherical center."

- Cite SYNERGETICS draft at Sec.761.04, 31 Oct'72

Chords:

A sphere *is a system in which the most economical relationships between embracingly adjacent foci are the great circle chords and not the arcs. This is why pi ('Jf) is irrelevant. Physics finds that nature always employs the most economical leans. Being shorter, chordal distances are more economically traversed than arc detoxing arcs. All the chor js between external points of systems convergewith one another concavely and convexly--- that is with angles around each external point always adding to less than JbO°."

- Cite Synergetics draft. Sec. oil.2 "Compound Curvature." U. fass., Amherst, 22 July ly?1.

Chorda:

"Pl is irrelevant in synergetica because the sphere is not experimentally demonstrable and the tetrahedron is the primary sphere. Compound curvature starts with the • tetrahedron, Pl drops out because chords are more fundamental than area. Chords of an oraldirectional aystea never add up to 360° around a point. They are always geodesics."

- Cite ABF to 2JA, Blackstone Hotel, Chicago, 31 May 1971

Chord:

"As a chord turns into an arc the radius contracts."

- For citation and context see Vector Emailhriu and Spaces. 31 May
»71

Spheres

Chord:

"As great circles represent the shortest distances between points on spherical surfaces, the chords of the arcs between points on spherical surfaces are the even shorter lines of Universe between those points."

- Cite NOAH'S ARK, p. 6. 1950
qterrti fc. Arsa;

223.12	982.83
515.02	985.03
520.12	1021.10-1023.20
535.11	1051.20
539.09	1103.03
539.10	1106.22

703.09	1107.30
715.01	
761.04	
905.63	
963.12	

See Local Radius vs. Wide Arcs
 Orbiting Magnitude
 Great Circle Arcs 4 Chords
 Central Angles & Surface Angles

Limit Structural Transformative Tendencies Linear & Curvilinear

Tetrahedron: Visible or Invisible Chordal Arcs
 Circumferential Field
 Chordal Area:
 (2>
 See Linear A Curvilinear, Jun'66
 Focus, 22 Jul*71
 Halo Concept, 22 Feb*72
 Sphere, 16 Jun*72
 Local vs. Comprehensive (1)(2)
 Omnidirectional Typewriter (2)
 Limit Structural Transformative Tendencies, 1 Apr*72
 Contraction, 31 May¹71
 Dymaxion Airocean World 1-api Icosahedral Version, 2? Jan'75
 Geodesic Sphere, (1)
 &BF DaFIKITIUKS
 chprAJfrcfgr:
 "Chord factor-- I invented the term."
 - Cite RJF to hJA, 3200 Idaho, 15 Dec*73

See Geodesic Do«e_t 20 Dec*73

Cfrgrda ^aP^d Hgtgtf:

"The relationships between four or more items Are always greater in number Than the number of items.

Ergo, there are always more chords than notes And chords by themselves are not music. It takes two to make a baby But it takes God to make two.

- Cite HU_{tf} L1TTU I KNOJ, Oct. '66, p. 56

See Basic Notes

Mites & Quarks as Basic Notes Tensed String

See Heard *It* Unheard Resonances, 17 Jan*7\$

See Arc

Geodesic

Great Circle Arcs & Chorda

Hexagon

Pi

Tetrahedron: Visible or Invisible Chordal Arce

Interchord!ng

Scratch-chorded

Limit Case Vector Chord System

See Arounding, 17 Nov*72

Connections & Relatedness, 20 Feb*73*

Halo Concept, 22 Feb*72

Omnitriangulation, 20 Jan*75

Sin: Angle of Error, 7 Nov*75

Sphere, 26 Jan*73*

Spherical Structures, 14 Mar'72

Time-size, 20 Dec*73

Vector Equilibrium: Spheres & Spaces, 31 May'71*

Quantum Mechanics: Minimum Geometrical Poorness, (1)

Ilex-pent Sphere, 15 Sep'76

Christ:

****My intuitions on prayers accredit a rationale on Christ. The local problem solver had to become a capability, momentarily, of the great design, , . transcendent to the gluiness. . . The early people thought fantastically well. They used analogies and talked about god,***

- Cite RBF to EJA, 3200 Idaho, Jash. DC, 7 Oct. *71.

See Buddha: Christ: Mohamed Christian Legend & Philosophy Man as Son of God Perfect Man Unit Man

Christ:

See Immaculate Conception, 25 Jan*72

Integrity of Universe, Feb'72

«lul»ilw Iwnd *ft* Phllwphr: (*)

See Adam & Eve

Amen

Biblical References

Buddha: Christ: Mohammed

Child: A Little Child Shall Lead Them Christ Galahad

God

Golden Rule

Heaven

Heavenly Host Phenomenon

Heavenly Twins

Holy Ghost Immaculate Conception Lord's Prayer Madonna Theme

Man as Son of God Meek Have Inherited the Earth

See Original Sin Parable Trinity: Equation of Trinity Unit Man Angel

Saint Eve Confession Salvation Baptism

flulaUM PhllaMshyi

(2)

See Atomic Bomb, Feb'72

Iceland, 7 Oct¹75

ChroM-nlcktl-ntc«l:

See Tenelle Strength of Chroae-nlckel-eteel

Chroaosowe:

"Every human being hae a different chroaoaoale ticker tape."

- Cite RBF to EJA, 3200 Idaho, Waehlngton, DC, 19 Dee. '71

See DNA-RMA

Morphological Control Codings Electromagnetic-photosynthetic Programming

See Self-education, 1974

Man: Interstellar Transmission of Man, (A)-(C)

Sec Brain's Alan Clocks and Chrooosone Ticker-tape Instructions

See Capability, 1963

Computer, (0)

Continuous Jfen, (3)

Human Tolerance Units, (1)

Question: Old Question, 10 Dec¹64

Side Effects, 10 Dec*73

Man: Interstellar Transnission of Man, (A)

Chronofile:

"I invented the word chronofile.*

- Cite RBF to F.J. Dallsttw. Archivist. U. of Penn and Lynard Brichford,
Saitheonian archivist, OCSC, Phila. PA, 13 Jun¹74

chrpnQfUtf*

"Host children like to collect things. At four I started to collect documents of my own development as correlated with world patterns of developing technology. Beginning in 1917, I determined to employ my already rich case history, as objectively as possible, in documenting the life of a suburban hew Englander, born in the Gay Nineties (1895) --- the year automobiles were introduced, the wireless tie-graph and the automatic screw machine were invented, and X-rays were discovered; having his boyhood in the turn of the century; and maturing during humanity's epochal graduation from the inert, materialistic 19th into the dynamic 20th century. I named my documentation the Chronofile.

"As the era of this case history loomed into greater perspective for me, as readable in the Chronofile, it became more accurately identifiable as that which, on the one hand, terminated Sir Isaac Newton's normally 'at rest' world of myriadly and remotely isolated hybrid cultures, to which change was anathema; and, on the other, opened Einstein's normally 'dynamic' omni-integrating world culture to which change has come to seem evolutionarily inevitable."

- Cite Citizen of 21st. Century. (U. or 0, Chap. 1), 1 Apr'67

Chronofile:

(B)

"By 1917 I was convinced that, unannounced by any authority, a much greater environmental transformation was beginning to take place in our generation's unfolding experience than had occurred, for instance, between my father's, grandfather's, great-grandfather's, and great-great grandfather's successive generations. Their writings contain glimpses of their lives in their successive undergraduate days in the classes of 1760, 1801, 1840, and 1883 at Harvard. They tell of day-long trips walking or driving from Cambridge to Boston via Watertown Bridge.

"As in 1913, in Fair Harvard's 'Age that is past/Surrendered her o'er (once more)/ To the age that' was 'waiting before,* I felt intuitively in our Freshman year that the subway, which then opened to connect Cambridge and Boston by a seven- minute ride, was a harbinger of an entirely new distance-time relationship of humanity and its transforming environment."

- Cite Citizen of 21st. Century. (U or 0, Chap. 1), 1 Apr'67

Chronofile:

(1)

"I had a task during World War I of beinz secret aide to the admiral in command of the cruiser transports that carried the troops across the Atlantic and I had all the secret records of all the movements of all the ships and all the people who were on them. And when the war was over I had the task of putting those into shape for the official records for the U.S. Navy. The kind of record keeping we had to keep was chronological; I thought it was quite interesting that my experience before the Navy was that people kept kind of static kinds of files

in terms of names and topics, but in the Navy important records were kept chronologically. I thought it might be interesting if I took my own private papers concerning the troubles I had had at Harvard, and everything, not just culling out the attractive aspects of my life, but really keeping the whole record--- most of which was not so attractive--- and putting it all into chronological order. I did so; and I asked my mother for any papers she had regarding me and I put them all into order.

"If somebody kept a very accurate record of a human being, going through the era from the Gay'90's, from a very different"

- Cite Oregon Lecture p.J24, 12 Jul'62

"kind of world through the turn of the century--- as far into the twentieth century as you might live. I decided to make myself a good case history of such a human being and it meant that I could not be the judge of what was valid to put in or not. I must put everything in, so I started a very rigorous record.

"There were times when if I received a bill twenty times

I didn't have to put it in twenty times, just two or three -- and then I would put in the letter from the lawyer concerning the case. I found that the language of lawyers about overdue bills was very interesting. I think it has changed as the years have gone on. I have kept the record faithfully, and there are now about 500 volumes... I am quite certain, looking at it, that it has made it possible for me to see myself, and to see myself very objectively."

- Cite Oregon Lecture #9, p.324, 12 Jul'62

See Fuller, R.B. Hie Modus Operandi, 15 Jun'74 Acceleration of Change (3) Robin Hood Sequence (1)

Chrysler, Walter ?

See Dynaxion Car, 13 May*77

See Catholic Church Religion Cathedral

(2)

Church; Churches:

See New York City (10) Donee, 12 May'77

Clw Shape:

See Coaproaslon, 15 Oct*61 Sphere, 1971 i 15 Oct*61

Cindor in Your Eve:

See Tongue: Bite Your Tongue

Cipher:

", • • This abacus column imagining Called also for a symbol To represent an empty column And that symbol became the cyphra--- Or in England cypher. Or in America cipher, or what we symbolise as 0 And much later renamed "sero_f" To eliminate the ambiguity Between the identity of the word cypher With the word for secret codes And the word for the empty number,*

- Cite HBF insert to Numerology draft August 1971, p. 13 Bear Island, 25 August 1971.

Cipher:

"It is a valid reflection that the non-inclusion of the cipher is accountable by the fact that the people had been so materialistic in their viewpoint that they had not conceived of any necessity for a symbol for intangibility, infiniteness, or abstraction, liar, had not yet penetrated the nonsensorial bands. The cipher (called cafrun in Arabic) had been

imported by the 'pollenizing bee' from the Hindus, but the Arabs did not bring it into the western world until approximately two hundred years after they brought to that world their system of simplified numerals and their algebra which latter were indeed limited without the cipher."

- Cite MINE CIUIKS TO THE i-XJUN, p.139, 1938

Cipher:

"The cipher" is "the enabling instrument of time's calculatability."

- Citation and context at Tine, p.143, 1938

imi' in 1111 rr min

Cipher:

See Zero

Circle:

"Fold a circle on any part of its edges, bringing them together, and you automatically halve the circle. You don't have to find the opposite points--- or find the center. Any fold pulling the edges together automatically halves it."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

Circle:

"Whenever I draw a circle I immediately want to step out of it."

- Cite 1 SEU4 TO BE A VERB, The Queen, May '79 •

RBF DEFINITIONS

Circle:

"Endless does not mean infinite. A circle is finite.

The circle may be recyclically considered only as many times as the observer's total life may accommodate."

- Citation at Endless. 22 Apr*60 ffil

Circles

"4hat we call a circle turns out to be a spherical triangle

- Cite OREGON Lecture, #6, p. 206, 10 Jul*62

Circle - Fol-teen:

See Pl, 8 Feb*73

Prel? pg SiMplwv

See Orbits Are Elliptical, 14 Feb*73

TEXT CITATIONS

Slxcla: Synergetics Formula for Triangular ArM.of a Circle:

Synergetics: 985.00

905.01 - 905.10

Circle: 529.04 539.0J-539.10 811.01 813.01-813.04 982.83-982.84 985.10

CJJuOx: (1)

See Concentric Foldability of Great Circlet Great Circle Hexagoning the Circle Orbit Sixthing of the Circle Circle - Polygon Triangle in a Circle

KBF DEF1K1TI0MS

Circle:

See Endless, 22 Apr*68* Hexagon, 6 May*48 Scrathed Surface, 27 Jan¹75 Spiral, 28 Jan*69 Wind Stress it Houses, (1)(8)(9) Unit, 1938 Angle, 7 Nov*75

Circuit:

"Circuit frequency involves a minimum twones..."

- Citation and context at Frequency: Initial Frequency. 6 Nov'72

KBF DEFINITIONS

Circuit:

"We've been looking for the right word for a line--- a trajectory, it is circuit. It takes care of the wave.

It is a round-trip circuit because the Universe is closed.

We open or close the circuits. That's all we can do.

That's what frequency modulation is. The circuits are the angular modulations."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 25 Jan *72.

Circuit:

"Deliberately non-straight lines are roundtrip circuits."

- Cite RBF to EJA, May 1971 incorporated at SYNERGETICS draft Sec. 522.09 of Not. »71

Circuit Of Comprehension;

See Understanding, 1 Apr¹49

Circuit: Hydroelectric Power Plant Circuitry

See Windmill, (2)

Circuit * Nomenclature

See Electric Motor, 25 Jan*72

Circuitry:

Don't say Bechmanian, say circuitry."

- Cite HBF to BJA to Roger Stoller, 3200 Idaho, Wae.DC; 12 Nov'75

CircuitryAFY*

"You can design anything by taking any circuit a certain number of frequencies and then changing the angle. The angular modulations of lines is circuitry. There is no half-profile of you. All conceptuality has to have both frequency and angle. The angle part has to do with circuitry design. Sculpture. You cannot design lines which do not have full circuitry."

- Clte-RBF ee FTi, j?nn-Trtah», h'aulilirEtuil BO, Jeu '?P
- Citation and context at Jesign. 2J Jan'72

Circuitry? Enclosed Circuitry:

"...Triangle is the minimum cyclic enclosed circuitry.

- *- Citation and context at Triangle, 17 Feb'73

ClmUHx: Thermionic and Politic*! Analogy:

"With a thermionic valve you develop heat aa In a radio tube. When you close a switch in your houae you tumble a set of dominoes all the way to the generating station and the, station tumbles it back to the house. This is fundamental to circuitry, but man tends to see it only as one way. . . . It doesn't matter whether it's capitalists and communists, or Republicans and Democrats, We have a choice. We can do the right things for the wrong reasons. Ur we can do the right things for the right reasons. And if it's all minuses or all pluses, it still comes out as an aggregate plus--- which is what evolution is doing. It doesn't matter whether all agree to be conraunists. or whether all agree to be capitalists. Evolution will pay no attention."

- Cite REF to EJA, 3200 Idaho, Washington DU, 23 Jan '72 Citation at Evolution: Analogy of Circuitry

Circuitry: Theralonic fc Political Analogy:

See Generators, 19 Feb*72

Circuit S-mchronlMtion:

See Frequency Modulation, 1955

427.07-427.17	#267.03
501.06	#527.09
522.05	#535.21
646.03	#535.22
647.02	#1007.23

842.07

961.46-961.48

981.12

1011.30

1011.31

1012.11

See Alternate Circuits Closed Circuit Deliberately Nonstraight Line
Cosmic Councunications Circuits Equi-interval Fail-safe Holding Circuit
Hydraulic Circuitry Icosahedron as Local Shunting Circuit Invisible
Circuitry Minimum Cyclic Enclosed Circuitry Open Circuit Orbital
Feedbacks Shunting Valvability: Valving Orbit - Circuit Feedback
Circuitry Halfway-round-the-Worlding Roundtrip Circuit bt Noncircuit
See Series vs. Parallel Circuitry Mechanism □ Circuitry Four-triangular
Circuits Tensegrlty Nerve Circuit Fail-safe Alternate Circuits

(2)

See Congruence, 25 Jan'72 Design, 23 Jan'72*; 25 Jan'72 Evolution:
Analogy of Circuitry, 2J Jan'72* Frequency: Initial Frequency, 6
Nov*72* Feedback Lags, 1954 Intellectual Perspective, 1 Jul'62
Intersupport, 12 Jun'73 Motion, 27 May'72 Nucleus, 18 Feb*73
Solid State, 13 May'73 Triangle, 17 Feb'73* Vertexes, Faces Lines, 1
Jan'75 Number: Tetrahedral Number, I%y*7l Minimum Awareness,
(1) Lasso. 1946 Dynamic vs. Static, 12 Nov'75 Jindworks Windmill,
(1)

See Indig, 3 Her'73

Circumferential:

"...Universe and its evolving transformations are cooperative only in 90 degrees, or orbitally interlinking, directions: that is, circumferentially."

- Citation and context at Ecology Sequence (F), 5 Jun*73

See Radiation-gravitational Angular Functions, 9 Jan'74

circvprtr?nUaJ. Flri/b

"The inward-outward complementations of the system are represented by great-circle arcs on the system's surface, whose existence is in reality that of the central angles of the system which subtend those external arcs and create the arc eyelie-duration 'lengths.' Areal definition of the circumferential--- ergo, surface--- complementations and their oscillations occur as the surface angles at the vertexes of the system's external mapping."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1051.30, 9 Jan'74

Circumferential Field;

"The inward-outward complementations of the system are represented by great circle arcs on the system's surface, whose existence is in reality that of the central angles of the system which subtend those external arcs and create the arc lengths. Areal definition of the circumferential, ergo surface, complementations and their oscillations occur as the surface angles at the vertexes of the system's external mapping.**

- Cite RBF Marginalia July '71, Incorporated in SYNERGETICS draft at Section 1051.05', Apr '72.

30

Circumferential Field:

See Spherical Field

Circumferential Fjltf :

(2)

See Embracement, 22 Jul '71

See Closest Packing of Rods, Aug'71 macro-micro, 1955

Circumferential Field. » - Hadlral Infinite;

See Macro-micro, 1955

Circumferential - or >Hrro:

See Macro-micro, 1955

Circumferential Modular Frequency Growth;

See Vector Equilibrium: Field of Energy, (C)(D)

Circumferential Set:

See Vector Equilibrium, (I)

(1)

See Embracement

Gravity Operates Circumferentially Gravity: Circumferential Leverage
Hexagonal Vector Pattern Icosahedron: Circumferential Closest
Packing Omnicircumferential

Omni embracing

Radial-circumferential

Spherical Barrel: Radial Compression Circumferential Tension

Three-way Grid: Three-way Great Circling

Circumferential:

See Ecology Sequence, (F)*

(2)

Gears, 1 May'72

Gravity, 18 Oct'72

Great Circle, 8 Mar'73

Inward to Outward Twoness, Aug'71 Operational Construction, 7 Oct'71 Twoness, 23 May'72

See Circumferential Coherence Circumferential Field Circumferentially Finite Circumferential Finite vs. Radial Infinite Circumferential - Macro or Micro Circumferential Set Circumferential Modular Frequency Growth

n«-.n_e«-Drovd: CircuMtaic«-nrund:

See Child as Laboratory, (2)(3)

Circua:

See Vector Equilibrium, 11 Dec'75

SAUMO:

See Law and the Citizen Universe Citizenship World Citizen

City:

"Cities begin with walls."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

City;

Even the cities, viewed presently as the congested victims of our increasing mobility, will prove in the future to be •no more than "a present way station phase of man's Increasing deployment pattern.**

- Context and quotation from RBF by William Kuhns in "The Post Industrial Prophets: interpretations of Technology," Harper-Colophon, New York, p.232. 1971

£Ali: (A) *

"Why do we want a city? We don't start off with cities being a priori to man on our planet. It's something that has evolved. Most things about our cities are completely obsolete. • • I'll have to say how the cities occurred: They really started with wars. If you go around Europe you'll still find yourself going through the city wall gates. . . They started being places where goods are bought, where caravans and trading ships began to find themselves in confluence by nature, where they could be in anchorage. And they develop great warehouses and it really gets to be a kind of exploitation trap.

"Then Henry Ford found that it costs you money to have things in warehouses. They were unnecessary. You could have your goods stored in transit. . . Everybody's trying to get out from under all the monopolies and all the exploitations. . . In the Greek time the thinkers were in the mountains and on the beaches, and the city was occupied with the goods and warehouses controlled by the fighters and walls. All that has changed but man had the metaphysical

deployed and the physical concentrated in the city."

- Cite RDF at i-IXC Address, Dubuque* 15 Dec. '71

(B) *

"Now what has happened is that all the physical has gone out of the city and all of the people are coming together to exchange ideas and to exchange equities, so that New York City is becoming a great University/. It's getting to be a place where people go to get information. So I say the old city has really disappeared and the city does have a new function: people converge on libraries and get together to think rather than to make. The city becomes an information center."

- Cite RBF, KXC Address, Dubuque, IA. 15 Dec. '71

Clty;

"It is the essentially mobile nature of man that makes the modern city an anachronism because it is a stable phenomenon trying to adapt itself to the mobile needs of men..* "The first towns or cities grew up as interference patterns of one path of communication with another.

"A city is, in essence, nothing but a great service establishment created to serve the needs of the transient. As such the city has basically nothing to do with the production of food or goods, but only to arrange for their transfer. Man deploys from the city for his physical life and to the city for his metaphysical life. The parts of the city such as the docks and the wharves and rail terminals are incidental to the main business of the city which is the transfer of information (credit is a perfect example). The wharves and the terminals are there because of the coincidence of the interference patterns of their transport and the physical mobility of man reinforced by the fact that man before the days of credit most often traveled with the goods that he manufactured and owned. Transshipment of goods took place physically in the city because*

- Cite Mergers and Acquisitions, Vol 1, No.4> p.29» Summer'66

City: (2)

"of this early requirement which has now been totally offset by the development of credit devices and newer transportation media. In the future the use of a city for the physical transfer of goods will be silly. Cans and frozen food packs can take food from any place to any other place on Earth. Satellites can gather and transmit information as to the total food supply on Earth and can tell where it's in surplus and where it is lacking. The redistribution process, logically, would never take it through a city.

"The same holds for the processing of goods, but with an added reason: technology. For most of the technological improvements were and still are a product of the intellectual communication between men that takes place in a city. Thus the tanning of leather took place because of the coincidence of technology, hides, and *chemicals. But with the technique mastered, there is no need to haul all that stuff into the crowded city and then move it back out again.

"Thus the city has another purpose: it is there that the intellectual engagement takes place technologically. And since*

- Cite Mergers & Acquisition, Vol 1, No. 4» p.30, Summer'66

City: (3)

"technological activity takes place in the main area of an institute of higher education, the next and most proper function of a city is as research laboratory and as university. I predict that the great urban centers of the world will deploy all of their physical activity to the suburbs or the countryside and will concentrate on fulfilling the intellectual needs of men. New York City within 25 years if not sooner, will become one big information center dealing in research, education, and information (credit). If there is manufacture it will be an anachronism. The only manufacture that should be left in New York City should be the manufacture of assemblages of information such as typewritten letters, which today in cost outnumber the physical manufactures of the cities by many tens of millions of dollars. Mayor Lindsay's program to hold what industry they have and to attract more is a mistake of enormous proportions.

"... Already the transshipment function is beginning to take place outside the city. The city is effectively bypassed by the warehouses which used to be downtown and are all now in the suburbs or even beyond. Million-dollar-an-acre real estate*

- Cite Mergers & Acquisitions, Vol1, No.4, p.31, Summer'66

City:

"should be used for important things, not to store goods in transit."

« Cite Mergers and Acquisition, Vol 1, No.4, p.31, Summer'66

City:

"We find then that men began to try to carry the energies outwardly from the center and they found there were frictions in the line so that it would deploy from the center a certain distance and then the efficiency went down and you couldn't go any further so there was a natural economic limit to the size of towns and cities."

- Cote Orbn Lecture #1, p. 4. 1 Jul'62

City:

"Cities and towns will tend to become airocean bottom

cloverleafs integrating highways. Airways will become a unitary world network. Sea and waterport cities will trend to diminishing cargo interchange significance and

increasing recreational and abstract process significance."

- Cite Caption to Figure 182, SA/ergetics draft chapter, Dymaxion^u Airocean World.

City as Center of Abstract Intercourse: (1)

"Today in New York you have exactly the opposite of the Greek city of many centuries ago. Then the thinker lived out of the city, and all the metaphysical 'weightless*' activities such as thinking were conducted off in the remote places like Delphi, and the thinker only came into the city to speak once in a while, as Socrates did. Then and up until our own time cities were places where the physical, as opposed to the

metaphysical, was concentrated-- all the warehousing, all the manufacturing, all the wealth. This was really a very bad situation because of the power the exploitative gangster-rulers held over the people who lacked mobility and therefore had to stay in one place and work for very menial wages. Then Henry Ford broke this monopoly with the mass production of wheels. Now you have all the manufacturing and warehousing being deployed outside the city, and all the metaphysical functions being concentrated inside. That is what is happening in New York, It is becoming a metaphysical abstract communications center. The only things that are being produced are with typewriters and calculating machines, a lot of figures, a lot of 'weightless,* or practically 'weightless,* things

"And you are getting this tremendous mobility. It is silly for planners and architects to want to design a place where people"

- Cite RBF quoted in New York magazine, p«30, 30 Far*70
City as Center of Abstract Intercourse: (2)

"will go and stay. World society is not doing that. The average American moves every four years. Today you have all the Puerto Ricans moving Into New York, but New York is really just a launching pad for them to become world men, because from New York they will go on to another place and then some other place again. With the deployment of the physical outside the city and the concentration of the metaphysical within, you will also get an oscillating dynamism with the same people shuttling back and forth between the two."

- Cite RBF quoted in New York magazine, p.30, 30 Mar*70
KBF DfFlhl'i'IOKS

"... So we have then the manufacturers going off deep into the country to be able to institute new automation, very far away from the semblance of their vast labor group. We have warehouses going out of the city. We have all the things which are heavy and physical which used to be in the city going away. In our earlier cities the city was a confluence of the physical; the metaphysical, the thinking of man was going on off in the remote places, in mountains, the proverbial * scholar, when he really wanted to do thinking, went off into Shangri La. ... Whereas the metaphysical used to be deployed and the physical was convergent in the city, now all the physical has gone out of the city and what is happening is that the people who go into the city go in there for the metaphysical--- for the abstract. The only manufacturing going in there is typewriters making symbols on paper: tickertapes. «'e have then the city becoming the center of the abstract intercourse of man, where he goes in either to exchange equities for goods. . . . cities are now where everybody is coming together and the automation and the technology has gone out completely onto the farm."

- Cite KbF Address, Thr. HABITABLE CITY, 14 Oct. '69.

See Buildings: Multiple Occupancy, 30 Apr*74 Population Explosion, 1959 New York City, (7)

City Management Concept of World Government:

See One-world Management Making the World Work

3aa Planetary Democracy, (6) (7)

See New York City, 31 Jul»75

City: (1)

See Air Delivered City Community Domed City Ekistics Floating City
 House as Terminal of Community Mechanism Humane City New York City
 Old Fan River's Project Population of Cities Population Density
 Settlements vs« Unsettling Sky-island City Squatters Submarine City
 Toronto Urban Sprawl

City:

(2)

See Empty, i-ia'y'70

Wealth, 8 Dec*75 Invented Jobe, 20 Sep'76

CITillfaUW!

"Civilisation" must be *so distinctly in conrand of its environment as
 to provide the first Large increments of time in which to demonstrate
 the arts, sports, and philosophy.*

- Cite RBF quoted in Queen, May *70

Civilisation:

"Soon the cliches become sing-song devices by which nan easily flicks
 aside any opposition to his wilfully careless ways. This averted op-
 position includes those misgivings promulgated by his own subcon-
 science, as well as by expression of other beings. He thinks confort-
 ably of all these parroted formulas as locking up cosmic rules forever
 within the fireproof warehouse of civilisation, whence they may be bor-
 rowed for axiomatic relief any time he 'gets into a pinch,'"*

- Cite Motion Economics, Chapter 1; May*44

HBF DaFIMTIGNS

Civilisation:

"It must be savagery and hand labor, or civilisation and mechanics."

- Cite 4-D, The Time Lock, Chapter 5, May 1928

See Cultural Life, 1 Jul*62 Life Is Not Physical, 29 Jun*72 Word Trends. May*44 Mutual Survival Principles, (4)

Civil Im:

SM law: Civil laws

Civil 'JAT: (1)

"Now I'll give you something we can talk about like 'might makes right.' And this stone and compressiveness was really the might. Big massiveness did the trick. And really to understand how man over the ages was moved by this rather than his tensile ability... I.e. or less his intellectual ability. And that was very inferior; at best it was only one-tenth of the compressor. Now man gradually learned to make metal out of the stone and the first thing he made was daggers. That's all he had. Then he could make some of the bigger swords, and then maybe armour. Armour for the head man and then a little armour for several of the soldiers. But it was still rather negligible.

"It is not until we get to production of steel in 1851, only a little more than a century ago, that we suddenly have steel available in a big way. Production of steel was 1851... what is called common steel at that time. Common steel came up to 50,000 pounds tensile strength. In 1851 tension came to parity with compression. And with this ability then to have much longer spans to hold walls together. So men used then not stone walls but steel beams. Or they might use a long wooden beam with a steel rod below it to keep it up in the middle. You saw stone building with iron stars out here."

- Cite Univ, of Alaska, pp.13-14, 20 Apr '72

Civil War: (2)

"We have a rod across to keep the walls from bursting out. We see how to do away with having to have stone buttresses. So we have tension suddenly coming in only about a little over a century ago. Tensile came of importance. And there have been higher tensile abilities on the sea with fiber- made ropes, but they rotted pretty quickly. They were too stretchable to use in building on the land. With that tension coming to parity with compression, men suddenly had much bigger span. And that's the beginning of his doing a lot of work inside--- indoors. This came along exactly the same time as the dynamo. This is why Abraham Lincoln... the Civil War was really the beginning of men being able to do things in the colder North, where they had steel for boilers and where they could begin to control the heat inside. They are beginning to do things which produce wealth, or higher advantage for man, under cover, under controlled conditions, as he had been doing out in the fields up to then. That's why we really had the Civil War: the only difference between people doing things for the North under controlled conditions versus people who were doing things in the South with their agriculture out in the open. From this time on tensile strength begins to increase very rapidly."

- Cite Univ, of Alaska Address, pp.13-14, 20 Apr *72

See Telepathy

Sett Val«rally, 15 Apr*55

Clams:

"... This is beginning to give us ways of seeing the complementarity at all times. Incidentally, when clams get hard in the mud and the clam in there is probably eaten out by the little water spiders and worms, we find clams in great matrices of old clay breaking open on the beach--- and we find that we are getting all the concave surfaces on the outside. This is the kind of aspect where the spherical thing has disappeared and you get only the concaves. . . "

- Cite Oregon Lecture #7, pp. 258-259.

11 Jul»62

ClaxJsg, Arthur C:

See ElectromaKnetlc Transmission of Human Organisms, 4 Jun'77

CLasalfr:

See Differentiation

Fuller, R.B: Personal Research File Color* Sorting

TEXT CITATIOKS

Clear Space PolThedre-

Sec. 422.01

See Self-congruence Packing Self-packability

See Modules: A & B Quanta Modules, 13 Nov*69

CXfiaxfizEfiU.:

See Gravity (g)

See Good: If All the Good People Were Clever

Cliche fc Counterclicha:

See Fuller, R.B: Moratorium on Speech, (l)

Clichea?

Sea Nation. Oct*70 Ciriliation, May*44 Word Trender, May*44

RdF DEFINITIONS

CUmatfft & Intellect-

"Where, Geographically speaking, of a priori unique environment continuities, the inherent periodicity of the occurrence of interference is at a relatively low frequency, then the rate of dissipation of ignorance is proportionally low, and vice versa.

"The relatively lowest inherent periodicity of interference of forceful variables--- of experience in the dynamic environment (geography)--- occurs in the dry land near sea level in the region of the equator. The periodic frequency of interferences by physical variables increases outwardly from the Earth's center into the colder climates of mountain and toward the Earth poles.... Sum totally on Earth the residual vanities and superstitions of the ego bulk up most obviously in the warm and mild climates, originally most favorable to the naked, ignorant man, and are most rapidly dispersed and replaced with intellectual ordering in the environments of highest frequency of unprecedented intensities of interference penetrated now by man at will by virtue of his contriving or realizations in complex principles."

- Citation (c context at Periodic. Experience, May*49

clns: &&31£:

See Triclinic, 31 Aug'76

QUPW ShIP EffPCV

See Sailing Ship Effect

HBf DEFINITIONS

Clock;

"The angular accelerations go around like this while they are restrained from a common center. . . what we are doing is using a clock, which is an angular acceleration. . .*"

~~Extraeeneorality~~ IjpgrieWIOTis Angular fc Linear (D 10

- Citation and context at

Jul <62

See Invisible Motion Motion Apprehension

See Extraeeneorality. Mar*66 Lage (1) Nonsimultaneity, 7 Nov*73
Ice, 29 Apr*77

Clock:

529.01

8535.21

530.05

537.32

See Atomic Clock

Brain's Alam Qlock

Clock: Invisible Motion of the Hands of the Clock Fourth Dimension:
Borrowing from Tomorrow's Clock Omnidirectional Clock

See Acceleration: Angular & Linear, (1)*(2) Building, 10 Sep*74 Ein-
steini 23 May*72; (A) Heartbeat. 13 Mar*73 Motion, 12 Jun*69 Spiral,
28 Jan*69

(1)

cxrsMlt,=

See Circuit

See Comet: Around Cones the Const Again, 5 Jul*62

Liringry Science, 1 Apr'49

Windows of Nothingness, (1)

signed Set:

See Axle of Spin, (1)

Closed System:

"There is something within science that is a closed system--- and that
is the 92 chemical elements."

- Cite RBF to Habitat delegation at American University, Wash, DC; 10
Nov'75

^clsge4

"Every system, as a subdivision of the total experience of Universe, must accommodate traffic of inbound and outbound events and Inward-outward relationships with other systems' aspects of Universe. Effective thinking is systematic because intellectual comprehension occurs only when the interpatterning of experience events' star foci interrelationships return upon themselves. Then the case history becomes 'closed.* A system is a patterning of enclosure consisting of a conceptual aggregate of recalled experience items, or events, having inherent insideness, outsideness, and omni-aroundness."

- Cite SYNERGETICS draft at Sec. 400.2fr, 26 May'72

Closed System:

"When we discover that our Earth or any system that we slight have reference to ia a closed system and comes back upoM itself--- we're dealing in a sphere or a polyhedron--- none of the perpendiculars to the system are parallel to one another. . . Nor are any of the systems motionless.

Our particular spaceship Earth is Bioving at extraordinary speed through the sky.*

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb '68, p. 2.

HBF u-FiniTiut.s

ClQ₉ad bystM):

"The physical Universe of associative and disaassociative energy was found to be a closed, but nonsimultaneously occurring, system, with its separately occurring events being mathematically measurable, i.e., weighable and equatable. But the finite physical Universe did not include the metaphysical aspects of Universe. All the unweighables, such as any and all ouu thoughts and all the abstract mathematics

are weightless. The metaphysical aspects of Universe were therefore thought by the physical scientists to be 'open' and therefore defied 'closed systems' analysis. I have found, however, . . . that total universe, including both its physical and metaphysical behaviors and aspects is scientifically definable."

- Cite nBF in EKViltur.i-xM* AND UH AN Ur., Ed. W.K. Ewald, p.

An abbreviated version appears on pp. t>1~02 of OPERATING i-<AKuAL FOR EPACr-bHLP LArtTH - 1908

Closed System;

"Once a closed system is recognized as exclusively valid, the list of variables and the degrees of freedom are closed and limited to six positive and six negative alternatives of action for each local transformation event in universe.™

Cite KETNOTfVISION fcf.p AS

21 Oct'65 tXpEtgFfj Of - 5F< 557 *5 fa 3K.25I.H(>)

Closed System;

"bniverse is the minimum as well as the maximum closed system of omni-interacting, precesslocally transforming, complementary transactions of synergetic regeneration. . . "

- Citation & context at Universe. 1960

-CSX118 rsiiiLijim'iuiALj Iiiw.p,

«BF uEFINJL rluf.s

Closed hystea: Cone.ryation of Energy:

"Then Einstein, Plane x and other leading scientists said • . 'We must discover what it is we see when we observe new life forming. It could be that when energy disassociates here, it may be reassociating somewhere else. And that is what all subsequent experimentation

proved to be the case. The scientists found that the energy redistribution always added to 100 per cent. The scientists then formulated a new description of the physical universe which they called the new 'law of conservation of energy,' which said that 'experiments disclose that energy can neither be created nor lost.* Energy is not only conserved but it is also finite. It is a closed system. The universe is a mammoth perpetual motion process, rfe then see that the part of our wealth which is physical energy is conserved, it cannot be exhausted--- cannot be spent, whichp.eans exhausted. We realize that the word 'spending' is now scientifically meaningless; it is obsolete."

- Cite Environment and Change, pp. J72-37J, 19&8
- Cite UPEdrtTlhG MN UAL FuR tfeiUELHIP fcAttlh, pp. yO-y!

Classd System of Critical Froxieltv:

See Triangle, 1 Apr'72

Clpaod grates refry:

**See Nucleated Systems: Idealistic Vectorial Geonetry Of 14 Feb'72
Probability, (2)**

KBF utFIBATluhS

**"rfhere you have cloned systems and open ayatems the open systems
always prevail. "**

- Gxte KBF to engineere meeting at K.U.D. Washington 2b Jan *72

Closes Systems A Open Systems;

See Series vs. Parallel Circuitry

Closed System:

224.03	953.50	.527.09
251.37	1023,11-1023.16	• 535.22
331	1053.30	• 541.19
400.25		• 1006.40

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538.02

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awed syttmr

(1)

See Closed Set

Closed Systeae A Open Systems

Enclosure

Nucleated Systems: Idealistic Vectorial Geometry Of

Open Systems

Perpetual Motion Machine

Pollution Control: Closed Systems

Returning Upon Itself: System Returning Upon Themselves

Spherical Triangle Sequence

System Enclosure

Finite: Finitiy

(2AJ

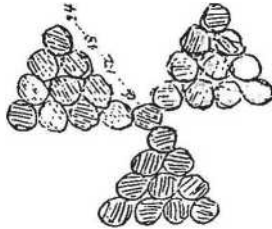
See Boltzmann Sequence (1)

Circuit, 25 Jan*72

Conceptuality, 5 Nov'73
Energy, 1967
Entropy, 1y67
Malthus, Feb'72
Motion, 4 Feb'68
Omnidirectional: Physical Existence Environment

Surrounds (3)

Pollution: Infinite Room to Pollute, 13 Nov*69
Probability, 20 Feb'72
Revolution: Soft & Hard, Jan'72
Spaceship Earth (a}
Spherical Triangle (3)(4)
Sulfur, 12 Jun'69
(ZB)
See Structure, 19 Jun*71
Time-energy Economics, 15 Jun'74
Thinkability, 1 Kay* 71
Three-way Great Circling: Three-way Grid, 17 Feb*72
Universe, 26 Sep*73
XYZ Coordinate System, Jun*66
Fourth Dimensional Coordination, 10 Sep'74
General Systems Theory, (1)
Closest Packing of Roda:



» Cite KBF sketch aa metal job order for Jarratt Applewhite 3200
Idaho, Hash. DC, 2? Sep'72

Closest Packing of Rods:

"Just as six balls may be closest packed around a nuclear ball in a plane, six rods or wires may be closest packed around a nuclear rod or wire in a cluster, when the seven wires are thus compacted in a parallel bunch they may be twisted to form a cable of hexagonal cross-section, with the nuclear wire surrounded by the other six. The hexagonal pattern of cross section persists as additional layers may be symmetrically added to the cluster. This demonstrates a circumferentially finite system in universal geometry."

- Cite SYNERGETICS Text at Sec. 412.01, 'circumferentially' added by RBF at

Bee '71, with word Bear Island, Aug. *71

naF LtFILlTlJhS

Closest Packing of Rods;

"We know that the progressive subdivision of a given metal fiber into a plurality of fibers provides tensile capabilities of the smaller fibers at increased magnitudes up to hundreds and thousandsfold that of the unit section. This is because of the increased surface-to-mass ratios and because all tensile capability is apparently invested in the surfaces."

- Cite "Tensegrity," PORTFOLIO + ART NEWS. p. 12), Dec »61 Incorporated in SYNERGETICS draft at Sec. 412.02, Mar *72

TtXT CITATIONS

Closest Packing of Rods:

412.01-412.02

Fig. 412.01

1012.35

1107.10-1107.42

Closest Packing of Reda:

See Surface Strength of Structures

Closest Packing of Spheron:

"Vector equilibrium displays omnidirectional closest packing The icosahedron and the dodecahedron display only circumferential closest packing."

- Cite RBF to EJA, Fairfield. Conn. Ches Wolf, 18 Jun'71;

Rewritten by RBF, 3200 Idaho, Wash DC, 29 May*72

ciogtgt Pag king of spreg:

"Octahedron gives 18 around 1 (19) at first nucleated layer. Tetrahedron gives 35 around 1 (36) at first nucleated layer.

Vector Equilibrium gives 12 around 1 (13) at first nucleated layer. So octahedron gains a nucleus before tetrahedron gains a nucleus and vector equilibrium gains a nucleus before octahedron,"

- Cite RBF to EJA, Fairfield. Conn. Ches dolf, 18 Jun»?1; Rewritten by RBF, 3200 Idaho, j/ash DC, 29 liay'72

Closest Packing of Spheres;

"Closest packing begins with the imposition of triangulation on the rest of the system, only the triangle is inflexible"

- eivw--*nF-u» Hiin~~SMgtBBere_t-Ww!iii'iguw_T DC,-2b-Jan. '72

- Citation at Triangulatloq_f 26 Jan*72

'Since all vertexes are divisible by two Linus Pauling was right that you can close-pack spheres with two spheres tangent connected.'

- Cite RBF to EJA, 3200 Idaho, //ash. DC, 7 Oct. *71.

CloeQSt Plnr of

all

"It ia a suprlaing thing that ata clQBCat Mgkiflg begins with two balls rather than idinrlctionally.

Two balls coning together is where thought begins • • .
 it is a wedding thing • « • and it is a *my* beautiful
 thing the way the two balls re-occur at each wave
 outwardly."

- Citation at ft*nn Coming Together. 19 Jun»?1
- Tr PiTiriy Hntnl, Now n,,," teyi,

°1989tt PKCUM ftf gghOTg:

"The tetrahedron accepts further closest packing The icosahedron re-
 fuses further closest packing.

- Cite RBF to EJA. Fairfield. Conn. Ches Wolf. Id June 1971.

Cloaost Packing of Spheree?

"Spheres are just very high frequency geodesies. If you closest pack
 geodesics they will take up just a little ¶ore roo« as point-bonded
 (gas), than as edge-bonded (liquid), than as face-bonded (crystal)."

- Cite KBF to EJA, Fairfield, Conn., Ches Wolf.
 18 June 1971.

"Spheres are high-tide aspects of vectors. In your closest packing
 you have your spheres which are just the high-tide aspects . . . be-
 cause the lines are now hidden between the points of tangency. It
 is very easy to be greatly misled when you see two spheres in tan-
 gency. There is only one line between the two. This is where you see
 that unity is two because the line breaks itself into radii of the two
 spheres.**

Hotel. Chicago. 31 Ma-r

- Citation &. context at Tidal, 31 May'71

"The octahedron has very many strange effects because closest packed spheres then have the spaces and the spaces are concave octahedra and concave vector equilibria. The octahedron is part of the exchange between being spheres and spaces."

- Citation at Octahedron. 31 May*71

GX<?gOgV FfrCfrlM fif Srtprpg:

"Spheres of unifor® unit sis* can be closest-packed around a c>on center sphere, but not around a □cosmon synisetrlic void, which is neanIngless•' Tou don't have to have a nucleus to call it closest packing. For example, three balls--- or oven two balls--- way be arranged in closest packing. "

Cite Marginalia on Nucleus entry cited to Marks, P. 45 as revised by RBF 13 March 1971.

MMM ci_{B8g}gfr PagKlDA **9t** sptergj:

•...Spheres of a unifora unit size... can be closest-paeked around a common center sphere. But you don't have to have a nucleus to call it closest packing; for example, three--- or even two balls--- may be closest packed."

- Cite MARKS, p.45, as rewritten by RBF, Beverly Hotel, New fork, 13 Kar«?1

(i)

"The most economical spherical agglomerations, i.e., 'the closest packing of spheres,' we now find to hold the mathematical clues to the principles of coordination governing natural structure— governing the dynamic, vectorial geometry of the atomic nucleus as well as of the atoms themselves. Over and over again we are confronted by nature obviously formulating her structures with beautiful spherical agglomerations. This began to interest me very much. I found that spheres coordinate, not in 90 degreeeness,

but in 60 degreeeness. Just take three billiard balls and you will find that they pack beautifully into a triangle. If you arrange four of them on the billiard table in a square they tend to be restless and to roll around on each other and if compacted to a condition of stability they form a 60-degree angled diamond shape made of two triangles.

"The physicists find that spheres always form omnitriangulated structures in their closest packing. The frequency phenomena studied in quantum mechanics are all predicated upon agglomerations of spheres of given— i.e., known— radii. All the coordinating is done in spheres of given sizes whose radii are²²

Closest Packing of Spheres Sequence: "subdivided finitely in modular wavelengths of discrete frequencies. Furthermore, spheres of given sizes are always compacted in omnitriangulation of 60 degreeeness, so that six spheres pack most tightly around one sphere on a billiard table and 12 spheres around one in omnidirectional compacting. Additional rings of spheres may be tightly compacted around the sphere on the billiard table as symmetrical hexagon patterns and additional layers may be added omnidirectionally around one nuclear sphere in symmetrical vector equilibrium growth. The number of spheres in the successively enclosing shells are 12, 42, 92, 162, 252, and so on, which calculates as ten times the frequency (of radial or circumferential modular subdivisions) to the second power, plus two.

(2)

Sixty Degreeeness, 1965 J

- Cite Conceptuality of Fundamental Structures (Kepes), p.71,1965

"The closest packing of • • • identical radius spherical agglomerations . • . Represents/ the comprehensive coordination of nature's most economical, most comfortable structural interrelationships employing 60° association and disassociation, which provides an omni-rational interrelationship accounting system— which If arbitrarily accounted on a 90° "three-dimensional" basis, becomes inherently irrational."

- Caption of Figure 2, P. 69 CIPBS

Closest Packing of Spheres;

22 Cite Conceptuality of Fundamental Structures (Kepes), p.71,1965

"Where every vertex is the focal point of a sphere we have closest packing."

- Cite Oregon Lecture #8, p. 289. 12 Jul'62
- RbF DrJ-IRITIONS

Partin* of sphcrgg:

"There are in closest packing we find, always alternate spaces that are not being used so that triangular groups can be rotated into one position or 60 degrees to an alternate nestable place."

- Cite Oregon Lecture #7, pp. 234-235. 11 Jul'62

"In closest packing of spheres, which the physicists find is employed by nature in the basic gridding of all agglomerations of atoms now we find time and again nature using this closest packing for basic coordination, we

always get 12 around one."

- Cite OREGON Lecture p. 227. -Cite -Gar bonds-leDraft

Nature's grand design ep. IV.35-36
11 Jul'62

"We get into other type relationships where we are using different size spheres and we find that smaller spheres will pack inside larger spheres and much of the chemical compounding and the atomic crystals relate then to different sizes of these spheres. . . "

- Cite Oregon Lecture #7, pp. 235-236. 11 Jul'62
- Closest Packing of Spheres:

"Spheres packed together as closely as possible around a center sphere do not form a super-sphere, as" might "be expected. They form a polyhedron bounded by 14 faces. Six of these faces are squares, eight are triangles.

(SEE ILLUSTRATION # 50.)

- Cite MARKS, p. 41, 1960

Closest Packing of Spheres: Concave Octahedra and Concave Vector Equilibria:

"We find that in closest packed spheres there are only two shape spaces, what we call the concave vector equilibrium and the concave octahedron, « . One is an open condition of the vector equilibrium and the other is a contracted one of the octahedron. ... We could take the original vector equilibrium and bend the edges inwardly and make it concave, or I could bend it outwardly and make spheres. It has possibly the first degree of contraction from vector equilibrium: it becomes a sphere or a space. If it bends inwardly it becomes spaces; and if it bends outwardly, they become spheres. We can then begin to call a space a concave vector equilibrium and we can call a sphere a convex vector equilibrium. Or we can call a space a concave octahedron--- which is one of the other kinds of transformations."

- Cite Oregon Lecture #7, pp. 257-258. 11 Jul'62

Closest Packing of Spheres: Concave Octahedra and Concave Vector Equilibria:

"Every vector equilibrium became an octahedron and ever* octahedron became a vector equilibrium. Which is to say that every space became a sphere, and every sphere became a space. But it is not just a one-to-one transfer. It is a two-to-one. There is also an interesting precessional play which will spiral one way or the other because there are two tetrahedra involved. There are two kind of octahedra involved and you have two kinds of spaces.

I couldn't just say that a sphere became a space and a space becomes a sphere because there are two shapes of spaces. One was an octahedral space and the other was a vector equilibrium space, so in this transformation some of it is going into one kind and one into the other. At any rate, we see for the first time a really complete change which would be something like our dropping a stone in the water. . . "

- Cite Oregon Lecture #7, p. 260. 11 Jul'62

See Aston

Balls Coming Together Chemical Bonds Circumferential Closest Packing Heavenly Host Phenomenon Limit Case: Closest Packed Symmetry Omnidirectional Closest Packing of Spheres Self-congruence Packing Self-packability Thinking: Analogy of Sphere layers Nestability Surface Nests Tetrahedral Growth Vector Equilibrium Growth Basic Nestable Configurations: Hierarchy Of Precession of Two Sets of 10 Closest-packed Spheres Precession of Two Sets of 60 Closest-packed Spheres Interstitial: Interstitial Spaces Shell Growth Rates Spheres & Spaces

See Avogadro, Jun*66

Balls Coming Together, 19 Jun'71* Carbon, 8 Jun'72 Gravity (f)-(l) Octahedron, 31 May'71* Omnidirectional, Jun'66 Physics: Difference Between Physics & Chemistry, 28 May'72

Tetrahelix, 10 Sep'74 Tidal, 31 May'71* Triangulation, 26 Jan'72*

Universal Integrity: VE k. Icosa (2) Vertex, 11 Oct'73

Rhombic Dodecahedron, 27 Jan*75 energy 4 Dumber, Oct*71 Quantum Sequence, (3) Three: Number Function of Three in a Four-axial

System, 24 Jan*76

Spherical Interstices, 9 Jul*76

See Environmental Close-up

See Coaet: Around Cones the Const Again Periodically Closing the Gap Tetrahelic Gap Closer

See Orbital Closure

See Building, 10 Sep*74

Shape Awareness. 20 Feb'73

Metaphysical k Physical, 22 Jun*77

Clothes:

"Women and their clothes re like poets.

They anticipate.

All options are open."

--<HU BBF-quoted iH'Qneenkay--L?O- - Citation at Potion. May*70

See Invisible Man

See Child Sequence. (4)

Design Revolution: Pulling the Botton Up, (6)

Thinkable You, (1)(2)

Aesthetics of Uniformity, (3)

Consnuications Hierarchy, (2)

Man, 6 Jun»69

Clothaallne:

See Tenaegrly Clothesline

Cloud Chamber:

"When a physicist bombards a group of atoms in a cloud chamber with a neutron, he gets an interference. When the neutron runs into a nuclear component: (1) it separates the latter into smaller components; (2) they bounce acutely apart (reflection); (3) they bounce obliquely (refraction); (4) they combine, mass attractively. The unique angles in which they separate or bounce off identify both known or unknown atomic-nucleus components

- Cite SYNERGETICS text at Sec. 517.04, Nov*71

Cloud Chamber:

"Euclidian and noneuclidian geometry assume that you can have a plurality of lines going through the same point at the same time. let you find empirically that you cannot get two actions through the same point at the same time. If one is there, the other impinges on it. As a physicist bombards a group of atoms in a cloud chamber with a neutron, he gets an interference. The neutron runs into a nuclear component and either separates the latter in to smaller components or they bounce apart. The unique angles in which they separate or bounce off identify both known or unknown atomic nucleus components."

- Cite AAUW JOURNAL, May 1965, P. 176

six ©3 * oq|

Cloud Chamber;

See Synergetics: 517*04

517.13

Cloud-Island Spheres:

□We will float large colonies of humans arohnd the world in tensegrity geodesic cloud-island ephores taxi-serviced by helicopters,"

- Cite THE PROSPECT FOR HUMANITY, WD3D Doe 3, p.65, Aug'64

See Wind Power Sequence, (4)

Cloud: Clouds:

See Precession, (I) Structure, d Sep*75

ciuQ of figpip: Unite to growth*

(A)

"At the opening press conference of... Habitat, I was asked to make a public statement regarding the Club of Rome and its 1973 publication of 'The Limits to Growth.' I made the statement that the Club of Rome had a few weeks earlier---April 1976---issued a complete public reversal of its limits-to-growth concept. It had done so in a meeting in Philadelphia at the University of Pennsylvania Museum. There had been so many contradictions of the Club of Rome's 1972 pronouncement of the limits to growth that they had completely reconsidered their position. I said at the press conference that I felt that the Club of Rome's first statement was schemingly funded by vastly wealthy interests who were continuing to do what money had done in the past: i.e., to rationalize selfishness. Assuming the political concept of fundamental inadequacy of life-support for all the humans around our planet, selfishness had been able to say, *1 have those for whom I'm responsible and because there is not enough life-support for all, I am obliged to do various things that are utterly and completely selfish.'

"I felt that the Club of Rome's pronouncement of the 'Limits to Growth' represented history's last attempt on the part of"

- Cite ACCOM-IODATIUG HU .'AN UNSETTLEIXNT, pp. 4-5; 20 Sep'76
RbF JLFTNITIJS

"organized capitalists' selfishness to justify to the world public why their wealth would be unable to do anything about the third world. The initial Smithsonian Institution announcement of the 'Limits to Growth' was based on work done by an MIT professor of computer sciences who was given his input data by other MIT specialists. I and many others, particularly our World Game group, were able to make well- documented and fortunately effective public announcement that the Club of Rome's 'Limits to Growth' pronouncement was a sadly ignorant statement. For instance, its computer programmers cited only the very small remaining percentages of the world's unmined metal ore reserves and were manifestly unaware that the metals on our Earth are continually being melted out of their last use and being recirculated in amounts greatly exceeding the tonnage of metals being newly mined and added into the cumulative circulatory system approximately 3 to 1, while all the while the interim gains in technological 'know how' take care of ever greater numbers of humans per each pound of recirculating metal or other chemical substance into which technology invests its ever improving know-how, with the result that it is now engineeringly feasible to take care of all humanity at an unprecedentedly"

- Cite ACCOMODATING HL'"AN UNSETTLE! .L NT, p.5; 20 Sep'76

Club of Rome: Limits to Growth: (C)

'high standard of living without mining any more metals.

"I told the general news conference at Vancouver that the Club of Rome's ignorance was occasioned by the overspecialization of scientists. I then told the press conference that I thought the Club of Rome had this year manifested extraordinary courage and integrity in being willing to completely reverse their public position---when they announced in Philadelphia that they had found on reinspection that their data was inadequate, ergo, their resulting conclusions were wrong.

"Later that week I received an invitation to lunch with Kr. Peccei, president of the Club of Rome, and at the luncheon he personally verified their reversed position. I applauded his integrity."

- Cite ACCOillODATIL'G HU1AN UNSETTLEIEHT, p.5; 20 Sep'76

"You must understand that I'm not playing at all the same kind of game that was played by the Club of Rome where they took the well-known data regarding all the inefficient ways that people do things— that's all they knew about. They did not know that metals recirculate. They did not know that every time the metals recirculate I can get two times as much performance for twice as many people with the same metal. They didn't have the right information to start off with. I wouldn't be at all surprised if we used their formula and their model but gave them my data, they would come out with the same conclusion I have: that the world will work.

"Forrester and I both received or Doctor's at Notre Dame last weekend and I had some very pleasant words with him. He agreed that we should have a considerable talk. He told me he had lectured for the first time in 1949 at MIT and that he's heard a lot about me, particularly since his report came out... And people have asked me in public what I think about the Club of Rome and I've had to say that I felt the data they had was inadequate and inept... Forrester is a computer man."

- Tape transcript, pp.2-3; RBF to B. Brooks, in auto, 29 Apr'74

"I would assume that my of input with the Forrester models might really come out with a reversal to what they've traditionally taken there. But even if they dk we'd still have to get to all the people of the world, China, and Russian, and so forth. I think they would be favorably impressed. I think my kind of data could be put on the television through our World Game and make it visible to human beings... then the rates at which you could sake those buildings and they could be delivered

by air, what they would weigh and how much material in the world it takes to produce them, and what kinds of standards of living you'd be able to get with them. Russia and China would probably not want to ban any kind of television program of that coming in over the satellites. I would be glad to have the MIT-Club of Rome group employ my data. In a sense I'm rather surprised they didn't."

- Tape transcript, pp.3-4; RBF to B. Brooks, in auto, 29 Apr'74

Club of Rope: Limits to Growth: (Meadows & Forrester)

See Exponential Model vs. Limits to Growth

See Done: Rationale For (II)(IV) Metals: Recirculation Of, 9 Dec*73

Cl u ar B:

"Every time you say, write, or read a number--- you see resolvable clusters of light differentiation. And clusters are an experience,*

- Citation 4c context at Humber, 7 Nov*73

See Bunch

See Mass, 29 Dec'58

**System, 29 Dec'58 Touch, 29 Dec'58 Number, 7 Nov* 73* Number:
Tetrahedral Number, May*71**

Clutch;

See Gears

Unclutchable

Coagulating:

Sea Democratically Coagulating

See Energy Capital Sequence, (1) Income Energy, (1)

CMIMCIM tdl«r.nc«:

See Subconscious, 14 Feb*72

Saba

See Z Cobras

Castell: ggyfcwil PartTi

**See Lunch: Let's Have Lunch Martini Cocktail Population Density:
Manhattan Cocktail Party**

Ab? jFuariohs

Codes:

"The DIIA and HNA tell the spontaneous crystallographic
process controlling, how to build a flower's petal. . .

Cotes do not necessarily read out into linguistic messages.

The synergetic complementarities are not in the code at all.

- Cite KBF re-write 7 Oct. '71 of Tape Transcript, Chicago, 31 lay '71.

Sfidsa: ttLtogX till Soden But We Don't Know th. -Ho» Cow.-:

See Synergy of Synerglee, 31 May'?1

See Viral Steerability

Morphological Control Codings

**See Genetic, 14 Feb*72 Man: Interstellar Transmission of Man, (A)(C)
Photosynthesis, 9 Jun*75**

CflsaUUUns: Alwara fc OnlT:

**See Cofunctions Complementarities Noncoexisting Omnicoexist-
ing Proton & Neutron Convex & Concave Subjective & Objective
Structural Functions**

See Axis of Conceptual Observation, 25 Mar*71

°QluacU,flaa!

"rfave magnitude and frequency are experimentally

interlocked as co-functions and both are experimentally
gear locked with energy quanta."

- Citation at Frequency & Wave. Jun*66

See Covariables: Covariation

Interfunctioning

Coexisting

See Frequency& Wave, Jun*66* Metaphysical & Physical, 20 Jun*66;
1967 Time & Space, 12 Jul*62 ; Nov* 71 Freequency & Magnitude,
Jun*66

Cognition:

"In order for nan to have cognition he must equate one thing to another."

- Cite MERGERS & ACQUISITIONS Vol. 1., No. 1., p. 46

Fa11'65

Cognition:

"...The most extensive lucidly conceptual and definable, recollected-experience-«one range Ilea between a tetrahedral •withinness' twilight and a spherical 'withoutneaa' twilight, beyond which are the non-tunable (1) outwardness and (2) inwardness--- the subtracted Euler's twonesa from nonconceptual finiteness which pemit a conceptual definition of cognition."

- Cite OMNIDIRECTIONAL HALO, p.142, I960

Cognition T8. Recognition:

See Frequency Islands of Perception, 13 HOT¹75

Counit jnfi:

502.20

610.Oj

801.13

8440.12

8505.72

8526.14

s938.11

See Initial Unit Cognition

Pattern Cognition Feedback Pattern Cognisance Recognition Time &
Cognition No Instant Cognition A Priori Cognition

See Prime Othemeae. 24 Sep* 73

Understanding, i960

HBF DKPIMITIOMS

Coherence:

•...Universe islands its spherical compression aggregates and coheres
the Whole exclusively with tension...*

- Citation and context at Tensegrity. 9 Xov'73

Coherence:

"And in this eternally regenerative cosaos all those stars are giving off
enormous aaounts of energy. Tet ve find the whole energy exporting
to be laportingly cohered by universal gravity."

- Citation and context at Universal Integrity. 22 May*73

"Coherence is a six-part affair like the lever. Coherence and the lever
may be the same story--- like radiation and gravity."

- Cite KBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb*73

Coherence:

"Thus planets are cohered and thus are metallic alloys on planets even more powerfully cohered--- all within the rules of never-quite-touching; all within the rules of interval; all within the rules of no actual particulate 'solids.'"

- Cite SYNERGETICS draft at Sec.1009.10 Feb'?3

Coherence;

"Gravity is» most effective in its circumferential coherence."

Cite Synergetica draft. Sec 870. Aujrue 1971

Coherence:

"Liquids are noncompressible: you find that if you put tetrahedra edge-to-edge that you cannot compress them any more. The coherence of the liquid's viscosity is twice that of the gases inherently,"

- Cite tape transcript J®F to EJA and BO'R, Chicago, 31 May 1971

Coherence:

"**The number of vectors (structural or force lines) cohering each and every subsystem of Universe is always a number subdivisible by six, i.e., consisting of one positive and one negative event, each of the three vectors. . . adding up to six."

- Cite RBF Ltr. to Prof. Theodore Caplow, 18 Feb. »71.

Coherence:

"The Metaphysical. as with the eircuaferentially united, great-circle chord vectors of the vector equilibrium, coheres the physical."

- Citation and context at Metaphysical and Physical. Jun*66
Coherence;

**"I saw that, in the tides and in gravity, nature had accomplished a truly
invisible, formless, structural, tensional coherence."**

- Cite Mesico *63, p. 30. 10 Oct*63
Coherence:

"In X-ray diffraction we can hit a piece of metal and find an array of centers of gravity. We can take the temper out of the metal and they will change their positions. No longer does it cohere as well and the centers of gravity are deployed..."

- Citation and context at Module A and B Quanta 10 Jul*
Coherence?

"We can have a coherence tensionally as for instance in the Sun, Earth, Moon, in which we could have a satellite go between the two and it doesn't sever. There is no section. You don't cut that cord because there is no section. You are able to have interferences in tension

* Cite Oregon Lecture #5, p.160, 9 Jul'62

Coherence:

"As structural systems are omni-directionally coherent, tensile factors were unwittingly taken advantage of by man's compressive structures. Comprehensive tensile coherence provided by nature was atomic, the enormous amount of which induced into action was manifested by the weight of the structural masses. The invisible structure was $E - mc^2$. • •

"Throughout the Universe, compression and tension are energetically juxtaposed. Their juxtaposition provides dimension—the basic awareness of life itself. • , Tension is comprehensive. Universe tensionally coheres non-simultaneous events."

Cite PREVIEWS, 1*1, pp. 211,212, 1 Apr'49

Coherence v». Levey:

See Coherence, 11 Feb*73

Coherence: Cohesion:

109.01-109.03	647.03
112	700.03
430.03	713.08
440,08	726.03
518.05	921.02
6-6.-3	1009.30-1009.37
614.01	1024.15-1024.21
640.21	1051.40
640.50	
644.01-644.02	
045.03	

81052.71

See Atomic Coherence

**Circumferential Coherence Coming Apart & Holding Together Coming
Towardness Co-orbiting of Earth & Eoon around Sun Cosmic Coher-
ence Integrity Coherence Intercoherence Omnicohherence Syntropi-
cal Cohering Universal Integrity**

Sea Atom, 20 Oct'72; 3 Sep>75

Chemical Bonds, (1)(2)

Critical Proximity, 1967; Jun'71

Cube: Diagonal Of, (1)(2)

Metaphysical t Physical, Jun'66*: 4 NOT*73

Modules: A & B Quanta, 10 Jul'62*

Snow Mound, 9 Jul'62

Spheric Domains, 6 Nov*72

Structure, 15 Oct'64» 6 Sep'75

Tensegrity, 9 Nov'73*

Tensegrity: Unlimited Frequency of Geodesic Ter.segrities, (1)

Tension 4. Compression. 1965

Universal Integrity, 22 Fay'73*

Vector Equilibrium, (I)

Child Tearing Paper, 26 Jan'75

Gravity: Speed Of, 21 Oct'72

Push-pull Members, 28 Oct'72

See Colloidal Chemistry, 1938

Energetic Functions. 1954

Point: Outbound Point, (1)(2)

Twelve Universal Degres of Freedoa, (1)(2)

Call:

"At curves--- lines--- cannot reenter or 'join back into themselves,' the circling line can only wrap around or paaa over or under another 'part*' of its continuity eelf. as the knotmaking sailor saye it. Because of a line's inability to reenter itself, when circles are followed around and around upon themselves, the result Is a coll--- which is a mildly asynmetric spiral wave accumulation that my be piled upon its micro-diameter self only as long as intellect wishes to pursue such an experiential investigation."

- Cite SYNERGETICS text at Sec. 506.30, galley rewrite, 7 Nov'73

HBFDEramuNS

"As curves— lines—

Cannot re-enter or

'Join back into themselves,'

The circling line

Can only wrap around

or pasa oyer or under another 'part¹

Of its continuity self—
As the knot-making write
Sailor says it.

Because of a line's inability To re-enter itself

When the circles are followed

Around and around upon themselves,
The result is a Soil
Which is a mildly
Asysnetric spiral accumulation

Which may be piled upon its micro diameter self Only as long as intellect wishes to consider Such an experiential investigation."

- Cite HOW LITTLE, p. 59 as amended by RBF. Beverly Hotel New fork,
19 June 1971.

Coil:
529.04
644.01
1032.12
1032.23
Seo Spiral

See Hexagonal Vector Pattern. 8 May*72 Matter re. Radiation. 7
Nov*73 Local Radius, 14 Feb*73

cglA TAM law thg. Alr:

"I don't have to do anything about it. Nature knows exactly what to do. Nature is never caught off guard. /RBF throws coin into the air/ I haven't the slightest idea really how to resolve it when I threw that coin in the air. But nature knew how to handle it. Nature is never nonplussed about what to do. But you and I get tremendously nonplussed about what to do."

Citation and context at Generalisation Sequence (4), Jun«Jul'69

Coin Toss Into The Air:

(1)

See Nature Always Knows What To Do

See Creativity, (1) Generalization Sequence, (4)* Nature. 6 Nov*73
Special Case Event, Spring*66

CQlnCldCBCQ:

.Self-interferences, or coincidences..*

- Citation and context at Design Cowiabee: Principle Of. 1959

coineldmai Artlcwlatlsn Swncg: <¹)

"Christopher Morley used to be plagued by a feeling that 0.0. (Odd) McIntyre was plagiarising Christopher's verses. The evidence frequently seemed incontrovertible. Such couplings of identical articulations have frequently occurred and seem now to be as plentiful as the double star population of the heave*--- some natural, some counterfeit.

"However, science has theoretical explanation of the natural phenomenon.

"The mathematician Brouwer demonstrated (Brouwer's Theorem) that when a random set of points are randomly stirred, that one of the points will at completion of stirring be proven not to have moved in respect to the total motions of all the other points, i.e., one point will have remained the center of gravity (reference - ? Ed.) of the total complex movement. If the total motion were terminated earlier, or later, another point might prove to have been the central point of the total motion."

- Cite RBF Ltr. to Roscoe McGowen, 11 May'58

"When Pauli, the physicist, developed what is known as Pauli's Exclusion Principle which freed atomic explorers from a dilemma imposed by Bohr's model of the atom's electron behavior and greatly advanced the understanding of the atom. Pauli suggested and was proven by experiment to have been cogent as follows: each electron has its exact counterpart cofunctioning with it in an opposite hemisphere of its system. Pauli's Exclusion Principle has since been found to be operative beyond the realm of the atom: it apparently applies to all systems investigated, large or small. It has become the basic mathematical theorem central to quantum and wave mechanics and an important tool of scientific probing. Pauli's generalized principle indicates that every action, point, or subsystem foci (as a component system of a larger system has a counterpart— me and my shadow— action, point, or subsystem foci) somewhere operative in Universe. And when the other or counterpart has been found the area of its functioning will prove to be the 'other side' of the system of operation involved, thus isolating and discovering the system unique to any point. The other side could be the light side vs. the serious side of any question, and the size of the question could be discovered by the relative positioning"

- Cite RBF Ltr. to Roscoe McGowen, 11 Kay*58

"of the two: for example, the day and night side of Earth.

"Now we discover that Pauli's Principle and Brouwer's Theorem are neatly combinable, for each hemispherical aspect of any system has one point which is central or polar to any and all random action events within that hemisphere as of any one moment of observation. That is, one point in the hemisphere seems to be constantly identifiable as central to the events of any one moment of inventory (a typical viewpoint of any observer of Universe); and Pauli's principle shows that the other hemisphere must contain a counterpart of that neutralized action center: and these two hemispherical counterparts despite other permitted random idiosyncrasies of their respective hemispheres, become the inherent neutral axis terminals of their mutual system. Around the axis of these two coupled and 'motionless' ob-

server points, their system or world of total and randomly populated yet dynamically equilibrated events revolves--- even though each of the two identically behaving observers in their respective and otherwise seemingly differently behaving hemispheres may be unaware of the other because of the other's invisibility on the opposite side of their seemingly**

- Cite RBF Ltr. to Roscoe McGowan, 11 May'58

"respectively different, and ergo unrelated, worlds; which seeming'two worlds' are however in fact one and the same mutually induced dynamically equilibrated and sumtotally identical world.

"So, Roscoe McGowan, it does not come to me as a scientifically unpredicted surprise that you, somewhere on the other side of •my own' world of prosaic occupation with structures, mechanics, and industrial logistics, should naturally have conceived of and articulated approximately the same words set to the same music, which I had written and sung (croak-yodeled), "Roam Home to a Dome' at Yale University in December 1951 , and published a year later in Yale's architectural magazine Ferspecta.. I have penned in a second verse which I added to my rendition in 1952, as I thought you might also enjoy humming over this one.

"I am adding the McGowan verses to my own infrequent public dome singing. --- Faithfully yours, R. Buckminster Fuller.

- Cite RBF Ltr. to Roscoe McGowan, 11 May'58

See Idea Stealing Intellectual Kleptomaniac Plagiarism Anonymity Spontaneous Deputies

Sm Anonymity, 19 Dec'71 Indention Sequence (C) Nonsimultaneity, undated Patent, 19 Apr'01

Coincidence Pattern:

See Pattern Generalisation, (1)

See Nonetruetural Coincidence Contact Coincidence

Sea Syatea, 24 May'72

Cold & Vacuum;

"One way you ought to talk about the phenomena house and cold is that cold and vacuum are in physics almost identical, that is you have energy in the oresence of cold and in the presence of vacuum, and when you energy-, either as heat of kinetically accelerated gases or as radiation--- is eliminated cold or vacuum alone remain. That is the best way for you to look at it.

"You see, when they say *cold is coming in,¹ it is because energy-as-heat is dissipating so fast as to leave cold gases in your presence. Air that is cold because low in energy content moves to you so that you seem to feel cold draft, but there is no physical entity ·cold*. Temperature should be thought of as relative heat concentrations or dissinations."

- Citation & context at JJXad Stresses *k* Houses, (6), 1946
gold. Valve of Tlffie va Hot Valve of Energy:

See Time va. Enen% Dec*40 Eternity va Energy, 2 >ay'78

Cold War;

See Social IM, 19 Sep'64

**See Cold Valve of Tine Cold War Hot vs. Cold No Physical Entity Cold
Freezing Ice Cryogenics**

See Diabursoaant Gravity Lapoundnent Onni collective

**See Black Hole (1) Dictionary. I960 Point: Inbound Point, 23 Sep¹73
Syntropy. May*72 Universe, May*72; (p,131) I960 Weather, Feb¹73
Wow (3) Rain, 11 Feb'76**

cpuifian: ShIM CaUldIM an th* filebti

See Force Lines: Owniiirectional

KBF uiiFIMTIuNS

cgUgldal cftmlgtry •

"The microscopically observed structures of 'worked* steel and tree trunks are, alike, comprised of myriads of sausage- balloon-fibrous units. The science of the determination of the electrical-frictional affinities of molecules in lubricants, cohesives and aggregates, and the ratios of those agglomerations is known as colloidal chemistry. Colloidal chemistry, coupled with thermodynamics in its advanced stage (comprehending general characteristics of the energy phenomena in crystalline, liquid, and gaseous states) currently constitutes the central objective of science which seeks structurally to employ the primary electrical polarity specifics of radiation.

"In compression, a tangential agglomeration of spheroids is structurally the most satisfactory cellular arrangement since cellular elongations under compression tend to wedge and split asunder their agglomerations. In tension, however, fibrous crystalline surfaced elongations of the globular cells are most frictionally cohesive."

- Cite MNL, CdnIKS, p. 177_f 1938

Colloids:

See Prestressed Concrete Sequence, (2)

Colonialism;

"In colonialism

Militarily powerful Geographically defined Sovereign states Whose industrial wealth making Is rising to equal and surpass Its earlier agrarian, hunting, fishing, And handcrafting economy. Take away the physical Metallic and organic substances From militarily weak na-

tions Which are physically favored With a rich variety and abundance
Of unique chemical substances The industrial functions of which Are
unknown to them In their preoccupation exclusively with Agrarian,
hunting and fishing Handcrafting economics.

- Cite HdF undated holograph left behind at 3200 Idaho Washington
DC, 26 Jan *72

CfilmsnlsUM

See Transnationalism Petrocolonialien

- Colonialism

(1)

Colonialiga:

S«e Ghana Dorna: Salf-chilling Machine, (1)(2)

(2)

See tforld-around Language, (2)

Air Space, May'65

See Optical Rainbow Range Refraction

See Ecology Sequence. (B) Manifest: Two, 1973 Perception. 24
Apr*67 Radiation Sequence, (2) Sweepout: Spherical Sweepout,
(1)(2) Bendings, 23 Jun»75

See Energy Ray Tones

Invisible Colors

Trees: World-around Colors of Trees Intercolor-crossblending

See Psychedelic, 2 Jun'71

Tunability, 19 Oct'72

Neutral, 1 Feb*75

Harmonics, (1)

Fuller, R.B.:# His Eyesight. 22 Jun*75

Cotmunicat Lona Hierarchy, (1)

Frequency Islands of Perception, 13 Mor*75

Electromagnetic Spectm, 26 Jan'76

Wave Pattern of a Stone Dropped in Liquid,

22 Jun'77

Columns TB. Beams:

"Columns are easy; beans are difficult."

- Cite Dones, p.154; Ideas a Integrities, 1963

See Bm® Lenth-to-girth Ratio Slenderness Ratio Strut Greek Teapie

See Chemical Bonds (1)(2)

**Licit Structural Transform tion Tendencies, 1 Apr'72 Sphere, 2 Mar'64
; 15 Oct'64 Horizontal ts. Vertical, 1963 Redundancy: Reduction Of,
22 Apr'71**

"Cone-and-Go" Triangulation Pattern Strip:

"This continuous triangulation pattern strip is a 60- degree angular 'come-and-go¹ alternation of very high- frequency energy events of unit wavelength. This strip, folded back on itself, becomes a series of octahedra. The octahedra strips then combine to form a space-filling array of octahedra and tetrahedra, with all lines or vectors being of identical length, and all the triangles equilateral, and all the vertexes being omnidirectionally evenly spaced from one another. This is the pattern of closest packing of spheres."

- Cite caption to Photo (0-2-3) as submitted by Peter Pearce, 1967
 - SfC. <33)
- "cgwf-Mri-cg*. Tri*wU»Usn fatttrn strip:

See Pattern Strip Aggregate Wrapabilitiea Tetrahelix: Continuous Pattern Strip

MHB £o«wdy and Tragedy of Err or a:

"Life may well be a dream, A comedy and tragedy Of errors of coneop-
tioning Inherent in the dualistie Imaginary Assumption Of a self dif-
ferentiated From all the complex otherness.

- Citation and context at

9t^R»UtT

Comedy:

Se® Artist: Histrionics, (1)

Comet:

"tthen the Earth's orbit passes through a comet's stardust plume we
witness some of the comet's stardust falling in to Earth captivity,
some of it igniting as it enters the atmospheric gases, some falling
into Earth, and some with such acceleration as to pass only through
the atmosphere leaving meager entropic dust to fall to Earth."

- Citation and context at Critical Proximity. 15 Feb'73

Cfissi: Around Pgatfl the °QMfc-*xfUn-Period 1 gaily CIOTIM tht G*p:

"Comprehensive Universe is amorphous and only locally finite as it
transformingly differentiates into serially conceptual pattern integri-
ties, some much larger than humanly apprehendible, some much
smaller than humanly apprehendible, ever occurring in nonsimul-
taneous sets of human observings, time-cancelling, harmonically

integrative synchronisations are supra- or subhuman sensibility and longevity experienciability whose periodicities are therefore so preponderantly unexpected as to induce human reactions of o'erwhelming disorder, so that... suddenly around comes the comet again for the first known time in humanly recorded experiencing, periodically closing the gap and periodically pulsing through etmally normal zero."

(Sec. 645.10)

- Cite RBF amplification of 9 Jul'62 citation, same subject, RBF to EJA, Beverly Hotel, NYC, 19 Jun'71

rtBF dtJInirlonS

aarev Arams Voasis the coast Amin PerioaicaUv closing the Cai:

"rne comprehensive Is finite even though it taxes on patterns very such larger than we can apprehend in the terms of a nonsimultaneous set of observations so that suddenly around cones the comet again periodically closing the Rap."

- Citation at Comprehensive. y Jul'02

fiart: Around Co²³eti the Comet Again:

•...They are inherently self-closing; maybe not with simultaneous experiences--- obviously not in simultaneous experiences--- but around comes the Halley*s Comet. Every 70 years around she comes again. It is not a simultaneous experience at all. Several lifetimes say be involved, and some of them may be coming aroudd more slowly, but there is an integrity of the tensions as around they come again. We find an idea about some kind of closed circuit.*

Sss Comic Vacuum Cleaner Halley's Const

23 Citation & context at Tension. 5 Jul*62

rar cmt macs

Cocct:

See Comprehensive, 9 Jul*62*

Critical Proximity, 1\$ Feb'73

Tension, 5 Jul'62*

Stardust, (1)

Man: Intarnsollat TrnnaMasion of Man, (B)

RBF DhFIKITIUKS

Comfortable:

"Tetrahedron# are inherently 'comfortable' and do not tend to transform into other shapes while cubes tend to collapse."

~~_____~~

- Citation at Tetrahedron, 1965

See Moat Coeifortable

(11

Conformable:

Sea Tsrhedron, (p.82) 1965; 5 Jul >62

MLOIKSI Halt Can, 12 M*y'?5

Coming Apart Phase:

"The astrophysicists say that no matter how far things come apart, they never come fUrthen apart fundamentally than proton and neutron, which always and only coexist."

- Citation and context at Stars: 22 Jul<71

JpiDIpaivo Forces of the Stars.

q3S.n71

See Apart

Asunder

Coming Apart & Holding Together

Going Awayneas

Raison d'etre of Going Awayness Radiation

'g*rt Phase:

(2)

**S®e Critical Proximity. 1 Jun'71 Proton & Neutron. (A) Radiation. 6
Mar*73 Superatonics, 22 Jul*71**

Crwlnr Ana Ft & Holding Together:

(1)

See Integration * Differentiation Badiation-gravitation

CMlnr iwiit fc Holding Tomhur:

See Radletion-gravitation, 1 Jun* 71

**Stare: Implosive Forces Of, 22 Jul*71 Poet, 22 Apr*61 Critical Prox-
imity, Jun* 71**

See To & Fro-ing

£\$alacJkJtelac:

(2>

Seo North-south Mobility *ot* World Man. (1)

Soleri, Pqolo, 10 Sep'75

Coalnr Towrdn.ua: CaMtlM Tor.th.r Flan:

(D

See Coherence

Going Awayneaa

Coming Apert & Holding Together

Gravity

SMIM TmmrtatM • •

(2)

See Attraction, 7 Feb*71

See Aejsraatry: Plus & Minus HaKnitudes as Rational Fractions Increment Low
Order Prime Numbers Measurability Mensuration National irfhole Numbers

Seo Powering: Sixth Powering, 26 box'72

Cownifent to Humanity:

SM Fuller, RB: Coenitaent to Humanity of 1932

Bolag Shat Keede to be Done Blind Date with Principle

CsimlMient to Humanity:

See Building Industry, (10)(11)

(2)

ConasltKents

See Sub 11 eat ion, 21 Oct'71

Com it tee:

"Universe does not move forward by committees. They can be wonderful at things like getting all the facts together but they can't bring in innovation. And that's all that government is-* Just a big committee."

- Cite RBF to U.Va. graduating class, U« Va. Arch. School, Boar's Head Inn, Charlottesville, Va., 3 Jun'72

Coamittee:

See Group: Groupings Individual & Group Principle

cgman PgamlMloc •

See largest Cooaon Denominator

CgangR Official Ngwg:

"What we call common sense is usually preoccupied with minute, superficial irrelevances that result in myopically misinformed and, therefore, unrealistically conditioned habit reflexes. If you are apprehensive regarding our moment in history, don't be. The TV news and newspaper tabloids, all of which specialize in exclusively sense-apprehensible pictures are also unwittingly specializing in irrelevant nonsense. The official world and local news have approximately no direct bearing upon and contain no directly deducible inference of what universal evolution is bringing about."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 151, Dec. *69
 copyright Squa&: PgrCtPtMal Pgegboig:

"Only for a third of a century has educated man been confronted with the experimentally established fact that his senses can tune directly into less than a millionth of the vast range of physical reality. All our customs, ways of thinking and means of communicating have been developed under the misapprehension that the minuscule millionth part of the Universe that our perceptual peephole had revealed comprised the whole of reality. As a consequence, humanity's common sense is preoccupied with irrelevances and false premises."

(For later context of above passage see
Perceptual Peephole as Fraction of Reality.)

- Cite NAT OWINGS FOREWORD, p. 1.

• Cite 1st and 2nd sentences also in ARCHITECTURE AS ULTRA INVISIBLE REALITY, pp. 149-150; and p. 151.

fIMMB Common Sense Reality:

"... Society has not yet achieved spontaneous and conceptual comprehension of the true nature of reality. To world society in general what we call common sense reality as yet... consists only of the sensorial... Reality, like thought, is almost entirely invisible."

- Cite ARTS & LETTRS GOLD MEDAL, pp.8-9 May '68
Crwwmnn Sense;

See Doing What Needs to be Done Earth: Let's Get Down to Earth
Money: Making Sense vs. Making Money

(1)

See Evolution, (1) Solid State, 13 May'73 , ,

Coomunications Hierarchy, (2)
«BF DEFINITIONS
Cgmqoffffftiyi;

"We realise that there are two kinds of tools: our personally operable
craft tools and our jointly operable tools. We may be able to identify
commonwealth with tools that are only developable by a plurality of
men. We can all that tool and energy capability of

single and commonwealth into two main constituents: the physical
and the metaphysical, the physical consisting of specific energy quan-
tities, and the metaphysical consisting of specific know-how capabil-
ities."

- Cite NASA Speech, p. 2a.

See Appreciative vs. Depreciative Commonwealth Industrial Com-
monwealth

Cocnonwealth: Coowon Weal;
(2)

See Biological Equation of Universe, 1947

Common Sense, (p.84) May'72

Comprehension, Feb*71

Economic Accounting System, Sep*72; (E)

Metaphysical & Physical, Jun*60

Plane, 19 Feb»72

Pollution Control (3)

Ships (2)(3)

Wealth: Equation Of Oct*66 You k. Me, «□» 1938

Cosmic vs. Terrestrial Accounting, (3)

Communication:

"In speaking to you know I am using the most powerful form of communication I know of. Communication is weightless. In the weighing of people as they die. science has found that no weight is lost, only electromagnetic frequency is lost. The chemical elements are notchings, they are behaviors... We are transceivers, walking telephones... When we see the North Star we are seeing a live show taking place not only away but ago `` Scenario.

"Our communication is all 99.99 percent subconscious."

- Cite RBF in lecture to World Gae Workshop*77» Phila., PA; 21 Jun»77

ggfflttnlCftUM! (D

"Throughout the last 20 years I have been meeting with and speaking to 1500 or 2000 people three or four times a week. As a consequence, I am absolutely confident that what is going on between me and an audience, as I think out loud, is absolutely metaphysical and

weightless. It is understanding and meaning and has nothing to do with the length of the site of the words I am using, or the sound-wave disturbance I am making in the air, or the language I am employing. If we had no air to make sounds with, we would have to communicate with other tools. We could use electronic flash instruments and talk by dot-and-dash Morse code, or we could write and read one another. Each of us could use many telephone instruments. We could make color movie talkies and videocassetted j-D documentaries of ourselves 'thinking out loud,¹ our seemingly live images appearing on our respective TV screens, but we would not be the TV sets. We would be, as we are now, only what each of us is communicating to one another in spoken words, gestures, postures, and flashes of the eye. We can't see one another; we can see only our respective communications devices. I am quite confident that life is inherently immortal."

- Cite THINKING OUT LOUD (3) s PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World. Mag., 11 Sep»73

Communicating: (2)

"If you and I.-are developing any understanding, it is only by virtue of our being able to employ the generalised principles so far discovered. We are communicating in terms of eternity. Considering the most prominent historical data, we can say that we humans were obviously given conditioned reflexes so that we would be certain to regenerate and prosper on planet Earth, And in due course we could discover that our minds are everything and our muscles apparently naught, and we could discover

further that humanity has an essential function in the Universe--- in the macro-micro ranges of the great design scenario and its realisation in time. An intuition is dawning in us of the integrity and Immortality of the individual. Awareness is terminable, but knowledge is eternal. Comprehending and knowing are eternal."

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag., 11 Sep*73

"The means of communication is physical. That which is communicated, i.e., understood, is metaphysical. The symbols with which mathematics are communicatingly described are physical. A mathematical principle is metaphysically and independent of whether X,T or A,B are symbolically employed."

- Citation and context at Metaphysical Experience. 13 Mar*73

(SCc. Ifc3)

Communication:

"I do not allow myself what's called the luxury of a short cut. People say 'Why don't you cut It short?' Because I've got to take you from an experience to the thing. There's no use talking about It unless you feel it yourself.*

- Citation at Short Cut, 10 Jun*71

Communication:

"... The invisible reality integrity's are infinitely reliable. It can only be comprehended by metaphysical mind, guided by bearings toward something sensed as truth. Only metaphysical mind can communicate. Brain is only an information storing and retrieving instrument. Telephones cannot communicate: only the humans who use the instruments, mind is metaphysical mind. No mind: no communication: no man. Physical transactions without mind--- Yes. Communication---

No. Man is a self-contained micro-communicating system. Humanity is a macro-communicating system. Universe is a serial communicating system: a scenario of only partially overlapping, nonsimultaneous, irreversible, transformative events."

- Cite RBF Introduction to Gene Youngblood's EXPANDED CINEMA,
P. 26. Oet' TO

Communication:

"Voice to ear communications between all peoples anywhere around the world is approximately 186,000 miles per second. In terms of mores, language, politics they are as yet months, years and generations apart. In terms of human needs and longing for understanding they are as one.

"In the swiftly accelerating range and frequency of world peoples' comings and goings, the inherent barriers of mores, politics and language will swiftly dwindle out and disappear. *11 of the pattern of world affairs will become visible to all its people. Ambitions of individuals or of minorities to seize dominance of the Airocean World are inherently 'spot news.' Democratic mastery of the whole pattern is inherent and inevitable. The intellectual and technological integration accelerates the constant trend to serve more needs of more people with higher standards with ever more efficient investment of overall resources per given function."

- Cite Caption to Figure 182, Synergetics draft chapter, Djma>11in Airocean World. 1967

Communication:

"It is found in cybernetics that original questions, asked either by humans or by computers, are always produced by unexpected interferences. In lines we see that earliest man's social experience began with trail-making and trailremembering. The connecting trail 'line' was the basis of his establishment of coiaunlcation. Today it is the essence of communication theory. Understanding involves the discovery of all the linears or interconnecting lines, the $N^2 - N$ connections."

* Cite AAUW JOURNAL, Xtay 1965, p. 176-177

CfminimbiM Art a=

See Industrial Lag, (1)(2)

Cotami cation Canter:

See New York City, (12)

SomunlcflUPB and Culturg:

Q: What la the relationship between pure thought and

language? (Is coonunication conceivable independent of culture?

HBf: *What ie pure? I define Universe as the sum of all

men*a consciously apprehended and communicated experiences. Coonunication can be to self or others. Without communication experience is meaningless. Without connunication there can be no awareness. The relationship between thought and language is if someone wants to hear what you're thinking: that would be the big relationship."

- Cite RBF to EJA and Jack Karquette at Bell studios videotaping session, Philadelphia, Pa., 1 Feb*75

Cotnnunication & Culture:

See News & Evolution

World-around Communication Transcends Politics

Communication & Culture:

(2)

Sea Self-coomunicate, 8 Apr'75

(1)

stono-to-stone stone-to-wa ter theraodynaaies, electrolysis, crystallisation, erosion
biologicals-to-biologicala thorns, odors, coloring

3. ME (gestured communication

sensed by ae)

4. MB (gestured communication understood by as)

5. MB (gestured coonunication:

articulated)

nonhuman-life-to-'nonhuaen- life

trees-toctrees

birds-to-trees

animals-to-htmans

yes-no purring tail-wagging, barking

humans-to-other-creaturoB

RBF DEFINITIONS ComnicatloM HiwirschTt

1. MB (gross coenuoication)

2. MB (auto coanunicatlon)

- Cite SYNERGETICS text at Seo, 1056.20, 13 May*73

Cotmunicat ion a Hierarchy:

6. MB (gestured eonunication)

7. ME (verbally communicating)

(2)

human-to-huma ns
sailss, clothing,
perfume

a. me 9. ME	(incisively disciplined) (art)	statistics written eomunication social history ideograms hieroglyphs phonetics script accounting historical data individual sense of intuitive eomunication expression of individual philosophy and opinion
10. MB (cotsaon sense) STMBRGETIC3, 1056.20, 13 May»73		culture tribal group comtrunication of group sensing
		hunting, dancing, philosoph
RBF DE? I MI TI OKS Comunle.tlona HLrarchy:		(3)
11. KB	(scientist: applied)	Mechanics, structures electrical & chemical engineering
12. MB	(scientist: exploratory)	science history cosmology cosmogony

13. KE	(biochemical)	exploratory chemistry behavioral proclivities atomic compound structures as atomic complexes
U. KB	(biophysical)	atomic physics nuclear structures
15. KB	(memory banked)	sorted-out concepts & data booked, libmried, micro- fiched, computer-programmed, Interrelated memory-banked around planet, retrieval through satellite relay
. Cite	3IX8RCETI0S, 1056.20, 13 May'73	

HBP DEFINITIONS

16. ME (sensorial)

17. MB (Intellect)

13. ME (Intuitive)

subjective-objective brain neuron storing, retrieving, coananding

Mathematics logical conceptioning aind discovering and employing eternal principles
synergetically coordinate sense, intellect exploratory sensor, glimpsor. Initiator

- Cite STWtGETICS text at See. 1056.20, 13 May*73

MMI SqwwUcflUOM *eTPimiQn:

**'The new era io one of every body being in the know and not <ust a
few leaders. That's what the new**

communications revolution is all about."

- Cite RBF 'Table Talk' «ew York

t\$ Feb *71

See City, (2) Economic Accounting System, (C)(D) Words, 17 Jul*73
Education, 1 Feb*75

RBF DEFINITIONS

Coanumcatlonfto Soir «nd Othor.:

- Communicated scans informing self or others.²⁴

3»U «n> Qthtrii

"Co* jnuni cation in thia definition can be either aelf-to- self, or by
aelvea-to-othera."

- Citation and context at Univerae: All the Known f 13 May*73

See Self«*cocsuulcate

(2)

Co—nnlMtion to Saif fc Otharal

Soa Dictionary, 26 Apr'71 Ufa k Baath, (2) Reality. Dec*69 Residual
Error, 1954 Man, 6 Jun»69

CommunicatlonB Theory;

"Connunications theory May be mathematically equated With electri-
cal Transmission theory ./hereby the higher The meaning or voltage
The more efficient And longer distance Communication attainable."

- Citation 4. context at Teleology. Oct*66

9gminlc*Ugmn Timm

"The decree of effectiveness of communication is proptattonal to the
degree of exactness of cocmaonly accepted definition of meanings of
the words used. This statement is a corollary of my long-held working
assumption that a problem adequately stated is a problem fundamen-
tally ripe and potential of solution.

24 Cite STMKRGETICS, "Universe,* See, J02. I97I

□In seeking definitive meanings I recognise, of course that Heisenberg's principle of indeterminism forestalls absolute exactness. However, the tolerance of error is reducible. Ergo; we may approach exactitude in progressive degree. Ergo: what I mean by mutual comprehension of meanings is statable only in terms of approximately exact meanings."

- Cite Ltr. to Doxiadis, U or 0, p.307, 20 Jun'66
CD.nFHDl£atl<?ns Theory:

"If you say it is poetry that is because engineering is poetry. ... I would not be surprised if some day it were proven a law that the better the science the better the poetry."

- Citation & context at Poetry. undated
See Eqmtion: Philosophical Equations

See Huffiber: Tetrehedral Nunber, Kjsy'65 Poetry, undated* Teleology. Oct'66* Trail Making 6c Trail Remembering, Kay'65

See Unitary Coma unicatIons Tools Words Word as Industrial Tool

See Consideration. 196\$ Pencil. 193S Universe. (1) Dictionary. May¹71 Artist, 29 Mar'77

CsasailaUffli: Mo One Can Tell Another aowthlM They Do Mot. Already Know;

See Mutual Survival Principles, (1)

TAXT CITATIONS Communication: 163 302-303 530.02 801.23 1024.23 1056.15
1056.20 (10-1)

326.05 footnote

326.40

504.11

526.31-526.35

- 1052.64

1052.70

(1A)

See Apprehended A Cocommunicated

Conversation Sequence

Cosmic Communication Circuits

Definition

**Geodesically-inter-routed Communications Traffic Logos-communication
Meaning Permanent Symbolic Communications devices Pregnant
Mother: Communication with Live Child**

She is Bearing

Religion as Make-believe

Self-communicate

Teleology

Telepathy

Rule of Communication

Television

Eye-beamed Thoughts

Medium is the Message

Information

See Verb

Unitary Communications Tools

Literacy

Telenet ion

Radio Ham language

**Invisible Operation of Thousands of Radio Programs World-arounda
Communication Transcends Politics Electronic Referendum**

Unspoken Communication

Electronic Referendum: Electronic Toting

Gestured Communication

Gross Communication

Mute Communication

rn—inlrit|i ytununtettianas

(2)

See Animate 4 Ina&jaate Sequence. (2) Daddy, (1)(2r Man vs. Humanity, Oct'70 Logistics, 10 Dec'73 Mathematics, 1965 Sovereignty, (lj(2) Truth, 30 J_un'75 Photosynthesis, 9 Jun'75 Awareness, 2d Apr'77

Sea Camsunicating

Communications Arts Cocmaunication ft Culture Communications
Hierarchy Communications Revolution Communications Satellites
Communication to Self ft Others Communications Theory Cotmuni-
cations Tool Conummication Center

KBF DhFIKITluNS

Communisa?

"In sociology we've got such a high frequency of asyMMtry that we're permitted to got into fantastic asymmetrical extremes. That's why our sociologists hare so much trouble. They're looking at special case instead of principles. And, not Knowing thia, they don't realise that eowunism induces capitalism and vice versa.* ... Marx had classes because he had to have some balance. So he said one class would destroy the other, so then the Universe would be destroyed."

- Cite tape transcript KBF to EJA and BO'R, Chicago, 31 May, 1971

Communism:

See Circuitry: Thermionic & Political Analogy.

23 Jan*72

Design Revolution: Pulling the Bottom Up, (5)~(7)

New York City, 31 Jul'75

Patent, 22 Aug*70

Disarmament, 11 Aug'76; (1) No Energy Crisis, (B)(C) Fall-safe, 13 Sep'77

"Now, when we begin to think about comtn unity and the very words, 'Habitable City,' we are finding megalopolis is occurring, so the city is almost getting to be 'city¹ everywhere around the world. There is a world city. There is a 'city* as man goes into various places, and many of those continuous cities are coming together as megalopolis, so the man comes into the city for his onformation, then he deploys from the city. We find then as the physical went out. the manufacturing the mining, the archaeology, he deploys also then for his skiing, the water skiing, the mountain skiing. The physical then, is done remotely, and the metaphysical is centralised. And he oscillates IBM between the two. He doesn't stay put. No citizen stays put anywhere. And we have a great deal of talk about community and how wonderful community used to be, and that we are now lacking it. This is not so, but the pattern is different. Of necessity, different. I spent a good deal of my life on an island remote in Penobscot Bay in Maine. The nearest human beings were two miles away. . . You knew the characteristics of your neighbors, though you didn't see them directly--- you would see their boat, you didn't see their body. . . The thoughtfulness of this kindpf neighbor,

- Cite RBF Address, THE HABITABLE CITY, U Oct. '69

Community: "was very great, the one for the other. The same was true out in the great western spaces. But you get in to New York City, and you get into the subways, and you are jammed bodily against ten people— touching you— you just couldn't be tighter, and you just can't be neighborly. There is an error that says proximity means neighborliness. There are fundamentals of what is a tolerable range within which you really can become usefully intimate with another human being, he having his degrees of freedom, not trespassing on one another, yet really getting to know each other because you choose to know each other, not because you are being forced together. So I find that every individual today has just as many friends as any human being ever had, and probably more, but they don't live next door. They don't necessarily even live on the same street. They live halfway across town, or in the next town, or halfway around the world.. That's where they are. Everybody has their communities . . . It is a wonderful kind of community, it is really knitting together as a world understanding." - Cite KBF Address THE HABITABLE CITY, U Oct. '69.

Community «» Unit Knowledgeal Organization

See House as Terminal of Community Mechanism

See Prime? '»• Commit?

Proxemics

Proximity of Neighborliness

House as Terminal of Community Mechanism Settlements

Squatters

City

BBT DB?MITle3

□To describe that of which we are aware we *plore SiEBtnuaa to pre-
rout azparlance. That which we are aware of 1* hotter, or bigger or
sharper than the other experience or experiences,•

- Cite BP? Marginalia on Syncretica draft *Sac* -Bijn+w 19 June 1971

Pgqpamly.t:

^wSize sense cones with cooperative experience.

Citation and context at Otherness. 28 May'72

Compatible;

Compatibility :

See Metaphysical Experience, 13 Mar*73

See Intercoopeneate

Competence Greater than that of HUMOUS

See Large Patterns, 30 May*75

Samuaiisi: i|w Mgro Cawatmt, iha__Uu_Qia£aAil

See Comprehenelvo Reallser, May'49

Competence:

See Technology: Enchantment re. Disenchantment, (1)

Competition;

□Competition will be, after all, like mountain climbing, where everybody must get to the top. It's not to leave somebody half-way where he can fall of and die. This is a different kind of a game. There are two kinds of games--- you or me and you and me. They are equally good games. The competition in the you and me is to see who can help the other most effectively--- that's the connatition.

Who can understand most effectively on behalf of this other man. That if you really understand it better, I'm going to honor you better. We won't be doing it on the basis of you have to do it to survive but because it's a joy to underetand and it's an inspiration to understand on behalf of the other man. I live in that world realistically.

I am 76, but you can see I am as excited about life as when I was four years old.*

- Cite MF quoted In Science Today, P. 38, Jan '72.

gQBPCUtlgn: EllRlnatlgN *Of*:

"You use your mind to tell you what are the problems you see that need to be attended to that nobody's attending to. You say: What will I need in order to be able to do it?

"I must not do things with competition. I must do exactly the opposite of competition. It must be to make the whole thing work. I've got to look out for you. And inadvertently, I may be looked out for. If I'm making my big commitment, I'll probably be taken care of because I'm part of what works."

-Tape transcript, pp.25-26; RBF to W. Wolf, Gloucester, Mass..

2 Jun'74

See Doing What Needs to be Done

See Economic Accounting System, 29 Jun¹72 Spaceship Earth, 21 Jan'77

ffilMtIUfU: £sUft£UIXfl:

See Linear Programming. 5 Jun* 73 Monopoly of Affection, 29 Jun*72 Political Revolution, 10 Oct*63 Technology: Enchantment vs. Disenchantment, (1), (3) Iman as a Function of Universe, 30 Apr»7a

COMPLEMENTARITIES: BAIKED OTATIOHB

ComleMDt»rtti«i: Alwtva t OnlT CowdaUnK:

4. Sensorial & Deceleration 'k -Eternal Slowdown k Inactivity k Potential k Reaction k 8 Quanta Module k Synthesis k Entropy k Edge k Synergy k Disassociation k Precession k Repulsion k Intellections k Conservation

Abstract Acceleration Acceleration Activity Active Action

A Quanta Module Analysis Antientropy Angle Annihilation Association Attraction Attraction Automatics

Annihilation

Complexentarttlea: Alwara t Only Coexlatlnx:

B Quanta Module 4 * Quanta Module

Cow>la»«nt<irlti«B; Alwava ft Only Co«xLatln»l

& Design

(Cl)

Chaos Circumferentiala Circumferential Oscillations

Cohere Collecting Cohering Complex Comprehensivity Compression Concave Conceptuality Conceptuality Concentric Concentration Conceiving Convergent Contraction Continuous Consolidator Converging Conservation

& Radials

Inward & Outward

& Pulsations

& Island (v.t.)

& Dispersing

& Sundering

it Elementary

& Specialisation

& Tension

& Convex

& Realization

It Nonconceptuality

& Eccentric

& Diffusion

it Observing

& Radiant

it Expansion

it Discontinuous

& Hunter

it Diverging

St Annihilation

Cosmic & Local

Counterspin & Spin

Countertorque t Torque

Cour.tcrtrubining & Turbimng

Critical Proximity & Innocuousness

Sternal Conceptuality & Temporal Experience

PrerttFWWltti: AIWTB and

-&11T CttWlttlWt: (D)

DIWssociatlve 4

Differentiation &

Deceleration &

Di Border 4

De-f mite 4

Diffusion 4

Divergence 4

Division 4

Discontinuous 4

Disparity 4

Jisequilibnoua 4

Discretely Diractional k Dispersing 4

Dynamic &

Distribute k

Dynamic 4

Disintegration k

Design k

Diasynchronous k

Associa-
tiva

Integra-
tion

Accelera-
tion Order

Finite

Concen-
tration

Conver-
gence

Multipli-
cation

Continu-
ous Parity

Equilib-
nous

Omnidi-
rectional

Collecting

Static

Inhibit

Stable In-
tegration

Chaos

Syn-
chronous

Entropy &

Entropy &
 Entropy A ,
 Energy &
 External k
 Expansion 4
 Explosion &
 Exporting k
 Evolution &,
 Explicable k
 Experienciable &
 Eccentric k
 tvoluting k
 Equilibrioue k
 Environment (Non-self) k Esoteric k
 Exoteric k
 eternal Conceptuality k Eternal Slowdown k
 Edge 4
 Eternal k
 Event k
 Syntropy
 Antientropy
 Information
 Synergy
 Internal
 Contraction
 Implosion importing Involution Inexplicable Nonexpenenciable Concentric Involut-
 ing Disequilibrioua Self
 Exoteric
 Esoteric
 Temporal Experience
 Acceleration (Absolute Velocity)

Angle
 Terminal
 Novent
 Energetics Expenses
 Eternal Integrity
 Expelling
 Elementary
 Synergetics Ewnal Integrity Experience Impelling Cocaplex
 Function Male De-finlte Wave magnitude Omnidirectional Infinity
 ‘ • WIWIWttltV Always and Qni»
 Function &
 Fenale &
 Finite k
 Frequency k
 Focal push-pulling k
 Finity k
 SismtosanieiStoa: Atom, nA MT QwnaMiusi (G)
 Gravity (latter) & Radiation
 Gearing (uvational) k Rotational
 Generalisation At Specialisation
 Geodesics At Irrelevance
 IH)

High Tide Hunter Heat

Alwin and ,vB1X ffgiiiatiM*
 k Low Tide
 k Consolidator
 k Zero
 internal &
 Inward &
 Importing &

insidenese &
 Information (Antientropy)& implosion &
 impulsive *k*
 inside-outing &.
 involuting *i*,
 involution &
 interference &
 inexplicable *t*
 innocuousneee &
 integration &
 Inhibit £
 Integration &
 Inactivity &
 Island (v.t.) &
 invisibility &
 Irrelevance &
 Ideal 4.

External Outward Exporting Outsideness Entropy Explosion Pulsive
 outside-inning Evolving Evolution Synchronisation Explicable Criti-
 cal Proximity Differentiation Distribute Disintegration Activity Cohere
 Visibility Geodesics Real

Eternal Integrity & Experience
 Intellections At Automatics
 Infinity 4 Finitary
 Impelling At Ex pelli ng
 Low Tide & High Tide
 Licit ft Licitloss
 Local *k* Coenic
 Male _t
 Magnetise (HadiatIon) & Metaphysical 4,

Matter (Gravity) &
 Multi plication &.
 Minus 4
 Mystical 4
 Manifest 4
 Fenale
 Gravity (Matter)
 Physical
 Radiation (Magnetics)
 Division
 Plus
 Ubvious
 Potential
 Comolegonf ntf: A1H«T» WT CowttKlMi
 Negative ft
 Neutron ft
 Non-self (Environment ft
 Nonconceptuality ft
 Novent ft
 Nothingness ft
 Nonvertexes ft

Positive Proton Self Conceptuality Event Sonethlngness Vertexes

(Circumferential)
 Disorder Insideness Inward Conception Rotational Inside-outing Focal push-pulling
 Discretely Directional Mystical Polarized Pulsations
 (Inward 4 Outward)
 Order &
 Outaidone88 &
 Outwardness 4
 Observation 4

Ovatlonal Gearing 4
 Outside-inning 4
 Onmidrectlonal 4
 Omnidirectional 4
 Ubvious 4
 Omnidirectional 4
 Oscillations 4
 Physical ft Positive ft Proton ft Precession & Proximity ft Pulsive & Parity ft Plus
 ft Polarisation *it* Precessional Processing ft Potential & Plural *it* Potential ft Pushive
 ft Pull & Potential ft Polarized ft Pulsations ft
 (Inward ft Outward)
 Metaphysical Negative Neutron Attraction Remoteness impulsive Disparity Minus
 Precessional Processing Polarization Real Singular Active Tensive Push Manifest
 Omnidirectional Oscillations
 (Circumferential)
 Gravity (Matter) Circumferential® Proximity Ovatlonal Gearing Potential Action
 Attraction Conceptuality Ideal Conceptuality
 Radiation (Magnetism) 4
 Radials 4
 Remoteness 4
 Rotational &
[Real 4](#)
 Reaction 4
 Repulsion 4
 Realization 4
 Real 4
[Reality 4](#)
[Synergy &](#)
[Synergy &](#)
 Synthesis &
 Self &

[Spheres &](#)

Spaces Between Spheres *k* Sundering &

Syntropy &

Static &

Singular &

Synchronisation &

Soin &

Stable &.

[Specialisation &](#)

Systea &

Sensorial &

[Synergetics &](#)

Somethingness &

[Star Tetrahedron &](#)

Space &

Specialisation 4

Energy Annihilation Analysis Non-self (Environment) Spaces Between Spheres
Spheres Cohesion Entropy Dynamic Plural Interference Counterspin Dynamic Gen-
eralisation Zero Abstract Energetics Nothingness Vector Equilibrium Thinkable
Comprehensivity

Synchronous

k Diasynchronous

Tension &

Big Triangle on Sphere &

Time and Space &

Torque &.

Temporal Experience &

[Tetrahedron &](#)

Tensive &

Terminal *k*

Thinkable &

Compression

Little Triangle on Sphere Velocity Countertorque Eternal Conceptual- ity Vector Equilibrium Pushive Eternal Space

Tino and Space Tetrahedron Invisibility Star Tetrahedron Nonvertexes

Velocity It Vector Equilibrium k Visibility Ic Vector Equilibria* k Vertexes • k
<*ave >lagnitude Within Without

Zero Zero

ft Frequency

ft Without

ft Within

ft System

ft Heat

CpfflpleqenWitr "There la also the word gPMPlWfW 1VY- We cannot have
one phenomenon complemented By lees than one other phenomenon. The words
complementarity and relativity Do not identify identical physical phenomena

And we find that the ponderable physical energy Universe

Does embrace both complementarity and relativity."

~~IT P.IWH~~, Illy - Citation Ac context at Relativity_f May'72

Complementarity:

"Physics has found That every fundamental Behavioral patterning in Universe
Always and only coZexists With a complementary But non-mirror-imaged patterning.

The non-simultaneity and dis-similarity Of the complementary inter-patterning
Produce what we sense to be reality, Otherwise they would cancel one another And
there would be no sensoriality.*

Cite Rraft,

BRAIN ft MIND, p.12,

13

CMPlffOTWtty:

"Complementarity requires that where there is conceptuality there must be nonconceptuality. The explicable requires the inexplicable. Experience requires the nonexperiential.

The obvious requires the mystical. This is a powerful group of paired concepts generated by the complementarity of conceptuality. Ergo, we can have annihilation and yet have no energy lost.*

- Cite RBF to EJA, Beverly Hotel, NYC, 12 Sep'71 Incorporated in SYNERGETICS text at Sec. 501.13

Complementarity:

~~**We are not in a geometrical doorway~~ • Mt a small closed line figure such as a triangle or square or circle drawn on the surface of a closed system such as the Earth, inadvertently produces a large triangle, square or circle, respectively, on the system's surface which complements the small one."

- Cite NEHRU SPEECH, p. 42, 1J Nov'69

Complementarity:

"Only in the mid-twentieth century did it become scientifically clear that unity is plural--- and, at minimum, two--- that all experimentally detectable phenomena have their unique opposites, and that the complementary opposite behaviors are never mirror images of one another.

"Science is remiss and unnecessarily prejudicial in calling one of a pair of complementary behaviors "negative." There are always much better descriptive terms. In structural systems¹ phenomena we have "compression" and "tension." As we tense a rope it tautens--- that is, its girth contracts. This means that the rope is also compressing in a

plane at 90 degrees to its tensed axis. But tension and compression always and only coexist, as do all the fundamental complementarities such as concave and convex, or associative and disassociative, proton and neutron, male and female."

- Cite GODUEfSiiS, Sat. Review, 2 Kar 68

Complementarity:

"Every news reporter tries to talk about physics in terms of 'finding the building blocks of universe.* But the physicists keep trying to tell society, 'It takes fundamental complementarity, that is to say two different an complementary building blocks.' They are the proton and the neutron. The two are intertransformable. But if one transforms to the other, the other does likewise. But they are always unique in themselves. We cannot build universe with just the rightness or leftness 'blocks' exclusively of one another."

-Ode Carbondale Diaft

Return be Hodelability, pp* V2¥j - - Citation and context* at~Bui Idl
nVIBISc kg .^Jun*

Complementarity:

*. . . Einstein's one word-- 'relativity' --- expressed in/ a more specific and experimental way in the physicists' concept of complementarity."

-Lte CarhAnrialR IkxO-

Return to Modelability, p. V>3

• UynrttfU_t li7~j J CT

• Citation & context at * Relativity. Jun'66

Complementarity:

"Every behavior in the Universe has been discovered by the physicists to have its complementary opposite (though the negative is never the mirror image of the positive). Every nuclear particle has its opposite. The negative weights are balanced by positive weights. The average of all the weights is therefore zero. This has extraordinary Implications. We are dealing in a Universe of pure intellectual abstraction.*

- Cite MERGERS & ACQUISITIONS

Spring 196b, Vol. 1., No. 3., p. 45

Complementarity: Eightfold. PpgJA tlg n Pf»

"The four cosmically complementary twonesses and the four local system twonesses altogether eternally regenerate the scientific generalisation known as complementarity.

"Complementarity is sumtotally eightfoldly operative: four definitive local system complementations and four cosmically synergetic finite accountabilities."

- Citation & context at Two Kinds of Twoneaa. (A)(8), 10 Nov*74

Complementarity? Eightfold Operation Of:

See Positive A Negative: Four Kinds

CflaplfBMiMirXtT ol Qrtnrth & AA1M»

"... Our experience in physical exploration... reveals to us that every pattern phenomenon has its complementary which is rarely a mirror image and is most frequently invisible. As the complementary has the effect of cosmic integrity balancing, we realise there must be unseen syntropic events of Universe which are always reordering the environment.

"Syntropy is the law of elsewhere-always-orderly regrouping of the entropic offcastings of all dying systems. Aging and death engenders elsewhere birth and growth."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1052.59; RBF rewrite of 22 Jan*75

(Corollary of Principle of Functions) CgHrltFfflWltn Principle of:

"The principle of complementarity states that the logical relation between two descriptions or sets of concepts, though mutually exclusive, are nevertheless both necessary for an exhaustive description of the situation. Every fundamental behavior patterning in the universe always and only coexists with a complementary but non-mirror-imaged patterning."

- Cite SYNERGETICS draft, i-arch 1971

(Corollary of Principle of FUncilona;

Coapleneawl.tr. ~~The SNwMroaic Principle of:~~

"The synergetic principle of complementarity
States that the logical relation
Between two descriptions or sets of concepts,
Though mutually exclusive,
Are nevertheless both necessary
For an exhaustive description of the situation."
(Ada pted. 'Synergetic* added

'which' deleted.)

- Cite RBF Glossary of terms bound with "The Live Book Squad." 1967

Co«ple«entarity Reaerrea:

See Inrlaible Tetrahedron, (1)

Corolementarr;

501.13

636.01

C OPD 1 erne ntatty:

S223.08

S506.41

637.01	81013.21
642.01	81075.23
812.03	

814: 814.01

*53.21

See Equals: Checklist Nonequals: Checklist Paired Citations Versus:
Checklist

cwrolMmauaw

See Bohr's Complementarity Complex Complementarity Covariables
Dissimilar Complementarity Energetic Functions Functions NonOmir-
ror Image Konreflective Complementarity Opposite Prime Otherness
Zero Weight

Complementarity:

See Dynamic Equilibrium. 24 Apr*76

Human Beings & Complex Universe, <2)

Key-Keyhole Sequence. (1)

Mirror Image. 22 Jul'71 %

No Building Blocks, (1)(2); Jun'66*

Otherness Restraints & Elliptical Orbits, 20 May'75 Relativity,
Jun'66*: May'72* Spheres 4c Spaces, 11 Jul'62

Star Events & Degrees of Freedom, 12 May'75

Synergy of Synergies. 31 Kay'71

Syntropy & Entropy, Oct'6y

PwlfBPEterY:

"We cannot have disorder

Because Universe is not monological;

It is pluralistic and complementary "

- Cation and context at Universe, pp.156-157 May '72

Complementary:

"From physics we learn that every fundamental behavior of Universe Always and only coexists with a nonmirror-imaged complementary. The nonsimultaneity and dissimilarity Of the complementary inter-patterning pulsations Integrate to produce The complex of events rfe sensorially identify as reality. Without the pulsative asymmetries and asynchronous lags The complementations would cancel out one another To centralize equilibriously, And there would be no sensoriality, Ergo, no self-awareness, no life..."

- Citation and context at Sensorial Identification of Reality

Cwplejntarv:

"We find that ¹Universe* itself has to be comolemen tarv because there is the conceptual and the nonconceptual automatically.

- Citation and eontaxt at GgnerallMtion (2), Jun-Jul'69

&eBta»asa£s_Aliatw.4a:

See Pattern, 1954

cpMUiwntrY Pattern;

"The meaning of a function is that it is part of a complementary pattern and there is no function existing by itself: X only in respect to T, so your tension and compression are interfunctioning with weight variables of relative importance in the local pattern inspected."

Citation at Function, 9 Jul'62

gompl«n«nt»rl».

See Yin-yang, 28 Jan*75

See Progressions, May'49 Intellect: Equation Of, (A)

Se» CoBBle CcwaploMentary

(2)

**See Life-tliM~8pace Phenomena f 22 Feb *73 Trigonometric Linit, 22
Jun*72 Degrees of Freed* & Bonding, 24 Jan*76 Space, 9 Feb*76**

c«a2a*saisK:

(1)

See Parity

See Intereff*ctB, 25 Sep¹73

CoMclete:

See DetiMUe, 1960

Finite, 1960; 1967

Complex;

"Prime tetrahedra and prime octahedra do not have nuclei.

**In contradistinction to prime tetrahedra and prime octahedra some
complex tetrahedra and complex octahedra do have a nucleus. They
do not develop structurally in strict conformity to closest packing to
contain an Internal or nuclear ball until additional closest-packed,
uniradius, sphere layers are added. Additional layers require iden-
tification as frequency of reoccurrence."**

- Cite SYNERGETICS draft at Sec. 1011.36, 17 Feb'73

Complex:

"By becoming more conscious and developing more and more orderliness," man "simply discovers more facets of the Universe. Neither he nor the Universe are getting more

- Cite RBF in AAUW Journal, p. 176, May *65

Complex:

"Experiences are never elementary; ergo, they are always complex. Coconceptual formulation is inherently empirical

- Citation and context at Experience, Feb'JO

Complex It:

See Local System, Jun'bO

Complexity: "Complexity is eternal. The principle of mass interattraction of complex otherness is eternal and relates all this eternal complexity to our eternal system interfunctionings."

- Citation and context at Motion. 27 May*72

KBF j&yiiuriukb

Cpapltnty:

"Mn is the nest complex organism in Universe--- short of Universe itself."

- Cite HBF address at Corcoraa Gallery, Wash. JC, 2 J Feb »'/2

"Critchlow's ¹ truncated tetra²⁵ which is eight-faced, ergo a coaplex octahedron, which for convenience we will name complexocta. It has a volume of 552 Quanta Modules and is classified as 'Complex Symmetrical. •

25 Cite RBF marginalla at SYNERGETICS galley at Sec. to be incorporated chart at that See, 20 Dec*73

Complex & Simplex:

"A nucleus is a complex of systems. A nucleus could not possibly be a simplex."

- Citation <fc context at Nucleus. 22 Jun¹75

BBF DEFINITIONS

flim Complex fc SIBDIM:

*Darwin assumed evolution proceeding from the mImbIoT te the complex. I an confident that the Universe works the other way, developing simplexes to accommodate the a priori complexly * Universe in which there are 92 regenerative chemical elements."

~~- Cite BBF quoted in HOUfID a (MfIDfIN TmffUuii by Beverly Bmasefr _T ?fi?j MiyJ??.~~

- Citation ana context at Jarwin (A}, lay*?2

See Spherical Barrel: Sphere as Complex Unity: Triangle As Simplex
Unity Unity: Complex k, Simplex Symmetry: Complex & Simplex

Soo A Priori Four-dlwnalonal Beality, (2) Compound, 13 Mar*73 Darwin. (A)* Economica, 10 Dec*73 Structure, 19 Jun'71 Nucleus, 22 Jun'75* Structural System, Nov'71 Aural, 22 Feb'77

Coaplax VB. SI.DIMT:

See Economics, 10 Dec¹73

MHMB Coaplex Structure:

"Whenever cutting or joining is introduced complex structures occur."

- Citation and context at Moebius Strip. 10 Jan*50

cgmlni ^unlYflrao:

See Human Beings &, Complex Universe

See Atonic Computer Coaplex

Big Complex

Complex & Simplex

Elementary vs. Complex

Industrial Complex

Infinity Complex

Intercomplexity

Lever Complexes

Minimal Complexes

Simplex

Total Complexity

Ultimate Complexity

Topological Aspects: Inventory Of

Maximum Complexity Integral Complexity Supercomplex Multi-
energied Complex Unity vs. Complex

CfiUIs: Complexity:

(2A) M

See Change, 15 Sep'71

Compound, 13 Mar'73

Computer Asks an Original Question (5)

Computers as Specialists, 13 Aug'64

Computer (1)

Cosmic Zero, 4 Nov*73

Experience, Feb*50*

Frequency, 17 Nov*72

Hunan Being, 30 Oct*73

Ideal 23 Fay *72

Individual System Formation, 15 May'72

Integration* 10 Dec'64

Man's Conscious Participation in Evolution, May*65

Miniature Universe, 2 Jun'71

Local Vector Equilibrium, 2 Nov*73

Octave Wave, 5 Mar*73

Prime Number, Jun*66

Synergy: Degrees Of (1)

Word, Lay*49

Point, 19 Jun*71

Radiation. 1959

Olfactoral, 22 Feb*77

Human Beings 4c Complex Universe, (2) Environment, 28 Apr'77; (B)

See Tetrahedral Transformations, 1963 Truth, 23 Dec*68 Feedback

Comprehensivity: Computers vs. Hunne,

13 Aug*64

Principle {1}(2)

Ilan: Interstellar Transmission of Kan, 14 Aug*70 A Priori Four-dimensional Reality, {2} Two Kinds of Twoness, (A) Transformable, 1971 You t I as Pattern Integrityes, 22 Jan*75 Word, May*49 Progressions, May*49 Vector Equilibrium, 23 Oct*72 Individual Life as One Way Universe Could Have Turned Out, 5 Jun*75

Halo Concept, Jun'71

General Systems Theory, (A)

System, 27 May*72

Structure, Mar*71

Compoundings of Systems, 10 May*76 Geodesic Domee, 24 Jan*58

Components:

"Topological components of systems do not and cannot exist independently of systems."

- Citation & context at Microsystems. 22 Mar* 76

Cfwpnanfc i

See Modules

Part: Parts

Nuclear Assemblage Components Tripartite Component of Univesse

ConreaUft fonjgMWKO*

See Progreaaiona, May¹49

CgggPBlfcO fif. YflrIUCfi:

See Xonaculate Conception) 25 Jan*72 Word Trends, May*44

COM pound:

"Chemical conpounda nay associata aa polar!sad asynaetrieal chain ayataaa.*

- Citation and context at Vector Equilibrium. 3 Nov*73

Compound:

*>iny myriads of complex aassociability of chemical compounding of the nuclear simplexes can be experimentally discovered, or, after comprehending the order of the principles Involved, deliberately invented by human mind. The chemical compounds are temporary

and have limited associabilities. Human minds can then invent by deliberate design momentarily appropriate complex associative events, as for instance, hydraulics, crystallines, and plasmics, in turn involving mechanics of a complex nature and longevity."

- Citation and context at Design: Apriori Design vs. Deliberate Design.
13 Mar'73

Compounds:

".... Gibbs deals with polyhedra that are composited of many polyhedra. t.i.. compounds."

- Cite Synergetics draft, See: ~~t24r,, angimf~~

Compound:

"All compounds are synergetic."

- Citation and context at Synergy, duly¹⁵⁹

bee Curvature: Compound

fffflPOWkl Interest:

See Mortgaglsation

"Beyond the frequency-modulated, discrete, whole-system tunabilities there are compound systems which may be only tunable as compound organisms. There is a muchness of preoccupying complexity which can only be analysed systematically.

"When we see an individual human organism we don't see him in terms of separate pores or cells.

"Compound systems can only be analysed systematically, but they cannot be considered as corner-bonded; compound systems have to be treated as face-bonded. The point is that we can never get to where there is no system: the only question is whether it is one system or compounds of systems."

- Cite RBF to EJA, by telephone from Phila., PA; 10 May*76

MBHIB Compoundings of Systems:

"As a result of the surface angle concave-convex take-outs of insideness and outsideness, central angles are generated and they then function in respect to unique systems and differentiate between compoundings of systems."

~~LT? 7TBT to EJA, WuuiinRn DT~~

> m.iimii nJ, IUL. gTjTn/

- Citation at gjnlrftl Anglen. A. Surface Analog. 21 Dec*71

CpfRPGundg; Chical qoflpflundg: 106 108.02 171

13. 442.02 511.01 31.60 1011.23 1050.10 1054.53 1055.08

See Atone & Ccapounds: Difference Between Molecules

Sea Design: A Priori vs. Deliberate, 13 Mar*73* Geometry of Vectors, Aug*71 Rhombic Dodecahedron, 25 Feb¹72 Scrap Sorting k Mongering (1) Synergy, Jul'59*; Nov'71 Synergy: Degrees Of (4) Vector Equilibrium, 3 Nov'73 Vector Equilibrium: Polarisation Of (1)(2)

CQBprfitrtdlM:

"The very word comprehending is interpreceseionally synergetic.

- Cite SYNERGETICS draft at Sec. 1005.it, 16 Feb»7J

co«pr?MnglbllltY gf-Sx-gtagg:

"All systems are subject to comprehension, and their mathematical integrity of topological characteristics and trigonometric interfuctioning can be coped with by systematic logic.*

- Cite SYNERGETICS text at Sec. 400.20, 26 May'72

CaanrehmalhlHtv of SvM-.mii.:

See General Systene Theory

Comprehensio

"There are four star points of 'consideration.¹ There are four face aspects of nothingness, four untunable irrelevanties subtending the four points of consideration; and there are always six interrelationship answers which, when found, comprise 'comprehension. •"

- Cite RBF marginalia on Don Fusaro Ltr. of 23 Sep*76; done by RBF at 3200 Idaho, Wash. DC; 29 Sep*76

Coaprehension:

"Initial comprehension is holistic* The second stage is detailing differentiation. In the next stage the edges of the tetrahedron converge like petals of a flower through the vector equilibrium stage. The transition stage of the icosahedron alone permits individuality in progression to the omni-intertwigulated spherical phase."

- Citation at Individuality. 10 Jan*74
c, .Qprah?ngl9P;

A planar system is the first stage of comprehension. The second stage is spherical. In the next stage the edges of the tetrahedra converge like petals through the vector equilibrium stage. The transition stage of the icosahedron alone permits individuality in progression to the omni-intertriangulated spherical phase.

(KJ A Note: Deleted by RBF from SYNERGETICS galley because first sentence is totally wrong. Rewritten and restored 10 Jan*74.)

- Cite SYNERGETICS draft at Sec. 100\$.£» 16 Feb'73

Lw]

CSEEEsfefiMifin:

"The crisis is one of the loving and longing impulse to understand and be understood which results as informed comprehension."

"Intellectual comprehension occurs when patterns of experience return upon themselves in all directions."

Gdl.fr "TBnaegrH.y.ir. 8mr l.i! nirtfi 1 □

- For full context and citation see HMML Angular Sinus Take-Out Dec¹61

yS r f H—C~ * / 0 0 *

Comprehension:

"A wide range of time investment magnitudes must be assigned to the respective considerations of the multitude of different constellar, experience-pattern comprehensions."

- Cite Omnidirectional Halo, p, 132. i960

Coaprehension:

"Nan creates naught. If he coaorehends in principle, he rearranges locally in Universe by realisation of the interactions of principles

- -Cit« **TOTAL THINKyH-XaiKay*4?**
- Citation and context at Realisation, May*49

Comprehension * Rearrange Locally:

- If comprehends in principle, he rearranges locally in Universe by realization of the interactions of principles
- Citation 4 context at Meaning, May'49

TEXT CITATIONS Cgnprehenalftp:

217.04	B261.01
220.02	265.01

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1005.63

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GonprchcMIMK GagprghontUng;

(D

See Apprehending & Comprehending Apprehending + Comprehension - Awareness Circuit of Comprehension Eye Comprehendibility Incomprehensible Intellection Kindergarten Level of Comprehension Pattern: Biggest Comprehending Pattern Rule of Communication Spherical Comprehension Thinking Understanding

See Angular System Takeout, Dec'61* Closed System, 26 May'72 Design. 13 May'72 Evolution (1} Generalised Principle, 28 Feb¹'71* How Little I Know, 13 Kay'73 Individuality, 10 Jan*74* Knowledge, 11 Sep'73 Metaphysical Experience, 13 Mar*73 Number: Tetrahedral Number, 1969* Realization, Fay*49* Science as a Tool, Sep*72* Synergy. 8 Far*73 System (1) Thinkability, 26 May'?2 Synergetics, 20 Jan`75 Repetition, (1)(2) Bright: Brightness, 8 Apr'75 Child en as Only Pure Scientists, (1)

Comprehensive:

"You aren't going to follow me unless you realize I talk £2in2E£im-filX£*

"I'm very used to something in science which says that if you get all your special cases listed, and you have them there all together, some patterns begin to show up. Then you do something else with them. Then something else. You're liable to find, all of a sudden, something

very fundamental running through it all... Something we call a generalized principle holding true in every case. Now this is where I really begin. You're going to go as large as the Universe and really get at the absolute fundamentals of what it is you are permitted to do by its laws. If you find out some of those things, you might really know something."

- Cite RBF to William Farlin, Architectural Forum, Feb*72
gagprshengly?:

"Relationships are local to pattern. Patterns are comprehensive to relationships."

~~-TOaFTurr-rn-nt, jpo-mhe A»a., m~~ - Citation at RelatlonshiB, 20 Dec¹71

*Probability is anything but coaprahonaiya."

~~tm-~~

- Citation and context at Probability_f 2 Apr¹71

"Tension is shown experientially to be nondiaeneional, omnipresent, finitely accountable, continuous, coaprehensire_T ergo timeless, ergo eternal."

~~-dieft, iTsiHWren firmer wls~~

9 ihil»6£/-4W

- Citation at Tension_f 9 Jul»62

CoaprehenBivenosa:

"Kian who was born spontaneously comprehensive but was focused by survival needs into specialisation is now to be brought back into comprehensivity.*

- Cite THE TEAR 2000. San Jose State College Column 5. Mar*66

Comprehensive:

"The comprehensive is finite even though it takes on patterns very much larger than we can apprehend in the terms of a nonsimultaneous set of observations so that suddenly around comes the comet again periodically closing the gap."

- Cite OREGON Lecture #5 - p. 158, 9 Jul»62

SMarshMalYtt?

"The comprehensive set of all experiences
synergetically constituting Universe discloses an

astronomically numbered variety of sub-set event frequency rates
and their respective rates of conceptual tuneability comprehension."

- Cite OMNIDIRECTIONAL HALO, p. 1J2 1960

&BF DEFINITIONS

Comprehensive:

Synergetics 'is coapprehensiva

because ...it describes instantaneously both the internal and external
relationships of the sphere or spheres; that is, singularly concentric
or plurally expansive,

or propagative and reproductive in all directions, in either spherical or
plane geometrical terms

and in simple arithmetic."

- ~~elf-orrxiON-rnup-i,r-r-x~~

- Citation at §yngr«UCfl_t 1944

KBF DEFINITIONS

Comprehensiveness:

"Children are enthusiastic planetarium audiences. Nothing seems to be more prominent about MMb human life than its wanting to understand all and to put everything together."

- Cite I SEEM TO BE A VERB, Queen, May '70 (Not in Bantam Edition)
CflaarfthgnglYgnftwt

"How nay we organise our Belf-disciplining to deal comprehensively and capably with the maximum and minimum of limiting factors of the combined and complementary physical and metaphysical prime subdivisions of Universe?"

- tnrnrrn irnrru, p nn ihmtiVir
- Citation at General Systems Theory, Jun*66

Comprehensiveness:

"Specialization has led man into a kind of slavedom and now we're going to have to break out of that slavedom. The stage is now being set. The environment is going to force us back into being comprehensivists."

- Cite RBF quoted by R.C. Nelson in interview in Christian Science Monitor, "Nature's Extraordinary Order, 3 Nov *64.

Comprehensive Anticipatory Peaian Science:

See Design Science. 22 Apr'61; (A)

Tree, Feb'73

Universal Requirements of a Dwelling Advantage,

31 May*74

"The nearest thinre've cone to what we probably mean by the word 'god' is a great comprehensive integrity, the all-knowing integrity of the Universe,"

- Citation & context at Local vs. Comprehensive (D
Sflmurehffiglya^RHliicr:

"It is necessary that the comprehensive realiser ascertain in principle how the mathematical proportioning of experience is persuasive to the erroneous concept that the sum total bundle of already-experienced frequencies constitutes so unified, or well synchronized an experience whole as to have seemingly always been 'known.' The comprehensive realiser will discover that his adequacy as rearranger of local Universe, in principle, will, if competently effected, be acquired by men as an obvious accretion, and that the more competent his realizing-rearrangements of design, the less grateful the beneficiaries, which will be precisely the objective of the comprehensive realizer."

- Citation & context at Periodic Experience, (3), bay'49

See Synergist, May'49

Personality, May'49 Periodic Experience, {3}* (6) (9) (13)

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See Coapreheneire, i960

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3** Chong*, 2 Mov'73

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HBF DeTIBITIUHS

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"Th» dirr«r«M« batwean tha MMrahaMITA U&ITOr8, which

combines both the metaphysical and physical Universe, and the local, conceptual, physical system which we never experience and consider, is just one tetrahedron or one unity-of-twoness.

"This is to say that the difference between the finite physical Universe of energy with which physics deals and the total Universe which also includes all metaphysical phenomena--- which we used to call infinity--- is just one tetrahedron.

"The metaphysical Universe is also finite. It is just one tetrahedron more than the physical Universe.

"What man used to call infinite, 1 call finite; what man used to call finite, 1 call definite; i.e.. definable--- conceptually definable. The differences are all finitely and rationaly calculatable.

"The physical Universe, as we have seen, is entirely characterized by entropy----an ever-increasing randomness, an ever-increasing diffusion as all the different and nonsimultaneous transformations" and reorientations occur."

——Cite|USA Speech, pp,gb-87, Jun^tbh——₇₋ ;WT\
C9P>pr?h9n?iYtt unlYOTft- (2}

"As we have also seen: while the entropy of, and disorderllness of, physical Universe increases and expands, we have the metaphysical Universe countering with comprehnsive contraction and Increasing order. In the contracting metaphysical Universe we have the human mind digesting and sorting out all the special cases and therefrom generalising co ma only held characteristics af all the special cases. All the fundamental principles apparently governing both the physical and metaphysical universe are the experimentally derived generalisa-tions.*

- Cite NASA Speech, p.87, Jun¹66
frfflgrghmalTg UaiTorir

•...In comprehensiva Universe. diaenaion drops out and conceptual principle remains.²⁶

CgmrdownsiYt "nlTffM»
(D

Soo Metaphysical <fc Physical
Expanding Physical Universo vs. Contracting Metaphysical Universe

Universe as Energy 4 Information
Ccpnhen.lv. Univen.:
(2)

Seo Coast, 19 Jun'71
Universe, 4 Jan*70
Duality of Universe, Mey'49

ffM»prrtgnglTlflV

26 Citation and context at Principle. May'49

"I am quite confident that I have become known at all only because in an age of almost complete specialisation I have deliberately set out to be the opposite, to be a comprehensivist; and I have had no competition. If I had had any, I doubt that I would have come in first."

- Cite HBF at Franklin Lecture, Auburn, ALA. 1970

See Degeniun, 26 Sep*65 Divide 6 Conquer Sequence. 11) Bevy Sequence, (3)-(7) Self.education, 1974

So* Dom: Batlosala far the Owdwls Dam Gravitational Constant Holistic Local vs. Comprehensive Pattern Integrity: Equation Of Question: Most Comprehensive Question Sciences: Comprehensive Integration Of Totality Universal Integrity: Principle Of Wholes & Parts Largest Pattern

See Child, Dec*72

Computers as Specialists, 13 Aug'64 General System Theory, Jun*66* Irrational Number, 14 Jan¹74 Mathematics, 1965 More With Less: Sea Technology (3) Order, Feb'67 Radiation, 1959 Relationship, 20 Dec¹71* Probability, 2 Apr¹71* Relativity, May'49 Sensorial Reflex, 13 Mar¹73 Self-debiasing, May'65 Synergetic Integral, 1960 Synergetics, 1944* Tension, 9 Jul*62* Integrity, 11 Aug'70 Plumbing. (1) Synergetics, 11 Oct¹73 Vector Equilibrium Involvement Domain, 12 Dec*7\$ Environmental Inventory, 28 Apr*77

See Comprehensive Anticipator? Design Science ~~from ilirnhnnriw<fay of graiKull.huciVenusint~~ Comprehensive Integrity Comprehensive Healer Comprehensive Set Comprehensive Thinking Comprehensive Universe Comprehensive

CgffPTfiggXQn-

"Compression is always a tangency of mass to mass

- Cite HBF to EJA, Beverly Hotel*, NT, 22 Jun*72

C<WPrwl?FV

"No sasa: No SOTPIJMigh**

- Cite RBF to EJA, Beverly Hotel, NT, 22 Jun'72

Compressions

"Compression tends to local dichotomy and suit!plication by separation."

. Cite STNEHGETICS draft at Sec. &OJO¹, Dec'71

CocnpregBlon: "Compression* are disintegratable because they are not solid and can permit energy penetration between their invisibly amassed separate energy entities. The penetration brings about processional dispersal at 90 degrees."

- Cite RBF to EJA, Beverly Hotel, New Yoirk - 19 June 1971 inserted at Synergetics draft, Sec.

3?,

Compression:

"Compression is a limited structural principle and inherently local both in time and space."

- Cite RBF Holograph, Beverly Hotel stationery, Spring, 1971

Compression:

"To make a local Island of compression, with a cigar you have to load it" until it becomes a squash and then a sphere. "As a condition of the sphere for the first

time, any axis is the neutral axis, in the spherical condition, it has antititude in any direction to withdraw the forces on it; it is not surprising that ball bearings become the most efficient compression member ever designed by man. I am not surprised to find more or less spherical planets in the heavens tensionally cohered, compression at its most effective."

--- Cite LEDGEbiONT, p, 32, 15 Oct*64

Compression:

"Compression member are tending always to arcs of decreasing radius. As we loaded it it got smaller and smaller radius, sometimes it broke into two arcs. We find that compression members tend to do the small local things in universe ... and to account for the local small pattern integrity.

Compressions are always local and they are always tending towards dichotomy, breaking into two radii. Local compressions are continually subdivisible. , ."

- Cite UkttGCK Lx£TURE ff 5 - pp. 157-158, 9 Jul*62

Compression:

"Throughout the ages man was United In his structuring to the processing and manipulation only of the compressive functions and components of structure. Stone afforded 20,000 pounds of compressive strength to the square inch. It was relatively imperishable. , , Tensile strength of wood or fiber could not be counted on for more than 5,000 pounds to the square inch. Stone was almost imperishable. The wood and fiber were perishable. Stone and masonry could be counted upon to afford no more than 50 pounds tensile strength to the square inch.

Jan's structural ability seemingly favored compressive organizations on a four to one or better basis--- width and weight were amplified to increase the stabilities. That his primary philosophic reference was inert and pressive was inevitable."

Ifcl, pp. 210,211, 1 Apr'49
rite PREVIEW.

Compression:

"Compression is lateral or circumferential and is

electrostatic; tension is radial and is electromagnetic.

Compression is expressive internal to the octave and is limited to the mathematical properties and harmonic laws internal to the octave, it builds up potential. As demonstrated in the arch, compression is limited to absolute phenomena and fixed relationships of one spherical system."

T&FI 944₁ eaptzom

- Citation & context at Tension fc Compression. 1944

See Ball Bearing Cigar Shape Islands Islands of Compression Load Distribution Spherical Barrel- Tension It Compression Tension / Compression Tidal Wheel Pressure Greek Temple Noncompressible

See Gravity: Circumferential Leverage. (3) Human Beings & Hard Machinery, 20 Apr¹72 Inertia, 23 Jan*75 Measurement Trends, 1938 Precess, 6 Mar*73 Redundancy: Reduction Of, 22 Apr*71 Seed, 30 Oct*72 Time, Dec*71 Push-pull, 26 Mar*77

S«« Fudging

laprovise

Leaders Can Yields to the Computer

See Inaorality, 22 Aug*70
Politicians, 20 Oct*70

RBF DEFINITIONS

"Development is programable; Discovery is not programable. Since the behaviors to be sought are unknown, Computers cannot be instructed to watch out for them. Computers can 'keep track' of a complex of behaviors. But only human mind can discern the heretofore unknown unique interrelationships which exist between and not of the separate bodies."

INTUITION,

. Cite • , p. 29, May <72

Computer:

"But brains and their externalised detachedly operating descendants---
The electronic computers---

Can only search out and program the already experienced concepts."

- Citation and context at Brain, p. 15, May *72

Computer:

"It is very clear that the computer is already making man obsolete as a differentiator, that is, as a specialist.**

- Cite RBF in "Who Will Man Spaceship Earth?B, McGraw-Hill Article, Sep. '71.

Computer:

"The computer is simply a brain, in contradistinction to the mind. It always deals with the storage of a special case experience, , . What we do with the brain is a method of storing information and retrieving it--- that's the big story there. So a computer is simply another one of

those tools; it is a larger storage, and by virtue of the fact that you can add energy into the system, you can retrieve faster, • It can hold a number of patterns, and they're really quite complex ones, so we get the inherent synergetic results from the fact that we're getting all the juxtaposed information almost simultaneously, which our mind picks up synergetically as we get it from the computer,

"The computer isn't really synergetic, but it confronts us with synergetic aspects."

(Slightly edited.)

• Cite RBF to World Game at NT Studio School, 12 Jun-11 Jul'69 Saturn Film transcript, Sound 1, Reel 1, pp. 91-94/

Computer:

"One of our most important tools is the development of the computer. The computer is just an extension of our brain functioning. All this cybernetics is worked out simply on what are the feedbacks of the brain, so it is simply an addition to the brain, but you can make it have a very much larger storage. And it can operate in cold and heats that we can't; and it doesn't get tired. Therefore it can give us enormous supplemental capabilities, undoubtedly, but it is not something new in Universe."

- Cite THIS IS OUR GRAND STRATEGY, 4 Feb '68, p. 31.

"The new fall-out technology /"from the weapons-support system_/_which displaced man as a specialist (professional scientist or craftsman) is the new, computer-monitored automation Industry, The computer can stay up all night, day after day, sorting the red Items from the green at super-human rates and under humanly lethal conditions."

- Cite NASA Speech, p, 21. Jun^f66

Computer: (1)

"The computer can spend all day and all night separating the greens from the blues and never get tired. This means that it is the most highly developed specialised 'organism' that we know. The computer, as man's most recent and probably most important lever with which to move the world, will take over the specialist jobs. This is important for the future man who in pre-computer days was certainly tending to become overspecialized--- and we know that any species to which this happens becomes extinct. We are certainly well on the way to becoming extinct when our greatest brains are concerned with the narrowest tasks, as we see in Whitehead's dilemma. The world's problems do require generalists of extraordinary ability and in large numbers because man's Universe now is composed of many of his artifacts and he has created a complex world. While computers can ask questions, they are the questions of the specialist, and to date we don't see how they can ask, let alone answer, one as complex as, say, how do nations disarm? It must never be forgotten that man's brain is the product of a billion-plus years of evolution, of billions of tries which resulted in billions of failures and billions of successes. It will be many, many years before it is ever"

- Cite Mergers &. Acquisitions, Vol 1, No.3, pp.44-45, Spring'66

Computer:

"duplicated to the extent that it will be reproducible in a machine,

"In short, man's brain and mind are to concentrate on the function of integration and leave the funetions of differentiation to the machine,"

- Cite Mergers It Acquisitions, Vol 1, No.3, pp.44-45, Spring'66

Computer:

"Norbert Wiener of M.I.T. gave the name cybernetics. i.e., a modification of the Greek word meaning 'rudder control*' to the general science of computer development. There are now in the world several thousands of the powerful and high Information storage capacity electronic computers. The number of them approximately doubles yearly. The computers both large and small, are pattern processing machines of which the human brain is a prototype. As with the human brain all pattern processing consists of two main classes: differentiation® and integration, i.e. specialization vs. generalization. Differentiation identifies, evaluates, selects, and separates out the uniquely developing patterns Integration discretely controls the coordination of complex interactions."

« Cite MEXICO '63, p.94, 10 Oct *63

Computer:

"Our computer instrumentation la phenomenally good but our problem stating and question asking have been inadequate."

- Cite OMNIDIRECTIONAL HALO, p. 156, i960

Computer: Computer as Antibody:

"We have developed the ability to take energy out of the atom to blow ourselves; but no coordinating ability to prevent ourselves from blowing ourselves up. Apparently evolution has the intent that man would keep on. Therefore OMMI ^{an} antibody appeared and the antibody was the computer."

"The computer is taking over all the specialisation because it can stay up all night, picking out the pink from the blue faster than you can, and under conditions of heat where you can't possibly operate. It's taking over all the specialization. It's going to force man back into comprehensivity, where he was born, and meant to be. So all of us begin to be concerned with the whole and with computerization we are going to be able to get enough information about the whole."

- Cite THIS IS TOUR GRAND STRATEGY, 4 Feb '68, p. 41.
Computer; Man's Antibody;

"New, physically uncompromised metaphysical initiative of unbiased integrity could unify world. It could and probably will be provided by the utterly impersonal problem solutions of man's antibody, the computer. Only to the computer's superhuman range of "calculative capabilities can and may all political scientific religious leaders face-savingly acquiesce."

- Cite I SEEh TO BE A VERB, Bantam, 1970
ftIH AtrfialS-PrgCIIYltY CMPHtW!

"... The inventability of atcalc-proclivity computer* in a new order of aicrotude.*

- Citation and coataxt *t InvoatabllltT 8«ouoac. (1), 9 Jul*73
Computer: g£ Ittt.SgaPMtgr:

•it 1b a paradox that the computer, in its very ability to process sonconceptual formulae and awkwardly irrational constants, has momentarily permitted the extended use of obsolescent mathematical tools while simultaneously frustrating can's instinctive drive to comprehend his direct experiences. The computer has given man physical hardware which has altered his environmental

circumstances without his understanding how he arrived there. This has brought about a general disenchantment with technology. Enchantment can only be sustained in those who have it, or regained by those who have lost it, through conceptual inspiration. Nothing could be more exciting than the dawning awareness of the discovery of the presence of another of the eloquently significant eternal reliabilities of Universe."

- Cite RBF dictation to EJA for SYNERGETICS, Beverly Hotel New York, 28 Feb. '71. Re drafted by RBF 7 Oct. »71. ' See "Synergetics," Sec. 204. Oct. '71.

Coaputar: Paradox Oft

See Tetrahedral Coordination of Mature. 1965 XIZ Coordinate System, (1)(2)

cgmpuur PrggftMlnK-

"As I prepared * Ideas and Integrityes' for publication. I redicovered 'Total Thinking*' which I had written at Black Mountain College, in 1949, prior to the electronic computer's present massive development and the latter's swiftly •feedback' popularisation of Professor Norbert Wiener's cybernetics-born language of 194B. I had not rmd •Cybernetics' when I wrote 'Ideas and Integrityes,* and I publish it now because Its analytical epistemology unexpectedly provides a broad view of computer programing conceptions and experimental strategies which embrace potentially powerful forecasting capabilities."

(Above note presumably prepared at time of publication of IDEAS ft INTEGRITIES, 1963.}

. Cite preamble to TOTAL THINKING, (I&I), p.225, May'49
Computer Programming:

See Cosmic Middle Ground, 25 Jan*73 Omnidirectional Typewriter (5)
 General Systems Theory, (2) Club of Rome: Limits to Growth, (B),
 CoS?ut" P r*dlct*, Incr ` ` 8?< ` _ofl_v..f?r.. Publlc ut_wt<ie Tt,rouri] Through Inte-
 gration With IVA Mid RM Networks: Johnson Electod:

Saturn Fila Transcript, World Gana, pp.102-105, Jun*Jul'69

Cpaputar Till. Gen.ral

rant-aatic Deaandq:

-Mgtgra to Grant Waltar.Bpu.thar'a

Saturn Fil« Tranacrlpt, World Gue, pp. 96-101. Jun-Jul'69

Cogpuyr? As specialist:

"There is now a strong intuition of democratic society that compre-
 hensivity must be regained wherefore general studies programs are
 emerging in strength. At the Jecember 1962 annual meeting of the
 American Association for the Advancement of Science a research
 paper was read which showed that biological species and nations
 which have become extinct aid so because of their becoming over-
 specialized. It has now developed that a prime distinction between
 humans and computers as intelligence machines is that the comput-
 ers can easily excel as specialistswhereas the unique characteristic
 of the human intellect which may never be approached is that of the
 Universe-long complexity of feedback comprehensivity which could
 only be matched by a complex computer which had been building up
 its regeneratively introduced variable strands braiding for a period
 of several billion Earth years. This temporary human advantage of a
 few billion years' lead is about to be widely discovered and will be
 one of the prime strategic considerations of man's meager conscious
 contribution to forv.'ard events of universal evolution.'

- Cite RF quoted in"Observations: Fuller's -arth," AewSocietv. Lon-
 don, 13 Aug *64

TEXT CITATIONS

Computer fakes fan Obsolete as a Specialist and Eliminates War:

Trend No. 5, The Prospectd for Humanity, UDSD Doc. 3, P«70, Aug'64

Oh.«ui. nt STMTMtleis

S— Tetrahedral Coordination of Mature, 165

Computer*a Inadvertent

RBF Ltr. to Coller'a (Full text) Pp. 41-5, July*59

CfIMMttr Aska aa Original Ouaitlhn: W

"There is a trending of the computer development which is a swiftly accelerating phase of human ecology evolution. In order to understand the logistical evolution of

human artifacts and their sumtotal feedback transforming effects on human ecology's total environmental transition and the letter's reciprocal modification of man's evolutionary patterning in Universe, you have to recognise that the computer can choose to do only what man can choose to do within the limits of variables of mathematical strategy. There are two strategically fundamental and diametrically opposite operations of the mathematics. One is differentiating out, and the other is integrating. Differentiation and integration--- those are really the two great diametric limit functions. Those who are expert in the development of the computer point out that it is very clear that the computer is already making man obsolete as a differentiator, that is as a 'specialist.' The computer and its very sensitive controlling subsidiary organisms which we call automation can very clearly pick out the green from the red and pick it out very much faster than the human can pick it out. It can do it all night long at 2000 degrees heat, where the human can't operate at all. So the machine as computer--- as automation--- is about to make man extinct as a specialist. '64

- Cite UTOPIA uR OdLlVlbn, ' 'h.usic of the New Life,Pp.35-36, 10 Dec
- ap Original Question: ^{(Bi}

"The other--- diametric--- function of the computer is integration. And the probability is that the computer and its subsidiary automation will will not make man obsolete as an integrator for several million years--- possibly never. We introduce great complexities into integration, many variables, and the interrelationships of which we wish to comprehends, and that is what the human mind is doing all the time. I can tell you quickly why the computer is never, or not for a long time, going to displace man as the integrator. The total variables that we deal with integratively all deal with a series of original questions which we have asked ourselves. Furthermore, those original questions and their discovered answers are relayed from generation to generation by chromosomic instructions which implement our appropriate, survival-accomplishing, subconscious reflexing to myriad variations of environment stimuli. We have at least two million tfears and possibly vast aeons more of cumulative instructions for relaying our various question-askings and constant answer-relationships. Philosophers used to say that the computers would not be able to ask an original question. But it is now some time since a computer first asked an original question when it hadn't been told to ask an original question."

- Cite UTOPIA OR OBLIVION," Music of the New Life," p.36, 10 Dec'64
RbF Dtf'l:, ITIoKS

Computer Ask. an Original Question:

(C)

"All of a sudden as a consequence of variables in the environment and in the machine itself which had not been anticipated by the machine's designers and operators it went ahead and asked an original question. That occurrence requires explanation. Computers can play games, and the same computers can play two games. The same computer can play chess, backgammon, and checkers. How I am going

to have a computer playing backgammon and checkers at the same time. The things you have to do in order to be able to make a move in backgammon are much more complex than the things you have to do in order to make a move in checkers. Therefore, the checker moves get played a little more rapidly than do the backgammon moves. So the checker moves are going like this (taps table rapidly) and the backgammon moves (taps more slowly) more slowly. The fast moves are not wholenumber multiples of the time lapses of the slower (bigger) moves, Every onwe in a while these movement rates get to the point where one is catching up to the other and suddenly the two come momentarily together in seeming synchronization. You get this synchronization hum in variable-speed motors such as the twin motors of an airplane or a boat, 'hen the computer's two game moves get into the synchronization phase"

164 - Cite UTuPIh Un uuLIViuH, "F.usic of the New Life, pp.36-37, 10 Dec

* 1 Aaka an Original Queetion: (D)

"and the time span for solution action by the computer is too short for the computer's solution of both {approximately simultaneously) there develops a momentary blockage interference, whereat the computer must decide to which of the two games it accord right-of-way priority. To answer--- its own original.y conceived question--- the computer asks itself which, by the computer's stored information, of the two games, backgammon or checkers, is the most important to man's psychological equanimity maintenance. And the answer comes back * backgammon,' because, though not as yet as popular as checkers, backgammon is the rich man's game and people are swiftly trending toward comprehensive opulence, ergo will need universal backgammon capability and will drop plebian checkers.

Here then is an original question: born through occurrence of unexpected interference in experiential interpatternings. Original questions of computers or humans probably are, always, products of unexpected interferences. Once asked, the therefor original question becomes an additional brain-inventory item to be passed on to the next generation in the chromosomic inventory. All old questions were once original questions. The human brain stored questions and answers of each unique individual's life, plus all the individual's heritage of chromo-

- Cite Utopia or Oblivion, pp. 37, 10 Dec'64

MB Computer Asks an Original Question: "somic-administered, subconsciously operative experience responses, represent, in progressive sum total, the uniquely variant integral known as individual man. The integral man will always be far more complex than any systematically organized set of variables conceivable by man and introduceable into the computer. Computers cannot in millions of years generate enough interferences to occasion enough original questions to be ^v-<~ilnexpected> further integrated to approximate even an average individual let alone each of a trillion individuals' lives and their half a septillion interrelationships and the unpredictable interferences thereby to be generated.

(E)

"While the computer will not replace man as an integrator in the foreseeable future, it will undoubtedly replace man as a differentiator. There is good historical precedence for this prognostication. It is to be found in natural history.

(Specialization Sequence follows — Ed.)

• 64

- Cite UTUPIH UR OBLIVION, "Kusic of the New Life, Pp.37-JB, 10 Dec

Cflgm?r....Aakg *n Original QwwUorp (D

"There are now in the world several thousand powerful high- capacity, information-storage, electronic computers. The number of them approximately doubles yearly. That means a quartermillion of them by 1970, 250 million by 1980, and 8 billion by 1985— more than two computers per world human,

"The computers, both large and small, are machines for mathematical pattern cognition and recognition storage, retrieval, and coordination; the human brain is the prototype. As with the human brain, all pattern processing consists of two main classes: differentiation and integration; i.e., specialisation and generalization. Differentiation identifies, evaluates, selects, and separates the uniquely developing patterns. Integration ratiocinates comprehensively the coordination rates and magnitudes of complex interactions, developments, or transformations.

"To appreciate our state-of-computer affairs, we must first be aware that throughout the last 15 years many philosophers have been disturbed by the claims of some cyberneticists that computers are soon to displace the human intellect. If, instead, they had confined their prediction to the effectiveness"

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 29 Aug»64

"of the human brain in respect to the computer, some of their claims might in time prove valid. For a long time philosophers assumed that the computer could not ask original questions.

They said that the computer could only re-ask a question man has taught it to ask.

"Despite the philosophers' wishful predictions, the computer has now demonstrated its ability to ask an original question— and it did so without being instructed. Otherwise the question could not be assessed as 'original.' The surprise demonstration came about approximately as follows: You can teach a computer to play games, for instance to play checkers. You can also teach a computer to play backgammon. You also can build a computer with enough parts to permit it to play both backgammon and checkers at the same time.

"Now, both backgammon and checkers are played at different rates. Furthermore, the checker moves are simple and direct. Backgammon is complex. Therefore the same computer, playing both games concurrently, completes the checker moves far more rapidly than the backgammon moves. The backgammon rate is" not an even wavelength multiple of the checker rate."

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 29 Aug'64 "Therefore, as with disynchronous, high-frequency twin motors, there develops a secondary low-frequency, intermittent recurrence of coincident cycles, or interferences. Suddenly the machine has to make both the checkers and the backgammon moves at the same time. Because the computer has a given wavelength interval within which to make moves, and because the latter is too short to accommodate both moves, the machine has to decide which it will play first. It has to ask itself and then decide, 'Which is more important, checkers or backgammon?*' If the machine has stored enough information on variable factors, including previous decisions, it may soliloquize: 'Poor people play checkers and rich people play backgammon. I'd better cast my vote for the priority of backgammon because my memory storage also tells me that all the poor people are becoming rich and will emulate their conditioned-JHB reflex image of being rich.' From this moment, rightly or wrongly, the machine's storage contains this prospero-proletarian predilection.

"'Which is more important, checkers or backgammon?'" is an original question that had never been asked by man of himself or of the machine. We find that the asking of original questions is a consequence of interferences, whether in the computer or the human brain."

- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 29 Aug'64
filmputer...Ask an Original Question: (4)

"As far as the computer's differentiating function as judged by experts is concerned, it can be said that the computer is about to make man obsolete as a specialist because the machine can differentiate and seek out much more accurately, swiftly, and persistently than man can. The computer can stay up all night, night after night, selecting the greens from the blues under humanly intolerable conditions of heat, cold, smells, etc., yet never tire. That the machine is to replace man as a specialist, either

in craft, muscle, or brain work, is an epochal event. The computer as superspecialist produces, multiplies, and administers 'automation,* Because the is superior to man as specialist, comprehensive world automation has always been developing inexorably and is now inexorably imminent.

"The scientist-philosophers of computer integration say that because the asking of original questions is a consequence of interferences, and because interferences are products of time sequences, it follows that original questions are both functions and products of time. There must be a great number of moves and a vast number of computer components before enough time can elapse to develop new types of secondary or tertiary inter- •

- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 29 Aug'64

"interferences that in turn may from time to time provoke original questions. The human brain as a computer mechanism consists of approximately a quadrillion times a quadrillion atoms in coordinate inter patterning. It will be a very long time before man will be able to develop an extracorporeal computer with that many transistors, storage cells, and other components. The experts also point out that, dealing in integrative complexity as a function of time, the human brain has always been dealing in complexity and has also been integrating comprehensive, historical continuity of human-experience-reflexed, design evolution relayed by human genes. Therefore, the experts say, we would have to have man-made computers running for 1 million years or so in order for them to develop an equivalently integrated complexity. The experts do not see any immediate, or even far distant, competition by the machine computer with the human brain in the functions of complex integration."

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 29 Aug'64

Computer Asks an Original Question (Checkers or Backgammon?) As a Consequence of Interferences:

The Prospects for Humanity, Trend No. 3, WSDS Doc. 3, pp. 67-69,
Aug'64

Mexico Address'63, WSDS Doc. 2, pp. 94-98, 10 Oct*63

Utopia or Oblivion, ' 'Music of the New Life " Pn -ic

10 Dec'64, (Cited) Compute?: W - (El' 35:38»

See Atomic Computer Complex Automation Billboard Model Bits: Bit-
titiing Cybernetics Differehtiation Information Control System Invisible
Circuitry Leaders Can Yield to the Computer to Mechanical Mind Nu-
clear Computer Design Omnidirectional Typewriter Pattern Process-
ing Machines Program Satellite-1inked Computers Technology: Com-
puters Ultimate Computer Ultra-micro Computer

See Beautiful, Aug¹64

Brain, May¹72*

General Systaas Theory, d Mov'73; (B)

Invisible Circuitry, (1)

Politics, 11 Aug¹70

Public Opinion Polls, 4 Jan¹70

World Gone, (I)-(III)

Mobile Rentability vs. Immobile Purchasing, 20 Sep¹76

See Internuclear Voids Interstitial Spherical Interstices

See Limit Case: Closest-packed Synsetry as Unit Case. 17 Fab*73

See Convex a Concave

See Claas, 11 Jul'62

Conceivable Entity - Priae:

"That's what 'prae' is all about: the flat conceivable entity,•

- Cite RBF to EJA on first reading bound galleys of SYNERGETICS Sec. 404Q2, 3200 Idaho, Wash, DC, 18 Dec'74

See Conceivable Entity - Prine Thinkable Entity

See Systsn, 25 Kay*72

See Importings fc Exportings

See Convex & Concave, Aug*71

Limit Point, 9 Jun'Tz

Radiation-gravitation, circa, 194fl Stardust, (2)

See Concentration ve. Radiation

See Gravitational Syatea Zone, 14 Jan'55

Mass, 14 >iay'73

Stardust, (2)

Syntropy, May *72

Concentricity:

•Thy pracayalonaUy reganarativa concentricity of structure la Juux-
ontropic • • ,

- Citation 4 context at Antlantronr. 1*59

Concentric Cantare of Volume:

See Twenty-foot Earth Globe k 200-foot Celestial Sphere,(6)

Concentric Coordination;

"Atoms in the ends of the chain come around and fasten the ends
together--- endlessly--- in a plurality of concentrically coordinate cir-
cular actions

- Citation and context at Alloy. 1.3, 18 Mar*69
ggwntrlc Correction from Spherical to Plan* Geometry:
See Internal Control of Distortion

Symmetrical Local Subsidence

"The domain limits of the hierarchy of concentric, symmetrical geometries also suggests the synergetic surprise of two balls having only one interrelationship; while three balls have three--- easily predictable--- relationships; whereas the simplest, ergo prime, structural system of Universe defined exclusively by four balls has an unpredictable (based on previous experience) sixness of fundamental interrelationships represented by the six edge vectors of the tetrahedron."

- Cite SYNERGETICS text at Sec. 982.72, 30 Dec»73.

Concentric Laving:

in

"Whereas/the layer-around-layer, symmetrical, closest packing of unit radius spheres around a nuclear sphere of the same radius, the number of spheres in each layer will always be 10 times the second power of the frequency of comprehensively ₂ concentric layer enclosings, plus the number two; i.e., $10 F + 2$; by which we discover that, in the case of the first layer, i.e., frequency « 1, we have $1^2 = 1$, and $10 \cdot 1 \square 10$, which, plus two * 12; and we find experimentally that 12 unit radius spheres comprehensively omni-inter-close-pack around the single nuclear sphere. Where frequency is two in the case of the second layer, we have $2^2 = 4$, $4 \cdot 10 = 40$, $40+2=42$

spheres which circle empirically; thus the number of unit radius spheres in the third layer is 92, and so forth."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 261.03; U Nov»75

See Omnidirectional Closest Packing of Spheres Shell Growth Rate

See Powering: Second Powering, 28 Oct'73

See Bill board Model

Eccentric

Eccentric-concentric

Multiorbital

Shell Growth Rate

Shell Generating Frequency

Twenty-foot Earth Globe It 200-foot Celestial Sphere

Rational Coneentricity

See Alloy, 18 Mar'69*

Antientropy, 1959*

Atonic Computer Complex (3)

Design Covariables: PrincipleOf, 1959

Prime Number Inherency & CRA: Principle Of, 1959

Triangle, 8 Oct'64

Wind Stress & Houses, (9)

Light on Scratched Metal, 9 Nov*73

Vector Equilibrium Involvement Domain, 12 Dec'75

Electromagnetic Spectrum, 26 Jan'76

Einstein Equation: $E \gg Me^2$, 1959

Concept:

'Concept is general; information is quantitative (special case).

__ Citation k contact at Energetic Information. 20 Dao¹?*

Conception:

"Conception is metaphysical Observation is physical.

And the observed is physical.

Conception finds significance Of the observed

In the terms of that Which is no (longer ?) observed But is recallably considerable.**

CpnggpUw:

"The definable conception is therefore the first thinkable subset functioning of Universe."

Conception!ng:

"Systematic conceDtionins and recollected conceptioninc. both universal and local, which progressively traces, relates, and compares nonsimultaneously observable locally functioning entities, is self-disciplined,"

- Cite OMNIDIRECTIONAL HALO, p. 135, I960

Conception-birth:

"Physics of 1974 identifies: 1 quantum - i spin; and

1 quantum - 2 (spin/2). Conception-birth comes with the realization that the seemingly separate aspects of the externally viewed, plus-curvature convexity from that of the internally viewed, minus-curvature concavity have no interveningly differentiating, zero-curvature sheath structurally differentiating the only timelessly

(or generalized) conceptual coincidence of both the plus and minus curvature. In the alternatively plus-or-minus pulsativeness frequencies of special case time, the multiplicative twoness •conception* releases or gives birth to new coexistent additive twonesses as independently axially spinnable: special case spin twoness Inherently coupled with the duality twoness. producing the individual unity fourness with its primitive sixfoldedness of integral system interrelatedness and its eightfolded integral Universe environment."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1076.13, 27 Dec*74

Conception: Cane oat lanfl:

(D

See Automation of Metabolic *it* Regenerative Processes

Baby Button: Push the Baby Button

Life's Original Event

Procreation

Sex

Survival Sequence: Love

Inmaculate Conception

Beginnings

See Awareness, 13 Jul'74

Closed System: Conservation of Energy. 1963

Generalised Principle, (1)

Gestational, 4 Mar'73

Reality, Dec*69

Pretending, 8 Apr'75

Communications Hierarchy, (4)

Congruity:

we drop a stone into water, we see * wave emanate outwardly in a plane..•« It is not simultaneous; therefore to conceptualise we are using our memory and afterimage. We can never have static waves."

fattarn Of-a. Slana Pnmwid in

Cw.wtlialty:

'There la aysteaatl conceptuality within the totality, but It la always cosadccally partial...,

"There la no half-profile of you. *11 conceptuality la systemic; it has to be finitely closed. Conceptuality has to have both frequency and angle....

- Cite RBF rewrite of SYNERGETICS galley at Secs. 501,02 and 501.06, 5 Nov'73

Conceptuality:

"Conceptualisation is Inherently local in time as are the separate frames of scenario Universe's conceptualities nonconceptually identical. Conceptuality is always momentary and local."

. Cite SYNERGETICS text at Sec. 7S0.12, 22 Oct'72

Conceptuality?

'You think about Universe by taking something out of it.
And that is a thought. That is conceptual."

- Cite RBF address to Dag Hannerskjold College. Columbia Md. 17 Oct»72

tancqpwilu:

•The ideal eternal conceptuality which we are discovering in synergetics is so true as to beeone real because part of the conceptuality is the lags which bring in the six degrees of freedom. •

- Citation *k* context at Timeless_f 1 Apr'72

"The definition of a system as the first subdivision of finite but nonunitary and nonsimultaneous conceptuality of the SMMM of the Universe into all the Universe outside the system, and all the Universe inside the system, with the remainder of the Universe constituting the system itself, which alone, for the conceptual moment, is conceptual."

- Cite HBF marginalia, 2b Jan '72, incorporated at SYNEKGETIC_b, bee. 251.2b, Feb '72.

Conceptuality:

"Without insideness there is no outsideness, and without both there is no point. Any conceptual event in Universe ...us L have insideness and outsideness. This is a fun-ia: entail self-organizing principle."

- Cj-Q-tLir U1 iiii< Tilaliu; J9=?«a

- Citation at huMatll * °UtU3fflia«, 19 Feb'72

cgnet polity:

• Conceptuality is just a fantastically 11²⁷1_{to}d part of the total_g not just in the electromagnetic spectrum* range, but in thinkability itself."

Conceptuality:

"Nonstable systems are conceptual as momentary positional relationships of unstructured component event aggregates. Stable systems are conceptual as structured, which means componently omni-intertriangulated event aggregates.*

- Cite RBF to &JA, 3200 Idaho. Washington DC, 23 Jan '72. incorporated in SYNERGETICS text at Sec. Jan '7*.

Conceptuality:

27 For citation and Context see Black Hole (2) . 27 Jan'72
ToNCfPrMry - SEC qoi OS1

*», . There is no half-profile of you. All conceptuality has to have both frequency and angle. The angle part has to do with circuitry design. .
." .

- Citation and context at Design. 23 Jan*72

eita m to m

Exorptw

Src 5 o I. D b)

Conceptuality:

"»taphysically the isotropic vector matrix is conceptually permitted. .
." .

- Citation **k** context at Metaphysical **k** Physical. Oct'71

-Beverly Hotel ynergetlcs,*

ited in *S

HBF D&FIKIT1UNS

Conceotualitv;

"Abstractions are conceptually ehapable!"

"Different shapes, ergo different abstractions, are nonsimultaneous;
but all shapes are de-finite components of integral though nonsimul-
taneous, ergo shapeless. Universe."

" 60.1971

- Citation & context at Abstraction. 1971

Conceptuality:

"The greatest of all the faculties is the ability of the
imagination to formulate concentua 1W."

* ^CSpaceship Earth?

-Sfc seToi"]

RBF DtJINITIONS

Conceptuality:

"Conceptuality is systematic but always partial.**

- Cite RBF at Students International Meditation Seminar - U. Nass.,
Amherst, 22 July 1971.

SYtfEIU ETiCS- cTctfcc/'TvAMrr— 5ec, e>7|

ftBF JiiFI,irluhS

Conceptuality:

find then that there is conceptuality within the totality but it is always partial. And conceptuality is sytematic, is an aggregation of the energy events that have a unique insideness and outsideness and you find the relationships of the stars in the constellations, when we say we Understand, we're trying to find out that patticular a gregation, how they're interrelated.'*

Uif HBF at Sll-ib, u. bass., Amherst, 22 July '71, p. 2?

Conceptuality: "Definition requires conceptuality. Conceptuality requires the generalization of patterns gleaned from special-case experiences. ... Conceptuality defines the basic event experiences and quantum unit measurement which altogether constitute structure."

- Cite RBF dictated to EJA as last paragraph on SThergetics Chapter on "Universe," Beverly Hotel, New fork, 24 April 1971

SYy<\$Grr»t5. Ccwc£ru44j Ty i'fc'C 5061/} + VMveAxx - S£c 33)

RBF DEFINITIOtS

Conceptualityi "ixsir.entarily conceptual mean® standing dynamically together--- like star events."

- Cite RBF to EJA Beverly Hotel, Hew Tort 15 March 1971

- Citation At Star Events. 15 Mar*71

- ccirruAiy- Sec- Saf. 07 |

Conceptuality:

"Conceptuality ia always partial."

- Tape transcript #6. Side A, p.23; RBF to Barry Farrell Bear Island,
16 Aug*70

Conceptuality:

•We may hypothesize that as information increases exponentially---
explodes--- conceptuality implodes, becoming increasingly more
simplified."

- Cite JDS DECADL, Document 6, p. 52 "Fan and the Biosphere" (John
McHale - 19&7)

TweRteTict- c • PT_vAL.Tsec. sol.

Conceptuality;

"In topology Euler brought tank the 'pure' conceptual model-
eschewing mathematicians back to fundamental conceptuality and
to a rfferalized geometrical accounting of all inter-transformab* lity
and to a comprehensive algebraic quantation system governing the
inter-relationships of all the components of any and all systems."

~~draft~~

Cite NASA Speech, p. • Jun'66

Conceptuality:

"All local systems

are conceptual."

-Clt _farb<jinjalé Draf4- Jtetuiu tu Modelability, p» V,W

- Cite NASA Speech, p. 76. Jun*66

s<«t/?ef s -cc. foTToz]

Conceptuality;

"When Euler introduced topology he, for the first time, initiated the return to conceptuality out of seemingly complete abstract mathematics where we would come to completely empty sets, we thought, where we could have complete substitution of symbols for numbers and we could play the game of symbols."

rin Oiegim #7, |i,

PIT a f aaiinn ii***

- Citation and context at Euler (f). 11 Jul'62

egnccpwillut

"Conceptuality is something independent of visibility or invisibility."

- Citation at Vialbily & Invisibility_f 9 Jul'62

Conceptuality:

"The artist was right all the time. Nature was conceptual.

This is the difference between invisibility. Invisible does not mean nonconceptual, though it had come to mean that. Scientists were saying that you couldn't model the invisible. He really had himself an area of mystery that somehow you could just handle with numbers but you couldn't handle with models. Now I am telling you that you are going to be able to make the models that nature makes."

- Citation & context at Artist. 6 Jul'62

TTTC5~==CoV? . SFC 5-4 I

Conceptuality:

"Pattern has emerged from our first preoccupation with getting rid of the irrelevancies and out of it has emerged a minimum constellation, a minimum consideration and it is a four star affair. It is tetrahedral. It is very amazing to have a geometry just appear out of our just considering what is thought. We have come to some conceptuality and this conceptuality is essential to this thinking process. When we say 'I understand,* there is some conceptuality finally developed."

Conceptuality:

"The conceptual process is never static."

- Citation and context at Thinking. p.1J6j I960

Conceptuality;

"Conceptual formulation is inherently empirical.

- Citation and context at Experience_T Feb*50

Conceptuality:

****..□ In comprehensive Universe, dimension drops out and conceptual principle retrains, Physical interferences of our sensibilities are alike true and real, or realisable only in principle. Positive and negative cancel as the principle sero."**

- Citation and context at Reciprocity (3), Kay*49

Conceptual Eternity:

"The word identical is permitted when you are dealing with conceptual eternity and when you are not dealing with the indeterminism of experience.

- Cite RBF to EJA, Beverly Hotel, 14 Sept. 1971

RBF DAFII.ITIUUS

"how I find that there is a conceptual finite, which is any polyhedron."

- Cite WATTS TAPE, p. 58, 19 Oct <70

CynceptuaJ. FflHWlfttXgn-

"Conceptual formulation is inherently empirical.

Conceptual Formulation:

See Imagination, Sep'71

C2P.9.9JPXMA1 P-ftlieglft

"A point Constitutes conceptual genesis which may be realized in time."

- For citation and context see Point. 19 Feb '72, rewritten 1 Apr '72
See Event Embryo Locus Fix Beginninga Primitive Regeneration Nature in a Corner Resolution: Resolvability

STOW!

<2)

See Modelability, 12 Sep*?!

Point, 19 Feb*72* Geometry of Thinking, 13 Nov'75

See Geo---try ot Thinking

See Brain, 30 Nov'72 Critical Proximity, 15 Feb`73 In, Out 4 Around-Nov'71 Tetrahedron, Nov'71

- Tmn.Hru.hl...

See Syeten, 26 Dec*74

Conceptual!tv Independent of Size:

"Conceptuality ie geometrical independent of eize."

~~P.M1W1 SslMM~~: fiaai

"I start thinking with a no-aie conceptual nod el of a whole oyeten."

- Citation and context at VacuuB_f 19 Feb*72

Conceptuality Independent of Site*

"Tetrahedrons occur conceptually independent of erente and relative al«e."

- Cite SYNERGETICS Corollarlee, Sec. 240, by RBF 11 Oct, »71, Haverford, Penna.

CtHKCPtHAIXty JaAaMRdmt of 31M?

"Size alone can cone to aero— not conceptuality.*

- Cite RBF t o EJA, Blackstone Hotel, Chicago, 31 May 1971

<e«cencs- co»z£trn>*<.<TY~ \$fc. «<». s3|

SSF PcJ'iNITluiiS

KMM1 ConeentualitY Indeoewlenr. of Site:

. . Conceptuality operates experimentally---

independent of size.”

- Cite NASA Speech, p. 99.

' C«UC£pTi>AuTY-

77c. roTS)

MI—IM PMKWtMflltT Indo random gf Slip?

"We may think conceptually of assemblies of triangles

or basic generalised structural arrangements which will

hold true at either an atomic nucleus size or a super galaxy size, because of all angularly defined systems being conceptually independent of the relative sizes of special

experiences.”

- Cite NASA Speech, p. 103, Jun'66

STUfPetTits - c ,uce/*n>4<. • rf-

°9HSgPWUtY ImtePWldfflfr pf

"Conceptuality £*J independent of visibility or invisibility. You can have conceptuality, or understanding of the principles, independent of size, which makes it possible to conceive of events as they occur at magnitudes which would be subdivisible."

(Adapted.)

- Cite OREGON Lecture #5 - pp. 189-190,

9 Jul<62

S y »J tf Ttc \$ - c »MC t PTJAMTY- ifc 50' O'l)

See Conceptuality Independent of Size & Time No-size Conceptual Model Sizeless Zerosize Subfrequency System Constants Presize Constant Angle Primitive

See Prime State, 21 Mar*73 Sensoriality. 13 Nov'69 Size, 13 Nov'69; 31 May'71 Thinkable System Takeout (2) Pattern Integrity (B); 16 Dec*73 Relationships, 1960 Shape, Oct*60 Thought Has Shape. Oct*71 Omnidirectional, 1960 Tetrahedron, 11 Oct'71 Triangle, 13 Nov'69 5 Nov'71 Trigonometry: Spherical Trigonometry (3) Experience, 28 Apr'74 Systematic Realization, 20 Dec'74 Design Science: Grand Strategy, 31 Jan'75* Model vs. Form, 8 Apr'75 Spheres 4-Spaces, 14 May*75 Angle, Jun*71; Apr'71 Time-size Cyclic Modules, Jul'71 Principle, 7 Oct'75

See Infinity • Frequency, 19 Feb'76
Primitive dimensionality, 1 Jan'76

Pointe, 22 Mar'76

Frequency A Wave, 19 Dec*74

Mite as Model for Quark, 3 May'77
Conceptuality Independent of Size & Time:

"Synergetic® identifies topology with conceptuality. You have prime conceptuality independent of size when you deal with a tetrahedron with its edge not subdivided. Not until the edge is subdivided, not until it becomes frequency, does it become time or size. In other words, we have complete topological conceptuality independent of size. This is an utter abstraction.

"This is the abstraction of mathematics which the mathematician felt was there, but he did not like to identify it with experience because he thought experience was going to be what he called imaginary. We've gotten clear of that now by the absolute isolating of conceptuality.

"Conceptuality is always pretime or prefrequency. The minute frequency come in, or time comes in, it is special case.

This is what mathematics intuitively tried to adhere to, but they've gotten into a trap, like the axioms."

- Cite Tape transcript, p.13; KBF to B. Brooks, 2 Jun'74

Conceptuality Independent of Site & Time;

"Needham's 'space' is our conceptuality independent of site i.e., of time."

- Citation & context at Synergetic Hierarchy, 5 May*74

See Preside

Pretime Prime Conceptuality

See Design Science & World Gone (A)

Generalisation. 17 Feb»73

Size, 22 Jun'72

Subfrequency, 17 Feb*73

Synergetic Hierarchy. 5 May'74*

Triangle (1)(2)

Vector Equilibriun, 1 May'71

Synergetics vs. Model (D)

Topology: Synergetics & Eulerean, 16 Nov'74

Modelability, 12 May'75

Energy Event, May'71

toacwwi Intwlty:

See Process Relationships, 28 Jan¹69 Zero, 4 Nor'73 Zerophase, 12 Sep*71

"Human awareness is conceptually initiated by special-case otherness observability. Humans conceptualise_T i.e., image-ise, or image-in, i.e., bring-in, i.e., capture conceptually, i.e., in-dividualise, i.e., systemise by differentiating local integrities from out of the total, nonunitarily-conceptualisable integrity of generalised Universe."

- Cite SINLRGETICS draft At Sec. 1006.U, 17 Feb'73
Conceptual ^Limits:

"What is the upper limit of the ability of man to conceptualise?"

HbFs "I don't use 'upper.' I may think there is a limit, but I have not said so. Humans have limited access to reality. Our awareness is always lagging. Humans are designed with enormous limitations."

- Cite RBF to World Game Workshop*77; Phila., PA; ?? Jun'77

Conceptual ^Limita»

See Intellect, 21 Jun'77

ggncgpml *rtolg:

"The real break between science and the public occurred when science found that invisible behaviors of nature could be ferreted out by instruments and computationally mastered without recourse to conceptual models, which had become seemingly invalid due to the inability to model fourth dimensionality with XYZ 90-degree coordination which, however, could be readily computed mathematically. With the wholesale migration of science into the world of invisibility without any conceptual models of reference, the literary man who depended upon conceptual models or analogies for his verbal pattern relaying was automatically excluded from either rightside participation or backrow glimpsing of the significant affairs of science.

"The natural four axis, 60-degree, tetrahedral coordinate system... returns 'conceptuality' of dynamic structural principles to scientific validity."

-Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes 1965, p. 80. '

Conceptual Mathematics:

(1)

"Because synergetics is conceptual, it will make it possible for people to teach themselves in a very Montessori-like way. The present mathematics of science has to be taught because it is so incredibly complex and utterly devoid of conceptuality. It is just formulas, formulas, formulas, consisting of symbols utterly unfamiliar to any of the public in any language. It consists then of invisible games played with unfamiliar objects which can only be taught by others: nothing is self-evident.

"Inasmuch as I am challenging the whole of academic science, acceptance is not going to come from them.... It is only going to come from a young world who find that synergetics opens the whole of physics to their own observational discovery.

"It is interesting to me that there was... a professor of engineering at one of New York's large universities... who said that he had found my energetic geometry... the key to swift conceptual-by-self discovery for his students.... In the 1950s when I was teaching at MIT there was only one department that saw the immediate application and significance*

- Cite RBF Ltr. to Kaud Morgan, Boston, MA; 15 Sep'76
Conceptual Mathematics; (?)

•of energetic geometry.... The one department that understood me spontaneously and saw the immediate application was the Department of Electrical Engineering. The physicists were so used to operating in a nonconceptual, purely abstract mathematics method that they had no faith in their own conceptuality and tended to be afraid of their being intrigued by synergetics. Electrical engineers deal with the realities of physics and have to understand what it is doing.... The electrical engineers clearly encouraged me to hope that the practical public acceptance will come within the critical period necessary for humanity to veer away from its course to self-extinction.

"When Max Planck discovered his famous constant for the conversion of the awkward XTZ-axis mathematics to provide agreement with the energy increments as physically discovered, he said, 'The opposition never yields, they just die off.' I am not worried about the opposition; I am only concerned about the present of humanity who need to be able to teach themselves, as you and I both taught ourselves to ride a bike and earlier taught ourselves to stand.**

- Cite RBF Ltr. to Maud Morgan, Boston, MA; 1> Sep'76

Conceptual Model:

See Conceptuality, 19 Feb*72 Particulate Eodel, 10 Feb*73 Spherical Tetrahedron, 10 Sep'74 Topology, 10 Dec'75

Conceptuality » EoncsnccpWlly:

"I as dealing with the Universe: the difference between conceptual thought and nonunitarily conceptual Universe. You cannot make a model of that, but you can show it as one conceptual system which is tetrahedral... plus a convex and concave tetrahedron and that equals Universe.*

- Citation &. context at Topology:

Svn.rit.tic k Eulwian, 2 Jun'74

Conceptuality k Nonconceptuality:

"Complementarity requires that where there is conceptuality, there must be non-conceptuality. The explicable requires the inexplicable. Experience requires the nonexperienceable. The obvious requires the mystical. This is a powerful group of paired concepts generated by the complementarity of conceptuality. Ergo we can have annihilation and yet have no energy lost; it is only locally lost.

"The invisibility of negative Universe may seem a discrepancy, but only because the conceptual is such a fantastically limited part of the total, not just in the electromagnetic spectrum range, but in metaphysical, cosmic thinkability itself."

- Cite SYNERGETICS text at Secs. 501 .13 galley rewrite of 6 Nov'73

cgnconceptuality ft Honsons gpmilfry:

"Systems of thought divide the Universe into the conceptual and the nonconceptual."

- Citation k context at Thought. May¹72

Conceptuality ft Noneoneactuality:

"At the indispensable center of the sphere Universe tQuns itself inside-out. The invisible, a priori, Multiplicative twoness, differentially disclosed in the synergetics' topological systems' hierarchy, is manifest of the integrity of the sizeless, timeless MBB nonconceptuality always complementing the conceptual system takeout from nonconceptual scenario Universe's eternal self-regenerating."

- Citation ft context at Topological Hierarchy, 19 Feb*72

ConceptualizerTa Nonconceptuality:

"Conceptuality balances with nonconceptuality. It's all invisible."

- For citation and context »»» Blade Holaa 11), 2? Jan'72

Cono.BtualltTfc

Nonconceptuality;

"Complementarity requires that where there is conceptuality

there must be nonconceptuality. The explicable requires the inexplicable. Experience requires the nonexperiential. The obvious requires the mystical. Thence a powerful group of paired /"concepts/ generated by the complementarity of conceptuality. Ergo, we can have annihilation and yet have no energy lost."

- Citation at Complementarity, 12 Sep*71
- • glta RRF tn IfJA'r'DuUl'lf tfaf nL, HBM Tiik) 1T ~TapL
CoHCiHuiki.itY - 5EC. A*
- CMsgpWlittY 4 fioncQncwtiwUtY:

"We find that Universe' itself has to be complementary because there is the conceptual and the nonconceptual automatically."

- Citation and context at Generalisation Sequence (2), Jun'69
- copstptuaitYfe Ngnegnegewilty:

"... Universe is a non-simultaneous yet dynamically synchronous structure, which is unitarily non-conceptual as of any one moment, yet as an aggregate of finites is suxn-totally finite.

"Thus we realise that finite structures are mostly non-conceptual in any momentary sense, though certain local structures in universe are momentarily conceptual, such for instance, as the continually transforming hisVp-ical aggregate of men's experiences packaged together in the words 'planet earth.'"

- Cite KEPES, p, 7, 1965

See Now You See It: Now You Don't System vs. Scenario Systems a. Konsystemns

See Black Holes (1)* Complementarity. 12 Sep*71* Generalization Sequence (2)* Nuclear Sphere, 16 Dec'73 Structural Functions, Oct'73 Thought, May*72* Topological Hierarchy, 19 Feb*72* Topology: Synergetic &. Eulerian, 2 Jun'74* Neutral Axle, 1 Jan'75 Conceptuality, 22 Oct'72 Finite 4. De-finite, Nov'71 Scenario Universe, 18 Sep'74 Conceptual lathematics, (1)(2)

Conceptual Observation:

See Axis of Conceptual Observation

Conceptual Physics: (i)

Encyclopedia Britannica, (14th. Ed.); 1947: Article on "Crystallography," pp. 808-809:

"Homogeneous solid matter, the physical and chemical properties of which are the same about every point...Physical properties vary with the direction... vis, the general properties, such as density, specific heat, melting-point, and chemical composition, which do not vary with direction; and the directional properties, such cohesion and elasticity..."

HbF:"The word 'solid'¹ is not scientific. When they say 'homogenous matter,' what they mean ie the isotropic vector matrix. To say that any chemical properties vary with direction of the 'solid*' is inherently wrong. Natter consists only of atoms whose nuclei are vastly denser and differently- behaved from the internuclear voids."

- Cite RBF marginalia at above citations, done at 3200 Idaho.

Wash. DC; 27 Jan'77

Conceptual Physics:

"The heat is not a property independent of the atom. Thinking 'solid matter' as they do, they say there is no difference in the directions; it is all a question of just so many abstract mathematical numbers to them--- without reference to the numbers of the atoms and the spaces between them. All the differences are always directional! The Encyclopedia is saying that physics is nonconceptual!

"The homogeneity is the gravity, . /hat is the reason for the homogeneity---nobody knows! Newton did not know. The gravity is the a priori mystery, but the behavior of the atoms is conceptual."

- Cite RHE to EJA in amplification of mareinalia at
Conceptual Physics, (1); 3200 Idaho; lash. DC; 27 Jan'77
RBf
 Aa PalrtiadraP

"I have shown that any conceptual thought is a system and that it is structured tetrahedrally, A+, A-, B+ B-, etc. This is because all conceptuality is poly- heurmal."

- Cite HbF to tJA, 3200 Idaho, DC, 22 Feb '72
*£ pfjcePtifhiiT r- 1*ST stwrrkCC - S4*.»1)*

See Conceptual Finite Conceptual Tuning Geometry of Thinking Epistemography

See Ideal, 1 Apr'72
 Minimum Limit Case, 9 Jun'75
 Concept vs. Inform! on:

"Concept is general; information is quantitative (special case)."

- Citation for context at £nar<Y for InfQTBfitlon, 27 Dec*74

"Information can be--- either or both--- conceptually metaphysical
and quantitatively special-case physical experiencing."

- Citation & context at Information vs. Entropy. 15 Nov'74

Khh DtElNITIUNS

cgncwwiltT ft RoflIttv

"Conceptuality is metaphysical and weightless.

"Reality is physical."

-Cite RBF to EJA Somerset Club, Boston, 22 April 1971

SYwrtfCtTicS Co*K£<*rv4Gi7'

CfmsgrtiMlltY k PwAltr?

Conceptuality is subjective; realisation is objective.

(Adapted.)

—01 be NASA Speech, p. 1QJ_t Jun*66

- Citation &. context at Description. Jun*66

*metrics SK **,

Concaataalltv & Reality:

See Description, Jun¹66*

See Thinkable System Takeout. (1) Allspace Filling, 22 Oct*72

PflagaptuilltY fc 5MM=

See Eplstenography

Thought Has Shape

Conceptuality AB Polyhedral

CWWWtttaUa fc =

See Fourfold Twoness, 10 Nor*74

<2)

"Concepts are always synergetic systems. Systems are minimum-maximum sets of thinkable, conceptual omninterrelevant recollections, Intertunably differentiated only by time out of nonsimultaneous, unitarily nonconceptual scenario Universe.

- Citation for context at Thlnktionary. 27 May*75

CQncgpmi Sygyng:

"Systems are inherently polyhedral.

Systems of thought Divide the Universe Into the conceptual and the nonconceptual. Conceptual systems always consist Of a constant relative abundance Of the lines, crossings and areas In which $C + A - L + 2$.

And because of this Constant relative abundance Whole pattern behaviors Of all our experiences--- When properly conceptioned--- Can be comprehensively differentiated, Topologically equated, observed and considered

- Cite INTUITION, p.47 May '72

See Minus Two, Aug*73

Synergetics rs. Model (D)

XYZ Quadrant at Center of Octahedron, H May*75 Thlnktionary, 27 May*75*

See Topological Hierarchy, 19 Feb*72 Vacuum, 19 Feb*72

Conceptuality / Thinkability:

See Conceptuality, 27 Jan*72

"Conceptual tuning means occurring within the optical 'rainbow' range of humans' sensing within the electromagnetic spectrum and wherein the geometrical relationships are imaginatively conceivable by humans independently of size, and are identifiable systematically by their agreement with the angular configuration and topological characteristics of polyhedra or polyhedral complexes.*

Cite RBF rewrite at SINEROETICS Sec. 400.03 , 21, May'72

Conceptual Tuning:

See Systema, 25 May*72

Conceptual ? Visible:

Conceptuality, 9 Jul*62

Conceptual Zero;

See Hedra, 10 Apr'75

See Considerable

Faculty: Conceptual & Reasoning Faculties Geometrical Conceptuality Geometry of Thinking Info-concepts Independence of Time & Space Irrelevancies: Dismissal Of Limited Conceptuality Local Conceptuality Modelability Nonconceptuality Nonunitarily Conceptual Prime Conceptuality Primitive Geometric Conceptuality Tetrahedron as Conceptual Model Thinkable Topology = Conceptuality In Space vs. Conceptuality Paired Concepts

Cfinsmyal: Esnewwuty:

(IB)

See Supreme Conceptual Synergy

Conceivable Entity

Thinkable Entity

Axis of Conceptual Observation
 Unitary Conceptuality
 Uymaxion-concept-trend-history
 Momentarily Conceptual
 How the Mind Starts
 Physical Tetrahedron vs. Conceptual Tetrahedron
 Halo Concept
 No Conceptual Totality
 Thinkaboutability
 Structural Conceptuality

ganGSEtUaJ,; Cgnfi.flptuality:
 (2A)

See Artist, 6 Jul*62* Black Holes. (1)(2) Bow Ties. 6 Oct'72 Design, 23 Jan'72* Earth, 1965 Ephemeral. Oct'66 Euler. (1 J* Experience, Feb*50* Frame, 15 Dec'73 Frame of Reference, 4 Oct'72 Geometry, 2 Jul'62* In, Out, & Around, 1968 Insideness & Outsidenesa. 19 Feb*72* Key-keyhole Sequence, (2 J Models, 9 Jan'74 Powering, 10 Jul'73; 11 Jul*73 Relativity, May*49 Reciprocity, (3)* Metaphysical k Physical, Oct*71*

See Stable 4. Unstable Sys ten a, 2 Nov'73: Jan* 72

Star Events, 15 Mar'71*
 Synergetics, Dec'72
 Technology: Computers. Oct'71
 Triangle, (2) *
 Thinking, 1960*

Timeless, 1 Apr'72*

Visibility it invisibility, 9 Jul'62*

Zero, 4 Nov'73

Pattern Integrity, 6 Nov*73

Wave Pattern of a Stone Dropped in Liquid, (a)*

Th inkt io nary, 27 May* 75*

Out-lining, 22 Mar'76

T Quanta Module, (1)

See Conceptual Eternity Conceptual Finite Conceptual Formulation
Conceptual Genesis Conceptual Geometry Conceptuality Independ-
ent of Slse Conceptuality Independent of Slse & Time Conceptual
Mathematics Conceptual Models Conceptuality k Nonconceptuality
Conceptual Observation Conceptuality as Polyhedral Conceptual vs.
Quantitative Conceptuality & Reality Conceptual Set Conceptual Sys-
tem Conceptual System Takeout Conceptuality 4 Space Conceptual
Tuning

Conceptual: Conceptuality: (33)

See Conceptual - Imaginable Conceptuality / Thinkability Conceptual
y Visible Conceptual Zero Conceptual Physics Conceptual Limits

See Segment, of Inclusion: Segment of Conclusion

EJA NOTES:

Concrete Poetry:

When RBF writ^{®**}L~one-lines3he pronounces it ^Well-wun-linesa."

"At-one-«ent" ia "at-wun-nent."

- Cite RBF to EJA, 3200 Idaho, Wash, DC, 28 Fay'72

Pwtry:

Shelter, Vol. 2., No. 4, p.43, Jfay'32

How Little I Know (Saturday Review Book), p.81

See Wind-0 Now Hourglaaa Teleology: Bowtie Symbol

0 I One □ None He-even Bio-logic Cha irone Craftone

See Local vs. Comprehensive, (1)(2) Logistics, 10 Dec'73 Mother, 17

Oct'72 Self-now, Mar*72 Geometry, 1 Oct'71 8VW1

Verse vs. Prose, 11 Dec*75 Pronouns: I « We - Us, 10 Dec'75

fisasMW

(1)

See Ceaent

Prestressed Concrete

See Artificial, (2)

Tensegrity: Unlimited Frequency of Geodesic Tensegrities, (9) Zeiss
Done, H Oct*76

Conditioning:

"Conditioning is always? a local environment, sneciul- care set of universal evolution events Jesynergized by isolation from the synergetic totality of Universe--- which, being inherently the most complex synergy of synergies, is always inexplicable by any of its local pints."

(Re bccles: "There was the implication that out sense of purpose and decision was an illusion and that we were caught up in a rigorous web of determinism that was inexorably governed by . . . our inheritance and our conditioning.")

- Cite nBF marginalia as re-edited. Levies, 'Facing Reality,' p. 3., 14 Feb '72

Conditioning:

"Conditioning is always a local set-- or takeout--- from a synergetic totality, and being synergetic, is always inexplicable by local parts."

- at Bed®! *Facing Reality,'

P.2,

See Common Sense: Official News

Decondition My Subconscious Reflexing Nonthinking Reflex

Young World: Generation Gap & Umbilical Cord

See Change. 2 Nov'73 Communicating. (2) Conformity, 10 Oct*67 Energy Crisis, 14 Jun*73 Evolution, 1969 Fighting, 7 Nov*67 Individual Economic Initiative, 13 Jul*74 Watergate, 14 Jun'73 Culture. 1 Feb*75 Ego, 9 Nov'75 Advertising, 1964 Form Cannot Follow Function, 20 Sep'76 Human Unsettling, (2) News & Evolution, (3) Fuller, R.B: Moratorium on Speech, (D No Energy Crisis, (A)

Womb of Permitted Ignorance, (1) Will, 11)

Condition: £2n<ilUonlrx'

See Omnlcondltion Operant Psychology

Conductor: Conductor tp

See Monopolisable Over Pipe or Wire Wirable by Conductor

Conduita;

See Geodesic Donee, 12 May*77

SSiOO.:

"Cones are always 'spun' or orbitally observed tetrahedra

- Cite RBF sketch and caption, 22 Sep'73

Cone:

* A cone is simply a tetrahedron being rotated."

- gtEBJilMUUI-Lil, HnHE-JalMJUl- FBpWU-LjmT

- Citation and context at Tetrahedron, 25 Aug'71

Cone:

"Parallel lines can be torqued. So may the parallel lines of a cylinder be twisted as we see them in a rope. A rope and a cone are both forms of simple curvature."

- Cite IDKAS AKO INTEGRITIES.

- -CILU PREVIEW TE BUILDING, Apr¹49

- Citation at Torque, Apr'49

See Tetracene

See Angular Sinus Takeout, Dec*61 Point: Outbound Point, circa 1948
Rowing Needles, (1) Tetrahedron. 25 Aug¹71* Torque, Apr'49* Redundancy: Reduction Of, 22 Apr*71

Confosaion:

"It is important for the individual to profit from hie own trial-and-error record of mistake-making by self-exam ination and recognition of error. This Is what's wrong with the role of confession in the Catholic Church. The individual may be absolved of his errors but all the insights deriving from the mistake-making accrue only te the church which retains its monopoly of wisdom."

(Apropos EJA query me RBF Ltr. to Brother Chuala.)

- Cite RBF to EJA from Pacific Palisades, CA., 7 Jan'76

Santirmatlon of Gaodealc Peelm in Nature:

See Geodesic Design in Nature: Confirmation Of

gPJtfgJffltX-

**"I am convinced that creativity* la a priori to the integrity of universe
and that life is regenerative and conformity meaningless."**

(Same sentence appears on page 6 of I SEEK TO BE A VERB)

- Otte 11EXICO, p. 103, 10 Oct *63

- Citation at A Priori. 10 Oct*63

Conformity;

"I, myself, am convinced that we are swiftly emerging from the
abysmal conformities of yesterday's illiteracy, profanity, spit-
punctuated monosyllabic verbalism--- old age beginning at 20
and probable death at 2?--- rags, filth, diseased bodies, prevalent
stanches, devastating superstition, and local bias, and above all the
ignorant conformity with the concept that individualism is attainable
through physical differences and throughjelf-prestige acclaiming
superficialities."

- Cite ixXICO '61, p. 101, 10 Oct '63

HBF DEFINITIONS

Conformity:

"••• It is only nan's inertial ignorance and its superstition conditioned
reflexes that bind him, unrealistically, within the nonsensical illusion
of conformity."

- Cite MEXICO* p. 102, 10 Oct'63

Conformity:

"The word 'form' implies direct sensoriality. The word conformity like wise implies direct sensoriality- it means dealing only with forms.'*

- MBgTm_r 4n

- Citation at Forn. 10 Oct'63

Conform!tv t

(1)

See For®

£fla£fixaUx:

(2)

See A Priori, 10 Oct*63* For®, 10 Oct*6J* Invisible Man. (2) Reverse Optinisa, Aug*64

ConfualQB - rufflnt:

See God, 10 Feb*73

See Decreasing Confusion

Conglomerate:

" . . . Each and every absolutely eompacted sphere of the isotropic vector matrix conglomerate. . □

- Cite SYNERGETICS, "Corollaries," sec. 240.50. 1971

KBF UEFINATiCftS

Congruence:

"Congruence is allowable only in the rector equilibrium because we can talk about vectors or about circuitry as a design. Nature is going to have to cone back on itself, it may be very high frequency: but never really straight. Congruence is a phase. At nay be an after-mage. Con-gruence is not simultaneous. Congruence is sleeping In the sane bed after the other guy has gotten out of it. Congruence is nonsimultaneous occupancy. What appears to be congruence will require pulsation, synchronized pulsations of two separate entities."

- Cite rtBF to EJA, in response to latter's request for clarification of how he has in the past lumped the word 'congruence' pejoratively with 'straight lines' and 'axioms' 3200 Idaho, Washington De, 25 Jan *72

Congruence:

"As for instance . . . * congruence.' 'at rest,'

The tfpds 'artificial¹ and 'failure'

Are all meaningless."

- Citation and context at Meaningless, Oct'66

See Kedra

Vector Equilibrium: Zerophae

See Alloy, 19 Dec*73

Vector Equilibrium: Zero Tetrahedron, 3 Nov*73

Pauling. Llnua. 2 Jul'62; 1960

Tetrahedron: Nine Schematic Aspects, 30 Aug'75

See Universal Integrity: Second-power Congruence

Gravitational & Radiational Constants

Conrruence & Incongruence:

Table 81033.192

See Metaphysical Independent of Inbreeding, (2) Synergetics, 19 Jun¹71

Congruence in Modulo:

See Number: Modulo

CnnFillwnt. with Natural

See Modelability, (a)

Congruence with the Points;

See External Flapping

External Point Growth Rate

P.oiMUye»l<?e yjth th? PQjnfr??

See Powering: Second Powering, 17 Nov'72

cgnfrueneg gf Voctgra:

"The phenomenon congruence of vectors occurs many times in nature's coordinate structuring, destructring, and other intertransformings, doubling again with four vectors congruent, and even doubling the latter once again to produce eight congruent vectors in limit transformation cases as when all eight tetrahedra of the vector equilibrium become congruent with one another. This phenomenon often misleads the uninformed observer.**

- Cite SYNERGETICS draft at Sec. 1011.42 18 Feb'73

Ltd

Coneruenctof Vectors:

□Sun totally the four hexagons fat the vector equilibrium-/ have 24 radial dieintegrative vectors and 24 chordally integrative vectors. The unique planes of any two (□□□□b hexagons of the set of four interact with one another in such a manner that the line of interaction (intersection) of the planes is congruent with the radially defined diameters of the two hexagons. This paired congruency of the 24 radial disintegrative vectors of the four hexagons reduces their visible number to 12. While the 24 chordal integrative vectors retrain non-congruent and appear as 24. The congruence of vectors occurs many times in nature's coordinate struduring and destructuring and often misleads the uniformed observer."

CtliH PUT Mli f HPAI Taiami *71 symmryatlcs draft

- Citation at Vector. 25 Mg'71

Congruence of VBrtnr*-

See Congruent Unity

Doubling Up of Vectors

Congruent Unity:

(D

See Doubling Up of Vectors

See Convex *it.* Concave

Frequency Congruence Geometry of Vectors Indig Congruence Lon-
congruence Omnicongruence Paired Congruency Self-congruence
Packing Sphere Tangent with a Plane Sleeping in the Same Bod Fit:
Pressured or Tensed Fit Composite Congruence Face Congruence
with Opposite Vertex Obverse-reverse Quanta Loss by Congruence
i'ulti congruence

See Alloy, 19 Uec'73

Angle: Puraping Fraction Factors , 15 Mar'W Chemical Bonds. (1)
Gravity. 7 Feb*71 Indig, 5 iar'73; Apr'72 Isotropic Vector Matrix, 30
Nov'72; 9 Far'73 Meaningless, Oct'66* Unity Is Plural 28 Oct'73 Vec-
tor, 25 Aug'71* Polarity. 11 Sep»75

Organic 4 Inorganic, May'49 Tidal, 9 Nov'73

Cflngnicnet: Concruant:

See Congruence in the Center

Congruence of Gravitational Ac Radiational Consta-1?

Congruence of Metaphysics &. Physics

Congruence in Modulo

Congruence with the Points

Congruence of Vectors

Congruent with Nature

Congruent Unity

Congruence a Incongruence

cgfiMsUgna findRolnedncM!

"The spheric experience is a high-frequency omnidirectional complex of events and their relatedness. Since it is concerned with the most economical relatedness we can also speak of it as a BBHB geodesic spherical experience. This is where the importance of chords comes in. A chord is abstract, yet tensive. A chord hae pull: we would probably not think about the connections unless there was some pull between them. The function of the chords is to relate. The event is the vertex. The reaction is the chord, the pulling away. And the resultant is the inadvertent definition of the nothingness of the areal and volumetric spaces. The sequence is: Events; Chords; No-events. No-events = Novents. Areas do not create themselves. They are incidental to the lines between the events. The faces are the bounding of nothingness. Areas and volumes are incidental resultants to finding the connections between the events of experience."

- Cite SYNERGETICS draft at Sec. 1023.16, 20 Feb'73

See Balanced Connectors

Epistemological Stepping Stones Four:Stars: Four Star Affair Interrelationships: Fourness & Sixness Interrelationships

Geometrical Interrelatability of Events Geometry of Thinking Interconnection of Systems Multidimensional Connectibility ₂ Number: Tetrahedral Number: N □

Order Underlying Randomness Relationship Analysis Process Relationships

£ann&g.U2ng ;

(2)

See Consideration. 23 Oct'65

Experience, 2> Aug'71

Line, 13 Nov'72

Minimum Set. IS Nov*72

Relevance, 22 Jun'72

Thinking,

Topology, Jun'66

Chord, 20 Feb*73

Irrelevancies: Dismissal Of, 7 Kov*73

ftBF OtrlMTlOKS

Connectivity:

'You gel connectivlty if you hive two— leas thin i plane.”

- Cite wjy in Corcoran Callery Xddreee. Washington DC, 23 hob <12

Connection: Connectivity;

See Chemical Bonds

Couplings

Interconnection

Joint

Multidimensional Connectibility Vertexial Connections Balanced Connectors

Wave Connection

Blo-connection

See Program, 2 Apr'71

Cpnoclgncc:

See Intellectual Capability, May*6\$

cpnKIPMgntgg:

"The vector equilibrium never pauses at equilibrium, but our consciousness is caught in the icosahedron. When mind closes the switch. Our mind, always integrating opens the switch."

- Citation and context at Icosahedron As Local Shunting Circuit, 22 Jun¹72

Cgngclpupnepfl:

"The whole integrity of Universe... the very essence of why there is any consciousness... starts with absolute a priori mystery, within which a priori mystery there suddenly is a lucidly apprehensible mathematical behavior."

- Citation <t context at Whole Systems. 16 Jun'72

cgjiaclgBsngBg!

"Minimal consciousness evokes time

As a nonsimultaneous sequence of experiences.

Consciousness dawns

With the second experience.

This is why consciousness

Identified the basic increment of time As being a second.

"Not until the second experience

Did time and consciousness Combine as human life.

"Time, relativity and consciousness

Are always and only coexistent functions

Of an a priori Universe,

Which, beginning with the twoness of secondness Is inherently plural."

- Citation A context at Second. May '72

KBF u&Fl«±x iul.o

Consciousness:

"ho consciousness: no psycnologist."

- Cite rtBF marginalia at hccles,'Facing rteality,• p. J. 14 Feb '72

CgnSSlgUBMAfl-

"The concept of being alive may be inherent only in the eternal principle of differentiability, and of a theoretical number system, and of complexes of different numbers. Seeming consciousness and life may well be inherent only in mind•conceivable theories of differentiations."

- Cite SYNERGETICS draft at Sec. 529.07, 20 Dec '71

fiBF Dei INITIGNS

"Metaphysically there is an inventory of most recently and experientially gained weightless information within which generalised principles are discerned, which most recent information in conjunction with experientially gained, and as yet valid, earlier information synergetically alters our working assumptions regarding the nature of Universe, both macrocosmically and microcosmically, and modifies the operative criteria of conscious existence within it, and of all the physically transforming complementary complexities which result in consciousness in Universe."

"It is the nature of the history of such experiences that the information is continually multiplying and from time to time catalyzes the reorganization of the total wisdom of consciousness which must occur as old assumptions prove fallacious and new unexpected facts of experience confront the consciousness."

- Cite A Definition of Evolution, pp. 1-2.(NY Times?)15 Sep»71

Consciousness:

"The positive and negative asymmetries propagate the problems of consciousness

- Citation & context at Experience. 12 Sep*71

Consciousness:

” • • • Twoness is the beginning and essence of

with which human awareness begins: consciousness

**of the other, the other experience, the other being, the child's mother.
To describe that which we are aware of we employ comparison to previous experience, . . .**

Other

• Citation and context at 19 Jun* 71

• 1B niiiL-fyynnrrgr.tlaa-iiAaf

hBr UbFINITluhS

”Minimal consciousness evokes a nonsimultaneous sequence, ergo time.”

- Citation at Time. 7 Feb’71

Consciousness:

"And consciousness begins As an awareness of otherness Which otherness awareness

Requires time to become aware of.

And all the statements by consciousness Are in the comparative terms

Of prior observations of consciousness

- 'It's warmer, it's bigger, it's cuter—' Minimal consciousness evokes time

As a nonsimultaneous sequence of experiences. Consciousness begins at minimum As a second experience.

This is why consciousness

Identified the basic increment of time As being a second.

Not until the second experience Did time, consciousness--- Which is human life---

Begin.

- Cite INTUITION draft, Feb'71, pp1-2

Consciousness:

"Time, relativity, and consciousness Are always and only coexistent functions Of an a priori Universe

Which, beginning with the twoness of secondness Is inherently plural.¹

- Cite INTUITION draft, pp.1-2, Feb'71

Consciousness:

"Consciousness means an awareness of otherness

- Cite SYNERGETICS, "Universe," Sec. 302. 1971

«uF DEFINITIONS

Consciousness:

"Consciousness is experience.

Experience is complex Consciousness of being Of self

Co-existing

With all the non-self.

Experience is plural And non-simultaneous Experience is recurrent.
Consciousness of sequences Of self re-experiencing Similar events.

He-experienced consciousness

Is re-cognition.

Recognitions generate identifications Re-cognition of within self
rhythms Of heart-beatings or other identities Generate a matrix
continuum Of time consciousness

- Citation at

Experience. 1971

- err.e HRE-PF5?E

Upon which, like blank music lines, Are superimposed

All the observances by self Of the non-self occurrences."

HdF

"You take the senses away, then there is no consciousness.

Consciousness comes from experience."

- For citation and context see Senses, Watts Tape, p. 14, 19 Oct »70

C?nPCl?u8nf_{gB};

"Each individual's environment of the moment is different from the
next moment and from that of every other individual, though two
or more individuals may think that they are mutually experiencing
the same environment. This is because our environment is the
consequence of our response to and employment of only a few of the
operative factors present.*

- Citation and context at Environment. Jun'66#

- Non* spaauli,

Consciousness:

"Each life as we know it is definitive, i.e., consists of a plurality of terminable, ergo definite, experiences, beginning with each awakening and terminating with each surrender to sleep. . . The intermittent beginnings and endings of conscious experience constitute an aggregate of definitive experiences--- and the aggregate is therefore finite."

— I-ITH IH'EKiJ T*? /'UN IJ}

Eg" 1Pⁿi 11.1 , 1959

- Citation 4 context at Finite_r 1959

Paaaslwa^k SubGongcXoMg:

"I find both intuition and aesthetics have something to do with the interrelationship between the clearly conscious and the clearly subconscious. --- something that goes on without you or I having any consciousness whatsoever. In order to try to give you that there is a twilight zone that is neither clearly subconsciousness--- no consciousness at all --- and clearly something you and I tend to call consciousness. . . "

- Cite ua'iTb TAPE, pp. 21-22, 19 Oct »70

Conscious & Subconscious:

"... Awareness, cognition and spontaneous evaluation occurs in the twilight zone between our only sionsciously monitored and our consciously initiated behaviors."

- Cite OWINGS FOR.VAHL), p. 2 , Dec'69

—IMB Conscious fc Subconacious:

"We ask ourselves questions all day long--- sometimes very minor questions-- and our feedback, unbeknownst to our CQnaC.iQUSnesa> goes right off searching our subconsciously stired special case experience files for the answers. So when you lie down and want to go to sleep, you are often bothered by many thoughts. These are simply feedbacks to questions you asked earlier and have forgotten that you asked."

- Cite NASS Speech, p. 39, Jun'66

CfIngelQUa s»hcgngglg:

"I don't know anything about the subconscious and I have

no right to deal in it and so I have to deal in the conscious and there has to be an attempt to communicate

the experiences."

- Cite OREGON Lecture - p. 277, 12 Jul •62

Conscious &. Subconscious:

"Our conscious orderly reconsideration of our variable lag experiences discloses subconsciously coordinated regularities of feedback rates governing the recall phenomena."

- Cite OMNIDIRECTIONAL HALO, p.132, 1960

See Relevant: Lucidly Relevant Set Twilight Zone Intuition & Aesthetics

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12)

See Antientropic Ordering Principles, May*65

Experience, 1968

Extraterrestrial Humans, 23 Aug*70

Intuition of the Child, (1)

Invisible Architecture. (1)

ian's Conscious Participation in Evolution, May*65

Metaphysical Wave Pattern, 6 Nov*73

Intuition, 1 Feb*75

Man, 6 Jun¹69

Teleolov, 1938

Anger, (3)

Consciousness as. Synchronisation of Time &. Energy?

"The multiply furnished but thought-integrated complex called space by humans occurs only as a consequence of the imaginatively recallable consideration of an insideness-and-outsideness- defining array of contiguously occurring and consciously experienced time-energy events."

- Citation at Space. 20 Oct*72

Consciousness a_g Synchronisation of Time & Energy:

"Time and energy synchronised consciousness of the physical evolution scenario..."

- Citation &. context at Scenario Universe: Physical Evolution Scenario. Feb*72

See Energetic Information

Life as Synchronization of Time & Consciousness

Time & Energy

Thought & Energy

See Brain & Mind (J) Time, 7 Feb*71

Conscious World;

"...The conscious world is in fact energy readily manifest at relative rates of retarded speed, rate being the inseparable relationship of time and space."

• Citation and context at Talent (1)(2), 1938

See Awareness

Conscious & Subconscious

Continuity of Conscious Life Free Will Higher Consciousness Initial
Consciousness Life as Synchronization of Time & Consciousness Man's
Conscious Participation in Evolution Planets: Probable Myriads of
Consciously Operated Planets

Subconscious

Thinking

iii l ti flunuuuourt.y Tuiwd Cosmic Consciousness

Womb of Total Human Consciousness

Time < x Consciousness

Electromagnetic Transmission: Subjective & Conscious

taaaclouc- tonaclwanaa: tu)

See A Priori, 19 Oct*70

Automation of Metabolic and Regenerative Processes,

Dec*69

Asymmetry, 12 Sep'71
 Determinism, 9 May'62
 Environment, Jun*66*
 Experience, 12 Sep'71*» 1971*
 Finite, 1959*
 Intuition, Dec*69
 Life's Original Event. May*72
 Icosahedron as Local Shunting Circuit, 22 Jun*72*
 Life Is Not Physical, 13 Jul*74
 Other, 19 Jan'71*
 Otherness. 28 May'72
 Reading, (1 }
 Scenario Universe: Physical Evolution , Feb*72
 Second, 1-May*72*
 Senses, 19 Oct*70
 Sea Time, 7 Feb*71; May* 72; Dec'71
 Whole Systems, 16 Jun'72*
 Individuality & Degrees of Freedom, (3)
 Thinking, 30 Sep'76
 Interrelatedness ve. Names, (1)(2)
 °QnflclQUJ: °QDsdQuanB2a«
 See Conscience & Subconscious
 (3)

Conscience as Synchronization of Time & Energy Conscious
 World

R3F DEFINITIONS

Conservation:

"Conservation will no longer mean withholding from use, but insistence upon widest, practical, active, usefulness. . • The new scientific era conservative is inherently committed to multiplying reinvestment of capability which is complex and provides the only experimental test of synergy. The conservative realizes that the more that wealth is usefully reemployed, for more people, the more wealth is amplified. ... Inuustry and biology are metabolic; they grow.**

THi DESIGNERS AND THE POLITICIANS,

rp. 503-304.

Conservation of Energy:

"Cosmic energy is finite,"

- Cite Miseums Keynote address Denver, p, 11, 2 Jun'71

•Science's law of conservation of energy states that 'energy cannot be created or destroyed*• Energy is therefore irreducible.

"Science states that the entire physical Universe is energy. $E = Me^*$. Some of the energy is operative in associative patterns--- as natter. The associative energy-as-matter is organised in leverage systems to do work. The dicassociative energy patterns--- as radiation--- are transformed into free energy to be directed to impinge on the levers."

- Cite TO MAINTAIN MAN AS A SUCCESS. U or O. pp.228-229. 58 Kar'65 '

See Closed System: Conservation of Energy Inexhaustible " Finite Local Change Local Conservation

Unit Cosmic Energy

See Boltzmann Sequence, (1)(2)(5)

Lnergy, Jun'66

Iceberg, 26 Sep'65
 Intertransformative, Oct'66
 Isotropic Vector Matrix, 24 Feb'72
 Nonsimultaneous, Jun'66
 Reflection, lay'72
 Star Tetrahedron & Vector Equilibrium, 9 Nov'73
 Trinity: Equation Of 1938
 Unitary Totality, 1959
 Universe, (2); 9 Jul'62

./hole System: Synergetics Principle Of, (1) Human Being. 2 Jun'71

Multiplication by Division, 20 Jan*77

_ Principle Of CoMervation:of1f Fini,t >1 idMMBjjjHBF

(Corollary of Principle of Angular Topology)

•We may call this synergetic phenomenon--- the synergetic principle of conservation of Universe--- which continually simplifies and contracts the generalised description of principles apparently operative in all special-case experiences, the •Law of Decreasing Confusion,' or 'Law of Contracting Universe,' or 'law of Diminishing Chaos, or •Law of Progressive Order, or 'Law of Contractively Orderly Generalisations.'

"Metaphysics and physics are seen to cofunction, to conserve progressively the self-regeneration of nonsimultaneously and overlappingly evolving Universe. Man's function in Universe is metaphysical and antientropic. He is essential to the conservation of Universe, which is in itself an intellectual conception.

- Cite RBF Ltr. to Doxiadis, pp.310-311, 20 Jun'66

Principle Of:

Conservation Finite Universe:

(Corollary of Principle of Angular Topology)

"By our systematic accounting of angularly definable, concave-convex local systems we discover that the sum of the angles around each of every local system's geodesically interrelated vertexes is always two vertexial unities less than universal nondefined finite totality. We call this discovery the law of finite Universe conservation. Therefore, mathematically" *pealtng_t all defined conceptioning' always equals finite Universe minus two. The indefinable quality of finite Universe inscrutability is exactly accountable as two."

- Citation At Angular Topology: Principle Of. 1960 , incorporated - in SYNERGETICS text at sec.

Principle Of;

Conservation-""—lllllll " I

(Corollary of Principle of Angular Topology)

"Synergetic a c count injfid vantage is extended by our law of nonsimultaneous finite Universe pattern conservation to embrace definitive consideration of any and all experiences, physical or metaphysical. The latter strategically equatable accounting advantage derives from a corollary of synergy which shows that systematic accounting of the behavior of whole aggregates may disclose discretely predictable angle and frequency magnitudes required of some unknown components in respect to certain known component behaviors of the total and known synergetic aggregate. Therefore the definitive identification permitted by the law of finite Universe conservation may implement conscious synergetic definition strategies with incisive prediction effectiveness, possibly of epoch-initiating magnitude."

- Citation At Synergetic Advantage: Principle Of. (2) (3), 1960

See Metaphysical, May*72

Radiation-gravitation: Angular Functions, 9 Jan*74

<?gn>trmian *Qt* cmitr;

See Gravity, 11 Feb'76

CpnoBFraction of laUllaste

• Conservation will no longer mean withholding from use, but insistence upon the widest practical active usefulness«... The law of conservation of intellect tells us tht human use of intellect always improves human capability. •

- Cite DESIGNERS *k* POLCTICWiS, (141), p.303, 1962

See Tepee: Half-spin Tepee Twist, 20 Feb'73

Sec. 1012.37

Conservation Model:

bee Octahedron as Conservation a Accommodation Model

Conaarvatlon of Oanldynmlc UnlT «r.q;

See Oranidynamle, 7 Oct*71

CflnMrmlwi Fiaaflj

(i)

See Contracting Metaphysical Universe

See Syntropy & Entropy, (A)

**See Local Conservation Metabolic Conservation Pattern Conservation
./ildemess Resource**

Cgnaerva tiQ,n: cpnggnM: (2}

**See Antientropy. 20 Jun'66 Metaphysical & Physical, 20 Jun'66
Sphere, 28 Oct'73**

csnaKBUsn:

13)

**See Conservation of Energy Conservation of Finite Universe Conser-
vation of Syunetry Conservation of Intellect Conservation Phase Con-
servation of Oonidynastic Universe Conservation Model Conservation
of Interval Conservation of Gravity**

RBF DhFL<ITIGhS

Conservatism:

"The whole idea of conservatism is really built on this idea that the Universe is running down."

- Cite RBF at SIMS, U.Flass., Amherst, 22 July '71, P. 25

Conservatism;

*• ... Classical scientists assumed that their second law of thermodynamics, called entropy, which shows that every system is continually losing energy, means that the universe as a unitary system is continually losing energy and must dissipate eventually to self-extinction. Because of this

, , twentieth

the classical scholarly world at the turn of the century assumed that the running down, of course, included our economic wealth. Therefore, wealth must be inexorably and continually depleting. This gave rise to the conservatives who, having wealth, abhorred spending which seemed obviously to accelerate the exhaustion of their advantage."

- Cite NASA Speech, p. 26. Jun'66

TnXT CITATIONS

Conservatism:

Synergetics, 2nd. Ed., : Sec. 935.12, 23 May'75

SfuiuctaUia:

See Conservation. 1y62

Wealth, (C)

Conaider:

"It is awareness itself which is in all the asymmetries, really, and the pulsations are all consequences of just thought itself., the ability of Universe to consider itself to look upon itself.*

- Citation & context at Thought. 31 May'71

Considerable:

^WA11 dimensions are simultaneously considerable

- Citation at Dimension. 29 Nov'72

Considerable:

"Conception is metaphysical;

Observation is physical

And the observed is physical. Conception finds significance Of the observed

In the terms of that Which is no (longer /) observed But is recallably considerable."

- Cite RBF Draft BRAIN &. MIND, pencil, 1971

Considerable Set:

"The Universe of total man experience may not be simultaneously recollected and reconsidered, but may be subdivided into a plurality of locally tunable event foci or 'points' of which a minimum of four positive and four negative points are required as a considerable set; that is, as a first finite subdivision of finite Universe. (This fourmass coincides with basic quanta strategy.)

•All experience is reduced to nonsimultaneously 'considerable sets' and hold irrelevant to consideration all those experiences which are either too large and therefore too infrequent, or too minuscule and therefore too frequent, to be tunably considerable as pertaining to the residual constellation of approximately congruent recollections of experiences.

•A 'considerable set*' inherently subdivides all the rest of irrelevant experiences of Universe into macrocosmic and micro-cosmic sets immediately outside or immediately within the considered set of experience foci."

- Cite Intro, to OMNIDIRECTIONAL HALO, p.125, 1959

Considerable Bet:

"It is a corollary of this first subdivision of universe that a considerable set is a locally definBOitive system of Universe returning upon its considerability in all circumferential directions and therefore has an inherent withinness and withoutness, which two latter differentiable functions inherently subdivide all universe into the two unique extremes of macroBHHM ^{an<} micro frequencies."

c-jgj - Cite INTRO, to OMNIDIRECTIONAL HALO, p. 125_t 1959

Consideration:

"When we have found all the relationships between the number of items of our consideration we have what we speak of as 'understanding.*. The word 'consider' derives from the Latin words for 'together' and 'stars.' When we understand, we have all the fundamental connections between the star events of our consideration."

- Citation *k* context at Star Events. Oct*65

Consideration:

"The word con-sider-ation comes from 'sidus,' the Latin for star, the focal point of an as yet nondifferentiated concentration of events--- ergo, con-sider-able. or con-stellar patterning, means an exploratory grouping of 'stars' or complex idea entities that seem to man's limited tuneability to stand out together."

- Cite OMNIDIRECTIONAL HALO, p. 131, 1960

STfcR Stc J/o o4)

* > cgnaldqmiQDi

"In a con-sideration four is the mininum number of stars having an Inherent arrangement of withinness and withoutness. . . . The minimum . . . set, affodding macromicro separation of Universe, is a set of four local event foci. These four stars have an Inherent sixneas of relationships. This four-foeijsix-relationship set is definable as the tetrahedron. This minimum fourness . . . of stars coincides with quantum mathematics requirement of four unique quanta numbers per each uniquely considerable •particle.**'

---CTr.r QIAtildhail auBju. nLLO, p. IiJJ, IfrAO - Citation fc context at Star Events. 1y60

$S rM ' e t > e r s \sim _ 5/4.0$

Consideration:

"All the words in the dictionary do not make one sentence; all the words cannot be simultaneously considered. yet each of the words is valid as a tool of communication; and some words combine in a structure of meaning."

- Cite p. 66, Fig. 1. caption

Sfln81dar*tiBn JnitiKlw

See Inadvertent, 30 Nov*72

See Minimum Consideration

Parts: Each Part in View of the Others Tetrahedron Discovers Itself & Universe Universe Considers Itself World Looks at Itself Self-consideration Reconsider: Reconsideration Self-considerate Society

Poles of Inward-outward Consideration Nonconsiderable

Thinkaboutability

Consider: Considerable: Consideration:

See Comprehension, 29 Sep'76

(2)

See Expense: Without Any Individual Profiting at the Expense of Another

Golden Rule

Humanity-considerate Technological Accommodation

Interfere: Enjoyment of all the Earth without One

Individual Being Interfered With

Omniconsiderate

Robin Hood Sequence

Trespassing: Not Trespassing

Unselfishness

Humane City

See Invisible Architecture (F) Design Science, 2 Jun'71 Law, Kay*65

Human Tolerance Limits, (4) Squatters, (1)

ID

See Consideration for Others Humanity-considerate Omniconsiderate Trespassing: Not Trespassing Interconsiderate

See Environment Controls, (1)(2) Orbiting, 5 Jun'73 General Systems Theory, (1) Will, (D

(2)

Considered Set:

"What we do in thinking, after deliberately excluding the irrelevant and thereby inadvertently isolating the considered set is to further subdivide the universe into four parts;(1) All the parts of the universe which are external because too large and infrequent, and (2) all the events of universe which are internal because too small and too frequent to be resolvable and discretely differentiated out for inclusion in our interrelationship considerations, (3) all of the lucidly relevant remainder of universe which constitutes the considered and reconsidered set of experiences as viewed from outside the set, and (4) the lucidly relevant set as viewed from inside' the set. Part (1) is the untuned macrocosmic long wave length, low frequency, high energy set; Part (2) is the untuned microcosmic short wave, high frequency, low energy set; and Parts (3) and (4) are the tuned, plus-minus, interface sets."

- Cite NASA Speech, p.p. 40,41 , Jun *66

ttulinifnue fCT — sec. SCrt.°7

See Thinkable Thinkable Set Think-aboutedness

Constellar; Constellation

Consideration Initiative Fireworks Prime Otherness

Helevant: Lucidly Relevant Set Star Events

Universe Considers Itself No Considerability Unconsidered

See Boats at Anchor Retard the River's Flow, 19&0

Comprehension, 1960

Dimension, 29 Nov*72*

Now, May'72

Scenario Principle, 1959

System, 29 Dec*58

Surface, 17 Feb*72

Tetrahedron, Oct*65

Thinkability, 26 May*72

Thought, 31 May'71*

Twelve Universal Degrees of Freedom, (2)

Words, 2 Jul'62

Omnihalo, Nov'71

Consistency:

"Don't try to make me consistent: I'm I'-arnin' all the time."

(This was copied, by permission, by Hugh Kenner, for BUCK!. See also flap copy.)

- Cite HBF to EJA, 3200 Idaho, 'JC, 22 Feb '72

Cg.n.slffcfingj: Cgnplsveirt:

"If I as being absolutely consistent about Universe system and structure all go together..."

- Citation *It.* context at System of Structure. 16 Aug'70

See Cosmic Consistency

Learning vs. Consistency

p9Wlld*tiMP g.sMfUd<»tari

ii)

See Gains Consolidator

See Scenario Unireree, 22 Apr*6d

See Angular Constancy Angular Invariability Equiangularity Unia-
angular

See Cosmic, 3 Oct'72

Powering. 12 Sep*71

Vectorial Topology, 17 Nov'72 Systematic Realisation, 20 Dec*74

Conetante:

"Only eternal conatanta can be generalised."

- Citation and context at Eoniaiurularity. 25 Sep'72

Constanta:

"Generalised principles are often called constants by the seaantics of scientific specialisation whose viewpoint is myopically inadequate. Constancy is a time concept. Tine is relative and cyclically terminal. Time is energetic, physical--- is ever finitely evolving, which is the opposite of "constant."

- Ette-ByeyFuss-Preface.- "Decaaa-e-of Meaning" -2S- AprU-1971, p. 5

- Citation at Time. 28 Apr'71

BBFIEFI11ITI0NS

"Relationship constants are always prodlasted on limits. Only limits are invariable. (This is the very essence of the calculus.) Variation is between limits."

Cite STHEBGETICS draft at Sec 223.82, 26 Sep'73

Constant Interrelatlonahlce:

See Schematic of the Principles, 10 Sep*74

Constant vJ. Ph vol cal;

See Constanta, 26 Apr*71

Sec. 529.05

cgncfcant fiolaUYff Abundwg:

"...Synergetics, by relating energy and topology to the tetrahedron...
dI B closes a constant relative abundance of the constituents; i.e.. for
every nonpolar point there are always two faces and three edges."

- Citation and context at Synergetics, 26 Sep'73

"Polar points, nonpolar points, areas, and lines have uniquely different cosmic abundances. In the same cosmically unique differentiability there are three uniquely coexistent dimensions:

Nonpolar point - Areas - Lines."

- Cite SYNERGETICS draft at Sec. 527,11, 29 Nov'72 "The rhombic dodecahedron six is entirely outside, but twelvefold dedly tangential to, the initial sphere. The cube, part inside part outside the sphere is three. The octahedron, mostly outside but partly inside the nuclear sphere, is Four. Vector equilibrium is 2.5, and is entirely inside the sphere with its 12 external vertexes congruent with the surface of the nuclear sphere at the same 12 points of tangency inside the sphere as the 12 points of the same initial sphere at which the rhombic dodecahedron is externally tangential; and the initial vector equilibrium's central vertexes are congruent with the volumetric center of the initial, i.e., nuclear sphere.

"It was our synergetics' discovery and strategy of taking the two poles out of Euler's formula which permits disclosure of the omnirational constant relative abundance of V's, F's, and E's, and the disclosure of the initial additive twoness and multiplicative twoness whereby the unique prime number relationships of the prime hierarchy of omnisymmetnc polyhedra occurred, showing tetra = 1; octa •= 2; cube « 3; VE + Icosa •= 5.

- Cite SYNERGETICS draft at Secs. 527.61 +62, 29 Nov'72

"Systems immediately divide universe Into an outsideness And an insideness

And a little bit of the universe
*hich is the dividing system itself—
Xhich always consists
Of a constant relative abundance

Of the lines, crossings, and areas In which

$C + A - L + 2$.

”And because of th is Constant relative abundance

Ahole pattern behavibns Of all our experiences--- a'hen properly
conceptioned--- Can be comprehensively differentiated, Topologi-
cally equated, Observed and considered."

- Cite INTUITION Draft Feb. '71, p. 15

"There is one more number that comes in which is the prime numbers,
1, 2, 3, and 5, so that I discovered then I can say that the topology of
all of these fundamental geometries is such that they are always a
constant relative abundance of one, two, and three vertex, face and
edge and a multiplicative of two, and an additive of two, for the spin."

Cite LcDGEXCKT LAB Lecture, 15 Oct 'fe,4, pp 69-70.

See Conceptual Systems

Interrelationships: Fourness At Sixnesc

Polar Vertexes

Relative Abundance

Prime Number Inherency «t Constant Relative

Abundance of Symmetrical Structural Systems:

Principle Of

Topopogical Abundance

Triangular Topological Integrity

Euler

Crossings, Openings At Trajectories

Events, Novents at Event Interrelatabilities

Fixes, Discontinuities At Continuities

Joints, Windows Struts

Points, Areas A- Lines

Vertexes, Faces at Edges

See Axis of Spin, (4)(6)

Multiplicative Twoneas, Jun'71

Probability. 18 Feb'72

Stars: Implosive Forces Of, 22 Ju}'71

Synergetics, 26 Sep*73*

Thought, hay'72

Topology, 25 Feb'69; 10 Sep'74

Topology: Synergetic 4 Eulerean, (2); 16 Nov'74 Frequency. Jun'66

Twelve Universal Degrees of Freedom, 1 Feb'75

Domain 4 Quantum, (1)(2)

See Islanded Radiation *6c*. Tensional Constancy

gsmmti t YarHVln:

(2)

Sae Twelve Uninraal Dagreaa of Fraadoa (2)

Einstein, 16 Nov*72

TKXT CITATIONS gogaunt vplw 961.10-961,12

See Modules: A & B Quanta Modules: Constant Volume Photon:
Tetra Edge as Unit Radius Tetra Edge

Qppgwt ^z«ilth Projection*

”That’s been the right name for my map all along: the

’constant zenith projection! • •

- Cite RBF to EJA, 3200 Idaho, Wash DC, 10 Sep'74

See Dymaxion Airocean World Map Transformational Projection
Zenith Constancy of Radial Coordination Omnidirectional Typewriter

See Synergetics, 1\$ Jun*74

Dyraaxion Airocean World Map, (a)

Coordinate Invariant See Constanta & Variables Electromagnetic
Constant Fuller's Vector Constant Gravitational Constant Inter-
relationships: Fourness A Sixness Inventory of Formulations A.
Constants Irrational Constants Radiational Constant Synergetic Con-
stant System Constants Temperature of the Human Body Variables
Time vs. Constant Zenith Constancy of Radial Coordination Dymaxion
Vector Constant Invariable: Invariant Angular Constancy Tensional
Constancy

See Dynamic Frame of Reference (5) Einstein. 16 Nov*72 Equian-
gularity, 25 Sep'72* Line, 7 Nov *72 Nature Permits It Sequence (2)
Tensegrity: Twelve Pentagons, Aug*72 Time, 28 Apr*71* Energy,
1? Jun*75 Topology, 11 Dec*75 Apprehension + Comprehension -
Awareness, 26 Jan*76 Frequency & Wave, 19 Dec*74 Hites * Quarks
as Basic Notes, (3)

Cgnatfintp: fionaunvy?

(3)

See Constant Interrelationships Constant ve. Physical Constant Relative Abundance Constants k Variables Constant Volume Model Constant Zenith Projection

cgpgttUar-

"Constellar means an aggregation of enduring, cosmically isolated, locally co-occurring events dynamically maintaining their interpositioning: i.e., macroconstellations such as the 'Big Dipper,' 'Orion,' and the 'Southern Cross;' and microconstellations such as matter in general, granite, cheese, flesh, water, and atomic nuclei."

- Cite RBF rewrite at SYNERGETICS SEC. 600/0. 3 Oct*72

•The regenerative patterns of structural events may be described as constellar because their component events interfere tensively in high-frequency, dynamic, self-regenerative patternings which only superficially seem to stand together as 'static' structures. Star groupings 'fly in celestial formation, though seeming to hang motionless in the celestial theater. Any event patternings that become locally regenerative are constellar patterns. They are momentarily conceptual."

- Cite STNERGETICS text at Sec. 510.08, May'71

Constellar:

"The word 'space' is conceptually meaningless except in reference to intervals between high-frequency events momentarily 'constellar' in specific local systems."

- Citation & context at Space. May*71

Constellar:

"Constellar means an aggregation of events

standing dynamically together, i.e. star groupings.”

- Cite RBF SYNERGETICS Draft Mar »71

Constellar:

"The regenerative patterns ... of structures ... may be described as constellar because their component events stand dynamically together like star groupings, and any event patterning which becomes locally regenerative are constellar patterns."

--ette KEPBS,--p.

- Citation and context at Star Events r 1965

cpngtellar: CgnstflUatlan?

See Boats at Anchor Retard the River's Flow Consideration Fireworks
Hierarchy of Constellar Configurations Star Events

See Comprehension, 1960

Design Covariation: Principle Of, 1959

Space, Way'71*

Structure Sequence, (1)-(3)

Pattern Conservation, J Oct*72

Geodesic Domes, 24 Jan'58

Conatituenta: Constituent:

See Event, 23 Jan*77

See Integrity, 20 Apr'72

Consumer:

See Individuality, 1947

Cantfist galnfieldfnco-

See K1M: Locked Klæ, 19 Oct*72

Qoqained Tima:

See Eternal ft. Temporal, 25 Apr'71

Container:

See Discrete Hands Package Vessel

See *Out” «B the Containing & the Contained

See Cosaic Discontinuity 4 Local Continuity, 15 Jan'74 Hlerachy ot
Patterns, 1954 Instantanelty, 2L Apr'71 Tetrahedron, 26 *«p*73 Twi-
light Zone, 22 J_un*75

Contliuom: £2BUS«liX:

So® Noncontiguous

Continuity Of Conacioua Life;

See Personality, May'49

See Eternal ve. Finite Period!c-continulty Scenario

See Scenario Universe, Dec*69

(2)

Continuous Man:

"Continuous men, yes. This is implicit in what's going on right now. There might someday be a continuous man, something like the continuous Scenario Universe. Man would then have an enormous information resource which would enable him to cope with very much larger problems, man very probably coming into quite a new function relation to Uinverse, having nothing to do anymore the struggle to stay alive."

I see in with

- Cite Barry Farrell, PLAYBOY Interview, 1972. Pp. 6-7.

RBF DEFINITIONS

MB Csninugus, Man:

"I think we may be coming into a phase now where there is only one Universe, only one lifetime. I see a regenerative awareness coming on where in the next age we'll be not only looking out for the living life of everybody but also for everybody to come. . . Maybe we'll be able to leave this planet, and get on to other planets and fix them up as each one gets ready to be a star."

- Cite RBF in Barry Farrell Playboy Interview, 1971, Draft* p. 4.

HI>F DEFINITIONS

"I have given the name 'continuous man' to the slowly accumulating total world experience and total literate knowledge regarding all the discovered physical resources and generalised patterning principles-- in contradistinction to the illiterate, discontinuous man. local in time and geography, whose nonrelayed, experience-won knowledge limited his tool capabilities to devices which any one individual might invent entirely on his own initiative, starting nakedly in the wilderness. My definition of industry is a tool-regenerating complex in which none of the tools could be produced, operated, or used by one man--- for example, the Queen Mary, Grand Coulee dam, the Pennsylvania Turnpike, etc.

"All around the world are found unbelievably large heaps of artifacts of discontinuous man, each, in effect, starting all over again learning a little, incorporating the little in hand-crafted tools, dying without comprehension of aught but the local limitations and inadequacies of his infinitely surrounded and apparently exclusive local reality."

- Cite CONTINUOUS MAN, I&I, pp.282-283, 1963

Continuous h.an: (2)

"Though one-third of our time is pre-allotted to the discontinuance of consciousness as sleep, the rotation of night as a shadow around the Earth results in a rotating wave of shadow sleepers, while two thirds of all mankind are at all times continuously awake. My continuous man represents a world- around .interlinked and continuously intercommunicating continuity of consciousness, which with the spoken word and the invention of mathematics and discovery of generalized principles operative in Universe and the discovery of the total resources of Earth and the character of the total resources of Universe, constitute a continuous extracorporeal memory and a continuously enlightening experience, continuously translated into continuously improving extracorporeal rearrangements of the total resource of unique pattern behaviors of physical Universe within which only individual man is engulfed in an inherent island of physical discontinuity. The individual is linked, however, to continuous rran by the extracorporeal intellects recognized by individual intellect.

"Continuous extracorporeal or industrial man is an extracorporeal tool or pattern inducing continuity which renders industrialization^{1*}

- Cite CUKTIUUOUS MAN, loci, p.283, '963

"identifiable as an extracorporeal universal chromosome common to all men's post-natal evolutionary transforming beyond the patterning corporeally induced by the integral genes and chromosomes. The latter having so far failed to disclose any integral memory capable of inhibiting new pattern-conceiving potentials; therefore industrialization may well be the second derivative, synergetic-surprise capability to remember and teleologically realize evolutionary pattern controlling.

"Continuous man's intellectual capability multiplies geometrically as his experiences accumulate and their observed data are recorded and converted to the extracorporeal chromosomic function of anticipatory patterning. Industrialization, or our continuous man, knows no national or political favorites. Continuous man's laws are of the Universe and are only realizable through its comprehensively integratable and multipliable world and Universe resources. The intellectual integrity of the industrial equation utterly reverses the history of inherent inadequacies of local agricultural and craftable resources.

- Cite CONTINUOUS IAN, IJcI, pp.283-284, 1963

"As a result, the enormous energy-relaying patterns of Universe are continuously shunted by consciously continuous man in greater magnitude into the man-world patterning and applied to the ends of increasing numbers and lengths of levers. This tooling is in itself regenerative as man stands apart from and surveys and critically appraises and improves its working. There tooling rearranges universal energy flow patternings from which physical man can detach himself and enjoy new degrees of a priori energy environmental patterns control. In satisfaction of man's consciously apprehended needs and desires, his time is freed by the tooling to be invested in more perspective for realization of more tool invention. Tool capability becomes reinvested in improved tool birth and mass tool reproductability.

`` So enormous is the energy wealth of Universe and so great is the memory and intellectual wisdom of continuous man: in respect to his previous experiences, and so fundamentally has he intertooled his advantages, that it is completely clear that all men may now be successful in living in a progressively satisfactory enjoyment of total Earth. This was unthinkable at the time of"

- Cite CGKTII.UOBS I-1AK, litl, p.284, 1 yf>3

"the Declaration of Independence. It was still unthinkable at the time of Marx and Lenin, though its pre-dawn and dawning must have bestirred the intuition of support of both the American and Russian revolutions, respectively. Lincoln initiated 'right makes might.'"

- Cite CONTINUOUS MAN, 1*1, p.284, 1y63

TRIT CITATIONS

.c-9Jltlm>9Ug »AP:

Total Thinking, Ifcl, p.226, May'49

The Prospect For Humanity, Trend No. 1, WDSD Doc. 3, p.66, Aug'64

[III □ `` Ideas and Integrities]

SanUasaMJian:

See Group Memory Industrial Man Nine Chains to the Moon New Life
Old Life Tools: Craft & Industrial Extension vs. Extinction Interlink All
of Humanity Individual tc. Group Principle

J'ings t Complex Unlveree

See Calculus, May*49

Man as an Invention, 1 Apr*49

Words 4 Coping, 7 Nov*75

Regenerativity, 17 Jan*75

Human Beings & Complex Universe, (10)-(15)

Continuous Pattern St.,jp:

See Tetrahelix: Continuous Pattern Strip

See Continuum

Discontinuity & Continuity

Local Continuity

Moving Picture Continuity

Old Life

Scenario

Periodic-continuity

Omnicontinuous

.<'oman is Continuous

fignUia>XJir= Sw&laMfiM:

(2)

See Crystalline. 9 Dec'73 Female, 20 Apr*72 Industrialisation, 1
Jun*49 Universe, 4 Kay*57 Personality, May'49

Seo Area

No Absolute Enclosed Surface or Volume

No Continuum

Novent Continuum

Opening

Superficiality

Surface

Gravitational Continuum

Aggregate f Continuum

Contraction:

"Gravity cannot be focused; it is circumferential
contraction."



- Citation at Gravity. 7 Feb*71

As a chord turns into an arc the radius contracts.

- For citation and context see Vector Equilibrium: Spheres apfl 31 May
*71

Sea Trough as Contracted Phase of Universe

See Conservation of Finite Universe: Principle Of, 20 Jun'66

See Conservation of Finite Universe: Principle Of, 20 Jun'GG

See Expanding Physical Universe to. Contracting Physical Universe

Sea Comprehensive Universe, (2}

Wave Pattern of a Stone Dropped in Liquid, 16 Feb*73

See Absolute Contraction

Expanding & Contracting

Gravity

Symmetrical Contraction

Twist-and-torque Contractions

See Conservation of Finite Universe: Principle Of, 20 Jun'66

Gravity, 7 Feb'71*

Vector Equilibriun: Spheres & Spaces, 31 May'71*

Dymaxion Airocean World Map, (2)

Contract ora:

See Prine Contractors

See Ignorance, (2)

See Cube: Diagonal of Cube ae Control Length Mensural Unity Tetra
Edge Prime Vector

See Cube, 6 Nov*72

RBF DEFINITIONS

control Quantum

"Shoji and I working on Tables. Making one big change, i.e. majoring A (or B) Module as unity, ergo, regular tetrahedron -24. Nothing new, but wish it to be the control quantum.*

- Cite RBF Ltr. to EJA, Ashoka Hotel, New Delhi, 19 Apr¹73

See Automation

Design Control

Environment Controls

Environment Control Valvs

Feedback Servomechanism

General Systems* Mathematical Control Matrix Omnirational Control
Matrix Pulsating Controls Push Button & Dial Systems Rudderling
Shunt Steering Valving Morphological Control Codings Internal
Control of Distortion Information Control System

See T_ruth, 30 Jun»75

General Systema Theory, (1); (B)

Convergence:

"Convergence to frequency magnitude is tunability. As with all wave phenomena, tunability is in terms of whole cycles converging to a vertex. . • "

- Citation and context at Cycle. 10 Feb¹73

Convergence:

"In the topology of synergetics powering is identifiable only with the uni-angular vectorial convergences. The number of superficial radiantly regenerated vertex convergences of the system are identified with second powering, and not with anything we call*reas," that is, not with surfaces nor with any experimentally demonstrable continuums."

- Cite SYNERGETICS draft at Sec. 962.21, 16 Nov»72

cgmrcfflc*:

"Points are energy event aggregations; when they are beyond the critical fall-in proximity threshold they orbit coordinately as loose pebbles on our Earth orbit the Sun . « . •

- BffT»rly__intel» New fork, 19 June 1971

- Citation and context at Point , 19 Jun'71

Convergence:

" Euler Mid, 'If I have two lines, where the two lines cross is distinctly different from where the lines

don't cross.' He called this the vertex, the convergence.

He Mid this is absolute pattern uniqueness."

- fT, p»-*45. 11 Jul'62

- Citation at Vertex 11 Jul'62

Convergence:

** • • • The coordinate system employed by nature uses

60 degrees instead of 90 degrees and also the lines don't go through a point* But they are 60->degree convergences. even though the lines don't ever get together* They get into critical proximities and there are domains of the convergences* . . even though they are open as you get to the non-closed convergences.**

- Cire-egaiLXacwro #4,p. 133*
- Citation and context at Sixty Degreenesq, 6 Jul'62

"Relativity is inherently convergent, though converge toward a plurality of centers of abstract truths* * * •

- Citation and context at Relativity. May<49
- °onYorfcfinGB & Ply.flrgfiMfl!

"..You all went to school being taught the XYZ coordinates of parallels and perpendiculars.But Universe is not operating that way. Universe is operating in radiatlional- divergence and gravitational-convergence. Divergent and convergent: that's the way Universe operates. This is nothing like the XYZ coordinates and all that--- they have nothing to do with the way Universe works. Things in parallel never get resolved. Convergent things get beautiful ly resolved, they get exactly... they get nature into a corner.... That's why you couldn't have a nucleus in a perpendicular or or a parallel system. You can only have nuclei when you have convergence. And that's why I say how far out our schooling really is.'*

(Incorporated in SYNERGETICS 2 draft at Sec. 260.34.)

- ‘ t context at frecasnlmn of Two Sets of in Closed
- CiteE?¹ talfat'America h J'u.fatural History, j nay'77
- Convergence & Divergence:

"Everything we call structure is synergetic and exists only as a consequence of interactions between divergent (compressions!) and convergent (tensional) forces."

- Citation & context at Structural Sequence. (D), 8 Sep'75
- CflxiTergence & PITergmce-
- ... Parallelism permitted²⁸.* no convergence or divergence.

28 Citation fc context at Model abl 11 t,y, (c), 6 Jun'75

A_b SYNERGETICS makes clear, nature does converge and diverge, else there would be no radiation nor gravity nor propagation.

Convergence & Divergence:

"We do not arrive at dimensionality by virtue of perpendicular or parallel assembly. Dimensionality in synergetics provides for assembly only by convergence and divergence. This accounts for the spontaneous and continued frustration of conventional mathematical accounting when confronted with the problem of assembling a nonpolarized omnisymmetrical object by joining two identical halves of the multifrequenced, closest-sphere- packed tetrahedra, each of which has five similar facets; two of which are equiangled triangles; two of which are trapezois; and the fifth being a non-equi-edged parallelogram. Matching any of these faces produces asymmetrical polarized objects.

One of the non-equi-edged parallelograms must be precessionally rotated to cross the other at 90 degrees when it will be seen that the converging-diverging patterns of the two halves are symmetrically realized."

- Cite SYNERGETICS, 2nd. Ed.,
at Sec. 527.08; 9 Apr'75

HBF DEFINITIONS

Convergence and Divergence:

"Convergence is involuting; divergence is evolving."

Citation and context at

Three-Petaled

ggnYgwnca and PiTtnonco?

"A convergence has its domain in: and a divergence has its domain out."

- Citation and context at Domain. 11 Feb*73

Convergence(fc Divergence:

"Einstein's adoption as normal speed, the adoption of electromagnetic radiation expansion— omnidirectionally in vacuo— because the speeds of all the known different phases of measured radiation are apparently identical, despite vast differences in wavelength and frequency, suggests a top speed of omnidirectional entropic disorder increase accommodation at which radiant speed reaches highest velocity when the last of the eternally regenerative universe cyclic frequencies of multi- billions of years have been accommodated, all of which complex of nonsimultaneous transforming multi-varietled frequency synchronizations is complementarily balanced to equate as zero by the sum-totality of locally converging orderly and synchronously concentrating energy phases of scenario universe's eternally pulsative, and only sum-totally synchronous, disintegrative, divergent, omnidirectionally exporting and only sum-totally synchronous integrative, convergent and discretely directional individual importings."

- Cite RBF to EJA in response to request to repeat his

'brief sentence' on sphere as meeting of convergences. See SYNERGETICS draft, 'Tension and Compression,'

- Citation at Radiation: Speed Of, 1971 1971

BConvergence & Divergence:

"... Four dimensionality works in convergences and divergences and not in parallelism."

- Citation and context at Fourth Dimension_T 11 Jul*62

Convergence and Divergence:

"A vertex is in convergence and a face is in divergence.»

- Citation and context at Gravitational Svalen Zone, u Jan>55

cpnYtFfignc* ^an4 Dligrjwnw

"In topological systems vertexes are finite relationships; turbo-systemMjJln convergence tendencies; and faces are finite sections of infinite open-angle divergent tendencies."

› Note»* P«9. et.seq.j 1955. Incorporated in
SYIk.RGz.TICS AT Sec. 647.10, 1 Oct»72

"Convergent point, line, curve, or divergent surface, volume, and event, differentiation...^w

- Citation and Context at Zero Inflection. 16 Aug'50

See Fourth Dimension Motion: Six Positive t Negative Proximity t Remoteness Powering: Fourth Powering Energetic Functions Tepee: Half-spin Tepee Twist Tetrahedron: Polarity Of Torque at Center of Convergence Interweaving Now Hourglass: Cross Section of Teleological Bow Tie Precession of Two Sets of 10 fllosefct-packed Spheres Precession of Two Sets of 60 Closest Packed Spheres Jitterbug Model Convergent vs. Radiant Teleology: Bow Tie Symbol

See Critical Proximity, 15 Feb'73; 1y?1

Domain, 11 Feb'73'

Fourth Dimension, 11 Jul'62*

Gravitational Zone System, 14 Jan'55*

Infinite, 1y55

Isotropic Vector Matrix, 16 Nov'72; y Mar*73

Omnidirectional Typewriter, {2)

Omnitopology, 1y Dec'73

Petal: Tetrahedron as Flower Bud, 11 Feb'73*

Point, 20 Feb'73

Pulsation, y Nov'72

Radiation-gravitation: Angular Functions, y Jan'74

Radiation: Speed Of, 171*

Tetrahedron, 20 Feb'73
Tides, 1y Jun'71
Time-size, 20 Dec'73
Transformations, 10 Oct'50
Vector, 1b Dec'73
Vector Equilibrium, (1); Feb*48
Dimensionality, 30 Mar'75
Powering: Fourth Powering, 9 Sep'75
See ZerQ, 19 Jul'71

Zero Inflection, 16 Aug'50* Interrelationship Twoness, 27 Dec'74
Cyclic Bundling of Experiences, Kay'49 Kodelablilty, (c)* Min-max
Limits, 22 Jun'75 Minimum Limit C_ase, 12 May'75 Intellect: Equation
Of,(A) Structural Sequence, (D)* Nature in a Corner, 6 Nov'75; 12
Nov'75 Nucleus, 13 Nov'75 Tetrahedral Growth, 13 Nov'75 Tetra-
hedron: Polarization Of, 13 Nov'75 Zero Volume Tetrahedron, 10
Dec'75 Out-lining, 22 llar'76 Primitive, 19 Jul*76 Precession of Two
Sets of 10 Closest-paeked

Spheres, (2)(3)* Human Beings Complex Universe, (14) (15)

See Tetrahedron: Inside-outing Of: Visible ft Invisible Vertexes, 16
Dec'73

"All exclusively three-dimensional matrixes, consisting only of par-
allel lines and perpendicular rectilinear interactions--- like parallel
railroad tracks---inherently fall to accommodate any terminal con-
vergence. Such matrixes fail to accommodate the inherent strategy of
range-finding: the fact that the linear-distance relationship between
our two human eyes---and also those of other optically equipped
creatures---was designed to provide the base line of a triangle whose
opposite apex occurs at the position of a sighted object. The conver-
gent apex angle of the object provides the human brain's computer
circuitry with a limited, distance-to-object-magnitude appraising,

or range-finding perceptivity, whose maximum terrestrial range is the horizon. Beyond the horizon the distances apart of remote objects are reduced to optically nontunable angle- size-or-frequency discernability. Ergo, at the maximum tunability of differential-wavelength-perceptivity our range-finding optical system produces a false image of a seemingly convergent pair of parallel railroad tracks. It is not that the tracks or the ties are coming together but that the distance between them is subtunable."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 260.21; 13 Nov*75

See Dymaxion Airocean World Map, (g)

Verse vs. Prose, 11 Dec*75

Nuclear Pattern of Growth k Decay, 8 Dec'75

Fourth-dimensional Synergetics Fathematics, H D«c*76

Precession of Two Sets of 10 Closest-packed

Spheres, (1)(2)

Sea Universal Vertex Center Model, 29 Apr* 43 Precession of Two Sets of 10 Closest-packed Spheres, (2)

Convorgeneo: Convergent:

(1)

See Convergence & Divergence

Convergence <fc Nonconvergence

Corner

Critical Convergence

Critical Convergence & Flying Huddle

Ninety Two Common Principles of Atomic Convergence

Omniconvergent

Prime Convergence

Uni-angular Vector Convergence

Vertex

Tunability □ Convergence

Domains of Convergences

Omniconvertex

Angularly Hinged Convergence

Corner-converge

See Chords, 26 Jan*73

Critical Proximity, 6 Mar*73 Cycle, 10 Feb*73* Environment Controls
(1) Fourth Dimension, 11 Jul*62 Light, 29 Dec*58 Point, 19 Jun»71*
Precession (1)(2) Sixty Degreeness, 6 Jul*62* Self-now, 1938 Rela-
tivity. May*49 Stardust, Kay*65 Touch, 29 Dec*58 Vectorial Topol-
ogy, 17 Nov*72 Tension 1 Compression, 1 Apr*49 Geodesic Sphere,
(1) Airplane, «` 'ay»49 Angle, 1938 Humane City, (1) Child, 1 lay* 77

"The most unselfish of the arts is the art of intelligent conversation---
when you really give,

"(This is what Margaret Fuller meant, though she didn't quite say it
that way.)

"In that kind of conversation you don't hold back; you don't save some
gem back to surprise the world with in your next book.

"It's like a dance. As Allegra says, you can never dance that dance
again. It's so ephemeral you can't put it in words.

Like names for things... Therms a map of Washington, but that's just
a word. Tou can see the Earth from the Moon. Or you can see from a
satellite an enormous whorl of clouds over the Atlanticm. It doesn't
matter what you call it; it's an energetic transformation event of Uni-
verse transpiring utterly independent of man's continuous contriving.

"Phenorjpon without name • pattern integrity. The power of Universe is lockdd up in it. But man feels he has it under control when he calls it something--- like Hurricane Carol. . ."

- Cite RBF to EJA at breakfast, 3200 Idaho, NW, 22 Sep'73

Conversation Sequence:

(2)

"• • • Or we can call something else we see 'gravity.' But it doesn't really natter in them wordlessness of the great Universe. Allegra says dancing is a way to communicate without giving it a name. It's much more profound. . . A nameless set of feelings. Man has a set of patterns. . . beyond naming,"

- Cite RBF to EJA at breakfast, 3200 Idaho, NW, 22 Sep*73

Conversation:

See Cliche & Countercliche Speech

MP DmMniOHS

Convex:

"The electron la always on the outelde of system.

Charges are always on the convex, not the concave, surface

- Citation at Electron. 31 May*?1

Convex & Concave:

"Nature usee concave-convex for its step-up, etep-down transformations."

- Citation & context at Step-up. Step-down Transformations 23 Jun*75

Convex A Concave:

"Convex and concave are nature's macro-to-micro or micro- to-macro radiant-energy transformers."

- Citation A context at
Geometrical Function of Nine.

(1),

• 75 16 **r

^CQDTCX * CgnMTg:

•The Always and only coexisting convex and concave demonstrates that unity is plural and at minimum two, in which only one is spontaneously accounted as obvious."

- Cite SINERGETICS text at Sec. 507.03; galley rewrite, 7 Nov '73
Convex and Concave:

Inasmuch as convex and concave are opposites, they cannot be the same.

- Citation and context at Spherical Triangle Sequence (ii), 26 Jan
Convex and Concave:

"The nucleus ball is always two balls, one concave and

one convex. The two balls have a common center. Hydrogen one convex proton contains its own concave nucleus."

- Cite SYNERGETICS .draft at Sec. 413.04, 29 Nov '72
Convex and Concave:

"When you isolate the neutron you are isolating the concave, When you isolate the proton you are isolating the convex."

- Cite RBF to EJA, 3200 Idaho, 'Wash DC, 29 Feb '72
Convex & Concave:

The outsides of systems are convex, and their insides are concave. While convexity diffuses radiation impinging upon concavity concentrates radiation impinging upon it; ergo, convexity and concavity are not the same. ** `

. Cite SYNERGETICS text at Sec. 1021.11, Aug»71

Convex and Concave;

"The outsides of systems are convex and their insides are concave, while convexity diffuses radiation impinging upon it, concavity concentrates radiation impinging upon it, ergo, convexity and concavity are not the same. • .

"For every tetrahedron there is one convex and one concave. Because the tetrahedron is inherently the minimum structural system of universe, it provides the minimum omni-coexisting convexity and concavity condition in universe. . •

"For every convex spherical polyhedral geodesic system there is a concave spherical polyhedral geodesic system.

- Cite RBF on Synergetics draft U. class, Amherst, 22 July 1971.

See "Omnitopology," Sec. 6+0. et seq.

Convex and Concave:

system subdivides* the Universe into all of the Universe that is outside the system and all of the Universe inside the system. Every system, as viewed from inside, is concave and, as viewed from outside, convex. Concave and convex only coexist. Concave and convex are very different from one another. Convex diffuses energies by increasing wave lengths and widening angles. Concave concentrates energies by decreasing wave lengths and reducing angles. Although not the same and not exactly opposite, concave and convex only coexist."

- CITE £Ulj<AR>Y VISION 65, F>. » ²3 Oct»65

Convex and Concave:

"Convex and concave only coexist.

0.

"We cannot have the convex surface of the puiwong ball without the coexistence of the concave interior. You cannot have the convex surface of a pebble without the concave aspect of that surface as viewed from the center of the pebble with x-ray 'sight.'

"The sum of the exterior angles of every sytem's convexity is always the same as the sum of the interior angles of the system's concavity."

- Cite MUSIC OF THE NEW LIFE, Chap. 2, U.'or 0. p.1ZT, 10 Dec'64

MHH cgnrw ft cgnctfTC;

"Concave means concentrate; convex means diffuse."

— Cite OKNHECTIONAL HALO, p. 143, Caption to Fig, «'5

Convex & Concave; Uw Of:

"The allspace-fillIng functions of the (+) or (-) AAB three-nodule Mite combines can operate either positively or netively, We can take a collection of the positives or a collection of the negatives. If there were only positive outside-out Universe, it would require only one of the three alternate six-module, allspace-filling tetrahedra (see Sec. 953.40) combined of two A (+), two A (-), one B (□), and one B (-) to fill allspace symmetrically and complementarily.

But with both inside-out and outside-out worlds, we can fill all the outside-out world's space positively and all the inside-out world's space negatively, accomodating the inherent complementarity symmetry requirements of the macromicro cosmic law of convex world and concave world, while remembering all the time that among all polyhedra only the tetrahedron can turn itself inside out."

- Cite SYNERGETICS text at Sec. 953.25, 27 May'72

Convex & Concave. Tetrahedron:

"For every tetrahedron, there is one convex and one concave. Because the tetrahedron is inherently the minimum structural system of Universe, it provides the minimum omnicoexisting convexity and concavity condition in Universe.

"For every tetrahedron, there is an inside tetrahedron and an outside tetrahedron. For every convex spherical polyhedral geodesic system, there is a concave spherical polyhedral geodesic system. One cannot exist without the other either in special case or in sizeless eternal generalization. Spherical arrays and compound curvature begin with the tetrahedron.'*

- Cite SYNERGETICS text at Secs. 1021.12 fc .13, Aug'71

See XYZ Quadrant at Center of Octahedron, 14 Kay'75

Lee Central Angles & Surface Angles

Dog Pulling on a Belt

Energetic Functions

Eternal Pattern Integrity: Three k. Five

Generalization: Second Degree

Halo Concept

Nuclear Sphere

Proton & Neutron

Railroad Tracks: Great-circle Energy Tracks on the

Surface of a Sphere: Convex i Concave

Rubber Glove

Spheres &. Spaces

Spherical Interstices

Structural Functions

Terminal Condition

Thinkable System Takeout

Inward it Outward Twoness

i-.ultiplicative Twoness

Vector Equilibrium: Spheres &. Spaces

Zero Frequency

See Duality Twoneaa

Insideness k Outaideneas

Obverse-revenae

Seven Minimum Topological Aspects

See Angular Topology. 21 Dec*71 Axle of Spin, (51 Central Angles &. Surface Angles, 21 Dec^{1?1} Conception-birth, 27 Dec*74 Curvatures Compound. 25 Jan*73 Curvature: Simple, (1) Equilibrium. 25 Feb'69 Eternity, (2) Geodesic Sphere, (1) Geometrical Function of Nine, (1)* Hyrdogen. 29 May*72 Irreversibility, 4 May*57 Halo Concept, Nov* 71 Limit Case: Closest-packed Symmetry, 17 Feb'73 Male &. Female, 2? Dec'74 Nonmirror Image, 13 Jun*74 Nucleus, Jan'71 Operational, 3 Jun*73 Positive 4. Negative: Four Kinds, 10 Nov'74 Prime Structural Systems, 11 Jul*62

See Quantum: Event-paired Quanta, Jul'66 Radial-circumferential 9
Jan*74 Spherical Triangle, 19o7; sequence (ii)*; 23 Jan'75 Step-up,
Step-down Transformations, 23 Jun'75* Tetrahedron, 20 Apr*72; 22
Jul*71 Thirty Minimum Topological Characteristics, (2) System, 27
May»72 Twoness, Jun'66 Unity is Plural, 28 Oct'73 Vertexial Spheres,
8 Apr'75 Virgin, 27 Dec'74; 8 Apr'75 Omnidirectional Terminal Case
Comer, 13 Nor*75 Hedra, 10 Apr'75

See Electron. 31 May*?1*

Superficial, 6 Mar'73

BBF DEFINITIONS

Co-occur:

"The physicist finds

That the proton and neutron

Not only always and only co-occur.

And are interchangeably transformable, But also could not occur
independently Any more than a triangle could occur With only two
points."

- Citation and context at Proton and Neutron. May *72

Co-occur: Co-occurr.l.c;

See Cofunction Function Proton k Neutron Transformability Omni-co-
occurring Omniconcurrent

See Jitterbug, 4 Oct¹72

OreFlapping, 30 May*75

Nonsimultaneous, 30 May'75

Thirty Minimum Topological Characteristic a, (1)

Minimum Awareness, (l)

Omnihalo, Not*71

Constellar, 3 Oct*72

Omnidirectional Terminal Case Corner, 13 Not*75

Multidimensional Accommodation, 11 Dec*75

Cooking:

See Precession, (II)

Cooperate: Cooperative;

See Individuality, May*65 Work, Dec'72 Squatters, (1)

See Twin-spin: Earth & Moon Flying Twin-spin Formation Critical Proximity Co-orbiting

Co-orbiting of Earth & Moon aro__und__Sun:

"Critical proximity would be, for instance, the relative interpositioning of the distances of the Moon-Earth team* a Sun co-orbiting wherein there is a complex mass-attraction hookup. When at critical proximity the 180-degree mass attraction takes over and one starts falling into the other---with the attraction fourfolded every time the distance between them is halved---they establish a mass-attraction, relative-proximity 'contact* bond and interoperate thereafter as a 'universal joint*---or a locally autonomous motion freedoms' Joint. Either body is free to carry on individual, local, angular-relationship-changing motions and transformations by itself, such as revolving and precessing. But without additional energy from elsewhere being applied to their interrelationship, they cannot escape their critical proximity to one another as they co-orbit together around the Sun---with which they are in common critical proximity."

- Cite SYNERGETICS text at Sec. 5¹8.02; RBF rewrite, Apr'71

See Automation. 12 Jun*69

Building, 10 Sep'74

Celestial Position Integrity, 24 Apr'71 Chemical Bonds, (2); 6 Mar'73
Coherence, 9 Jul'62 Critical Proximity, Jun'66; 1 Jun'71 Critical
Proximity Co-orbiting, Nov'71 Geodesics It. Tensegrities. 9 Sep'74
Gravity, (A)(B); 2 Mar'60; 15 Oct'64 Inertia. 20 Dec'71 Precession (B)
Radiation-gravitation Sequence (2) Tension, 28 Jan'69

Tetrahedron: Leak in its Corners, 20 Dec'73 Tidal, 10 Oct'63

(1)

See Cotravel

Critical Convergence k Flying Huddle Critical Proximity Co-orbiting

See Orbit, U Feb'73

(2)

Cgardlrm A bunding a BiUQB:

SM Synergetics, 1959

Coordinate Integral:

"...Universe as the coordinate integral of all experAce..."

- Citation and context at De-finite. 1960

Coordinate Invariant:

"I recognlee the experlmentally-derlvod validity of the the result does
not depend on the

coordinate system used."

- Cite SYNERGETICS draft at Sec. 22J.B1, 26 Sep'73

See Tetrahedron: Coordinate Symmetry

See Control Line of Nature

Nature Has No Separate Departments

Synergetics

Tetrahedral Coordination of Nature

See Mathematics, 10 Apr'63

Modelability (1)

Omnidirectional Typewriter

Sixty Degreeness, 6 Jul*62

Synergetic Hierarchy, 19 Apr*66

Domains of Convergences, 7 Nov¹73

Nucleus. 13 Nov'75

Nature in a Corner, 12 Nov'75

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

Synergetics, 22 Jun'77

"The first derived coordinates of Universe would seem to be functions of energy variant in respect to intellect."

- Citation & context at Energy & Intellect, Nay*49

See Energy & Intellect Equation: Philosophical Equations

See CGS - cg_ts System

Concentric Coordination Coordinate System of Nature Fourth Dimensional Coordination Metric System Left Time as an Exponent Ordinate Radial-circumferential Coordination Radial Coordination Social Problems: Tetrahedral Coordination Of Synergetics Calculation Tetrahedral Coordination of Nature Three-way Grid: Three-way Great Circling XYZ Coordinate System XYZ Quadrant at Center of Octahedron Cosmic Coordinates Grid I⁻¹-atrix Omnirational 1 Control Matrix Group Coordination Subconscious Coordinate Functioning Zenith Constancy of radial Coordination

See Subordinate & Superordinate Cubing: Cubic Accounting Babylo-
nian Coordinates Constant Zenith Projection Spherical Coordinates
Sixty-degree Coordination Fourth-dimensional Synergetics Mathe-
matics

See Coude, 4 Mar'73

See Coordinate Abundance Ratios Coordinate Integral Coordinate In-
variant Coordinate Symmetry Coordinate System of Nature Coordi-
nates of Universe

See Capability

Objective Coping Reader Can Cope With His Reflexes Subjective
Coping Comprehensibility of Systems Doing What Needs to Be Done
Words i Coping

See Anonymity, 19 Dec'71

Brain's TV Studio. (1)-(3); 6 Jun'69

Countrtes, 12 Aug'70

Economics. 16 Feb'73

Energy Crisis, 14 Jun'73

Generalized Principle, (1)(4)

General Systems Theory. 4 Jan*70 Irrational Number, 14 Jan*74 Man
as a Function in Universe, Jan*72 System, (1)

Wealth, 10 Dec*74

Womb of Permitted Ignorance, I fay*72; (1) Design Science, 22
Adf'67 Human blind 4 Physical Evolution, (1) Variables: Theory Of,
Nov'71 Human Unsettlement, (3)

North Face Domes, 20 Sep*76

Enough to Go Around, (1)

Interrelatedness vs. Names, (1)

Technology: Enchantment vs. Disenchantment, (1) Technology ft Culture, 25 Oct'77

See Triangular-cammed, In-out-and-around Jitterbug Model, 11 Dec'75

CQpqrnlcug:

See Gravity (c)

Spherical Nostalgia, 12 Jun'74

Copotentiala of Initial Freedoms:

See Energetic Functions, 1954

Copper:

"Copper is the bellwether; steel follows the pattern of scrap,*

- Cite ft HF at-Jnn Bell eldest amjEdalpMM. }Oihnr+75
- Citation ec context at Mines Above Grade, 30 Jan'75

"Now I was assistant to the director of research for Phelps- Dodge and it wqs just at the time of World War I that MHNHB flotation came in and the electrolytic refining of the copper. This so speeded up and reduced the cost of production of the copper that they found that the gold and silver occurring with the copper paid for the complete cost of mining and refining and bringing to market. Therefore the copper itself cost you nothing. You would only take it out of the ground when you could get the highest price; so it was a war price.

"Now, World War I then--- we'd just gotten electromagnetics, enough to really amount to something. In the one year, 19>7, man refined and put on the market in one year more copper than he had mined and refined sumtotally in all the years before. And for years after that we

stayed at this new magnitude. Copper was the handmaiden of energy, both in generation and delivery. Showing then what an energy war it was, was this extraordinary jump. And when the war was over--- all the wars up till this time had been agricultural in the agricultural accounting system of nature-- and when the war was over you had taken all the farm boys, and used up all of the farm products, and you trampled all the farms down, and bore it, and everybody"

- Cite RBF to Arthur Anderson & Co., (p.5) New York, 13 Mar'74

lost. In World War I a great many people said it really must have been very immoral because there were a lot of fortunes made here. What happened was— all over— that the copper had not rotted, and it didn't go back in the mines: it stayed right where it was generating power and conducting power from Niagara Falls, from here to there. And so suddenly it was the first war where we came out wealthier than when we went in. The wealth was in the production capability. But this was not put on the books this way at all. There was not a great accounting change at this time. And the land was still it. The physical assets and not the know-how. This power thing was all know-how....

"Now this is what we really mean by the words 'know-how.' And we went through this copper business. The first telephone: one wire, one message was all we could get over one cross section; that's all we knew about it. It came as a tremendous surprise when--- about 15 years later--- you could get two messages over the same cross section. And then suddenly we found you could get 10 or 12 (I've forgotten which it was); and then it went up to 28 with the same cross section. 230:--- same cross section. 2000:--- same cross section... the frequency modulation over that wire. In 1930 the chief engineer of the Bell System said"

- Cite RBF to Arthur Anderson & Co. (p.6), New York, 13 Mar'74

Copper Sequence: (III)

"we'd be able to go from 10 percent of humanity having the telephone to 100 percent--- without the telephone company mining or buying another pound of copper. They'd be sellers, all the way. And they have been. Now just think with this more-with-lessing what we're saying. You're doing your accounting on the basis of the physical. You're missing something. This is what we really mean by my way of thinking about wealth. Wealth is not being properly accounted.

"And now, next thing: Now we're at the point where one communications satellite weighing a quarter of a ton outperforming 175,000 tons of copper cable. Transoceanic communications--- much higher--- and we get a much higher step-up of what we're really in--- and I don't find any of this on the books at all...."

"While I was in Phelps-Dodge I made a fantastic discovery. I was assistant to the director of research, and Louis Cates (?) who was the president of Phelps-Dodge at the time had been at M.I.T., and he was a mining man and mining men were running things. I came to Phelps-Dodge in '36, which was a very interesting time. We were then just seven years out of the Great Crash. And Phelps-

- Cite RBF to Arthur Anderson Co., (pp.6,9), New York, 13 Mar'74

SCPPST gMUCPGfi (IV)

"Dodge, like many of the great corporations, were just absolutely dominated by J.P. Morgan. What the S.E.C. did, with the beginning of the New Deal coming in, was to break up the depositing and investing, and the gambling of common stocks, whatever it might be. At any rate, J.P. Morgan really got severed from corporations. All the great corporations--- their board and their management had represented very much a banker's control of the situation. And that banker's control broke down. And Phelps-Dodge was a very interesting one to be in, because they had dominated up to that time and they were

no longer dominating. In order for the copper companies to be able to exploit World War I, they had to really produce copper--- and not just take it out of the mines. They found their customers were too small and small-headed. So the great copper companies bought all these small fabricators, their customer's businesses, armature, wire, whatever it might be, and then they operated the whole show and made the end product for the government.

"In order to make a quick amalgamation like that, they promised the president of Habirshaw a very big job. That was called Phelps-Dodge Copper Products had the management of the fabricators in opposition to the mining men and mining engineers."

- Cite RBF to Arthur Anderson & Co., (p.9), New York, 13 Mar'74
Phipps v. Wadsworth (v)

"And we had a man named Brown who was pressing very hard in selling the stuff. With management out of the way, because there was no longer a banker running it, then there was nobody to put management in or out and if they made a profit then their stockholders would reelect them. What we call finance capitalism into managerial capitalism. This is really a very severe jump.

"But what was bothering the old management--- which was still the mining world, they had really the great monopoly--- was that scrap was beginning to be sold and that bothered them very much. They produced the same copper. And banks had great bundles of copper, and they had yards, grading as copper scrap. Trying to keep it out of the way. Louis Cates brought me in, through Bill Osborne, to make a study of world industrialization--- way, way ahead--- to see what the function of copper would be as the various stages would unfold. In doing that I became really a deep student of copper and other metals that they were interested in, the tins, and the history of those. And in do-

ing the history, I would always go th the very earliest known history. I never started at 1900, or anything like that; I wanted to look at the total big picture. And I saw how copper had actually been used and I saw that there was a copper--- a bronze age. "

- Cite RBF to Arthur Anderson Co., (p.9), New York, 13 Far'74

"And we got into weapons and pins and fastenings of ships; and later on they found that wrought iron would do it, so they took copper out of that. It opened up one industry after another.

At first, railroading--- you couldn't have any rusting--- therefore an enormous amount of brass and bronze. And just as fast as you could find some other way of doing that, cheaper metal--- any of the irons did that. So copper dropped out there. The cost of--- great utilities... In automobiles they kept down copper because it cost so much--- about 30 pounds in an automobile. But you did have to have it in the sparking equipment and in the engine, and so forth.

"But I followed ay copper very closely. And in the building industry there were great copper roofs and an enormous amount of plumbing, and so forth. And I got into something else which was very fascinating: nature's gestation rates in various arts. In electronics there is only two years between invention and use, because it is actually entirely mathematically evidenced whether it's better or not. It didn't matter whether you liked the looks of it--- you were working in-aninvisible world. So it gets in fast. Aeronautics: in aeronautical production it is

- Cite ftiiF to Arthur Anderson & Co., (pp.9-10) New York, 13 Ear'74

Cggpej.S.gquSnC8:

(VII

"five years between invention and actual use because you had to be careful about those lives. There is a 10-year lag in the automobile improvement; and there is a 15-year lag between the invention in the railroading art; 25 years in big buildings; and 50 years in snail houses.

"So then I took the inventory of the metals, of copper in each of these categories. The building industry, and so forth. This whole thing averaged at every 22 years--- every 22 years--- the total metals really came out of the last generation of design and went into the new design.

"In the electronic world you are dealing with invisible reality. That's why we have electronics. So at any rate there were those different categories. I find nobody realizes the gestation rates of that kind of art. Taking the inventory of the coppers I found that 22½ years would be when it would come out. And I say the whole copper industry was completely bewildered by the scrappers showing up. So here in 1917 we got this fantastic new production. I went back to 1917 because in 1936 that was 19 years back. I took my 22½ years and found, sure enough, the "

- Cite R3F to Arthur Andersen & Co., (p.11), New York, 13 Feb *74
gqpw SOTMOTCB • (VIII)

"the scrap was coming in. The scrap of each year was really equalling the new production of 22½ years earlier. So I said I think that is really working here. That being so. I told Phelps-Dodge--- 22½ plus 1917--- that mid-July of 1939 you're going to be overwhelmed with scrap. And I told them that in 1936. In 1938 I left and went over to Fortune magazine where I was science and technology editor for the next two years. In July of 1939. Bill Osborne called me, he was director of research at Phelps-Dodge and he said 'Bucky, this happened.'

"And this really made some impression in that industry because

- I. really had foretold that, in mid-1939 we went down to the New York docks in lower Manhattan— and the lighters were everywhere, just high with metal. Because whatever copper did, iron followed it; but copper is a sensitive lead. The mine group, realising they were overwhelmed with this scrap— and World War
- II. was looming— they literally sold it all to Germany and Japan to fire back at us, which wasn't a very moral thing to do, but that's exactly what taught Japan how to get along without mines. Their whole industry has been built on this ever since.... Every time we run the same metals around, we load more performance on it, and that's what we mean by wealth— the ability to take care of more lives.”

- Cite RBF to Arthur Anderson & Co., (pp.11,12) New York, 13 Mar?4

Copper: "There's no such thing as secondhand copper. You melt out the copper-- and there it is!"

» Cite RBF address to
Yale Political Union, New Haven,
9 Dec¹⁷³

Copper:

"Though it was readily discernible long before the war It was only publicly acknowledged after the war That the copper mined, refined and shaped into wire In the emergency

Did not unrefine itself
And return as ore into the mountain
After the war was over,
But remained in the dynamo winding
And in the high-voltage transmission lines,
To keep on delivering
Electrically converted water power

To distant places
 To help humanity do its work,
 To refrigerate the foods that used to perish
 Before reaching the world's mouths
 To regenerate life.
 Man had simply rearranged the scenery
 To support more humans
 For more days of their lives.
 Despite its being
 Only negatively entered
 In the ignorantly applied
 - Cite INTUITION, p.72 May '72

Copper:

"Agricultural accounting system As a vast natural debt To cover the colossal
 Industrial expenditures of war. Naught had been spent but thoughtful hours* Hu-
 manity's productive and distributive Life-supporting capability— wealth— Had been
 irreversibly amplified."

**(For immediate follow-on sequence added by RBF July'72 Economic
 Accounting Svatom (i)-(E).)**

- Clt« INTUITION, pp.72-73 May '72

"Copper is so relatively abundant that it can be functionally used and its functions
 are very important. Next to gold it is the highest conductor. Its reflectivity is next to
 gold. It has great workability; it doesn't harden the way steels do. Its nonrustability
 lets you put it into alloys and make forgings that are very strong. All these things
 mean that it has a great many functional uses. And it has a nonsparking quality;
 you get the sparks with the steels and the ferrous. All the ferrous have sparks and
 the nonferrous don't spark.

"There are so many functional uses of copper and it's relatively abundant. So while its functionally used, it is scarce enough that its cautiously used, because it costs so much more than the ferrous. It is the most sensitive indicator I can find of all the metals. Iron is so much cheaper that it gets carelessly used many times where the copper doesn't. Iron will follow whatever copper does. Copper, then, is my lead metal to tell me things."

- Cite Tape transcript //5. Side A, p.7; RBF to Barry Farrell; Bear Island, 15 Aug'70

.fogger: (A)

"The beginning is really World War I— the first big industrial war using big industrial tools. Here nan shunted energy into the ends of levers in an enormous way. The way you get the most energy from one place to another in the greatest amount and in the greatest hurry is by wire, which is much faster than by pipeline or tanker. In World War I copper was used because it was the most plentiful of the metals and was a good conductor. In Just one year, 1917, nan mined and put to work more copper than he had in the whole of man's history before— an idea of the magnitude of the energy undertakings in World War I. He had two new technical capabilities, flotation and electrolytics, refinements that made it possible to get that copper to work very much faster. Since that time, man has been using copper in new magnitudes. But when the war was over and that wire was mounted on those poles it kept right on conducting electricity. What we have done was to rearrange the environment. We had taken the copper out of the Earth and we put it to use where we wanted.

"Because we had developed a production capability by landing energies on the ends of those levers, we were generating great"

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

"wealth— and we kept right on doing so when the war was over. America and the rest of the world didn't quite understand all that wealth. Many said that there must be a lot of corruption in America because here the war was over and suddenly there were a lot of millionaires. During World War II, too, America was lend-leasing, etc., using and giving away all manner of things, but still we came out of the war vastly

richer than we had been, despite all the things we had done, all the ships sunk and the rest. But even from those sunken ships we have been recovering the metals used to make them. This is an entirely new aspect to our world: that all metals that get mined, even if they are used to make something that becomes obsolete, are scrapped and then put right back into circulation. Of all the copper mined in the history of man, in fact, only about 14 percent has gone out of circulation. The rest gets melted up and used over and over again. And every time we use it, the wire carries more messages-per-cross-section than it did before. We continually up the performance per pound as we resuse those metals.”

- Cite RBF in Frankklin Lecture, Auburn, Ala., 1970

See Spinach Metals: Recirculation Of

See Artificial (2)

Economic Accounting System (B)-(D) Electric Motor, 25 Jan*72

Heredity, 15 May'72 Reality, 14 Oct'69 World Game (19(H)

Hines Above Grade, 30 Jan'75* Naga, (1) Human Unsettlement, (1)

Coral Reef:

"The little coral animal that throws off chemical excretions that incidentally form its little house. It is totally unaware of shaping this intricate dwelling-sieve mechanism which lets in the micro sea organisms it requires for metabolic sustenance and excludes all that is deleterious to it. I am quite confident that the coral animal is unaware of its participation in the building of a vast coral animal apartment house, the coral frond, or the result of its subconsciously coordinate building of a coral reef, or of the effect of the coral reef in changing the ocean's warm currents and the ecological effects of this wobbling of the great hot water heating system of life in the biosphere and thereby in turn on the pattern of great continental masses. Man similarly does not think of himself as an essential and unself-consciously operative function of the Universe, but that he is."

- Cite RBF Interview in AAUW Journal, p. 175, Hay *6\$

See Barnacle

Marine Life Analogy of Humane

Social Breakout from Barbacle to Salmon

cgrfrualer, A®:

See Dynaxlon House, 13 Jul*74 Repetition, 8 Mar*75

See Metabilleal Cord

Umbilical Cord

Core;

See Mechanical Service Core

See T_wilight Zone, 22 Jun»75 Truth, 22 Jun'75

Corelevant Uibrella:

See Inventability Sequence, (1)

Coring:

"If you are dealing with a polyhedron, it is eeparate from Universe, having an inside and an outside.... Tou can put a hole through it; if you do that, you find that $V + ? \square L$.

"Somebody did not realize that in putting the hole through it you had removed the poles, the axis. Two points must always be involved in every system."

- Citation Ac context at Topology: Synergetics. Eulerlan. 2 Jun*74

Coring:

"Euler found that when we put a hole through a system and core it as in a doughnut, the number of the vertexes plus the number of the areas always equalthe number of the lines. The number two dropped out. Coring dropped out the balancing integer two from the right hand

side of the equation. I, therefore, said to myself that the integer two, which was dropped out from the right hand side of the equation was thought of by Euler and the topologists who followed him as being an empty integer necessary for balancing the equation, did in fact represent another conceptual or distinguishable pattern consideration, which was the twoness representing the poles of the core which had been removed."

Coring:

"If the pattern has a hole through it like a doughnut then we don't have plus anything. We leave out the two from the solid. When we leave out the two from the solid M it is really a doughnut and we are cutting out the axis which is to say that the axis is two. . . The plus two which Euler found has to be added to vertexes plus faces equals edges plus two, when it is a structure in the round; but when we put a hole through it, we find we drop off the two and then it is vertexes plus faces equals edges. The plus two comes from coring, like coring an apple, which is to take out the axis. My identification of plus twoness is verified as it has been shown up as the number of balls in any layer. In the round affair the two related to the axis of spin is inherent for any system, so we now allow the energy to account for the spinning."

¹¹ ti iT - || TT v

- Citation and context at Euler (2)(3)¹¹ Jul'62
- n-tr.e-Oregon__ Leet.ni 1.-7. U. 11

See Axis

Hole

Plus Two

Torus

Toration

Euler's Twoness

Euler's Uncored Polyhedral Formula

Topology: Synergetics & Eulerian (2)0)* Two (1)

See Euler (2)0)*

Cork: Triangular Corks in Spherical Barrels:

"When disturbed by energy additions to the system the triangular 'corks'¹ can and prefer to move only outwardly from the system as with the resultant of all forces of all the kinetic momentums of gas molecules in a balloon. The cft-ward forces of all the compressions are more tfcian offset by the finitely closed omni-intertriangulated great circle tensions, each of whose interstitial lines, being part of a triangle--- or minimum structure--- are inherently nonredundant. The tightening of any one line tightens all. The breaking of any one line is safely anticipated by a tension diamond springingly interconnecting the system."

- Cite RBF Ltr. to Shoji Sadao, 15 Feb. '6b, p.4.

TriutCXirr - iso.

Cork;

See Uncorked Bottle

See SpiralInear

See Spherical Traingle Sequence, (VI) Wave, Dec*71

Sam:

"Among the vegetation Sun-energy impounders, no others can match the performance of corn. Corn converts and stores as recoverable energy 25 percent of the received ultraviolet radiation in contrast to wheat and rice, which average only an 16-20 percent 'efficiency'¹.*

- Citation and context at Wind Power Soonence (A), 25 May'73

See Nature in a Corner, 12 NOT'75

CornT-9?nYtnWS

See Tetrahedron, 8 Aug'77

See Nature in a Corner

Neutral Corner

Street Comer

Tetrahedron: Leak in its Corners Twist Vertex of Exit Vertaxial Connections

Comerability

Omnidirectional Terminal Case Corner Vertex

Vertexes, Faces & Edges

See Chemical Bonds, 6 Mar*73

Infratunable & Ultratunable, 8 Feb*76

Tetrahedron, 22 Mar'76

Polyhedra, 18 Jul*76

Mininum Tetrahedron, 22 Feb*77 T Quanta Module, (2) Tetrahedron as Microsystem, 12 May*77

Cornucopia:

"The difference between omnidirectionality and polarization ... The complexity of associability . . .

"The cornucopia-like conformation of the A Quanta modules and the B's. They are not only energy impounding but energy directing. When the cornucopia faces the solid walls they are valved off. This is one of the ways energy could get locked up.

"This cornucopia-like effect is multiplied threefold in the all-space-filling three-module all-space-filling positive or negative F1T.,S."

- Cite KJF to J2OC Idaho, JC, 22 Feb • /2 as rewritten 2k Feb.

Cornucopia:

"The difference between omnidirectionality and polarisation "The complexity of associability...

"The cornucopia-like conformation of the A's and B's. They not only energy impounding but energy directing. When the cornucopia faces the solid walls they are valved off. This is one of the ways energy could get locked up."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 22 Feb'72

Cornucopia:

See Energy Event, 1960 Radiation, 21 Sep»73

COBOLLAJKY

Corollary; Principle of Angular Tension:

See Conservation of Finite Universe: Principle Of

Corollary: for BCI Blo <rf fUnttlgM:

Saa CoapleMontarity: Principle Of

See Irreversibleity t Principle Of

Corollary of Synerev:

114

U5 141-143 213

See Whole System: Synergetics Principle or

See Part, 1954

(D)

See Axle of Co-rotation

See Jitterbug, 1 Dec*65

CfCRpmian⁸

"When I was a young man in New York I did a lot of work for both Time and Fortune as their science and technology consultant. One of the offshoots of this was that the Chrysler Company asked me to come to Detroit and write a book about their company.

"One of the interesting things I put in the draft of the book was a description of how their staff engineers had developed breakthroughs that saved the company a great deal of money. Later, when I was going over this passage with the top Chrysler officials, they said, 'Oh You can't put that in, it'll just make those fellows ask for more money!'

"This was just one typical illustration of how corporations seem to prefer an adversary role with their employees. They really don't seem to care if their employees are happy."

- Cite RBF to Wm. Donovan, Pres. General Publishing Division in Macmillan's executive dining room; above remarks to provide a context for recommending a raise for RBF's new editor, Michael Denny, 18 Feb'75*

Corporation: (1)

"Due to the corrupting power of gold and silver monies a few centuries ago, successful capitalist-speculators were able to achieve important irreversible advantage for themselves. Through the military leaders whose weaponing they weaponing they financed and the

latter's legal law-makers, law-yers, and law-administering judges, they established a social acceptance of a nonexistent imagination-accommodating entity of everyday life. This nonexistent entity which was mentally swallowed by the public greatly reduced their personal gambling risks. It was the invention of the corporation. The limited liability corporation is legally identified as iXd,. in England; as Inc., in the U.S.A.; as G.m.b.H. in Germany; as Societe Anonyme. in Rance, etc. The very words 'limited liability corporation'--- a fiscal formality--- were utterly incomprehen- sible to 99.4 percent of the contemporary alomost omniilliterate population.

"The limited liability corporation was a 'legally' recognized, but otherwise entirely imaginary man whose enterprising foresight and courage the riskers were 'backing'--- as they 'backed' or 'mounted' a race horse. If the imaginary man"

- Cite DECEASE OF F.EANING draft, pp.22-23, 28 Apr'71
Corporation: (2)

"profited, 'made mdney,' he had to distribute his earnings (suggestions, toil, sweat, wounds, and dedication) amongst the backers. But if 'he* became involved in loss and 'financial obligations' and any other 'costly responsibilities,' the backers were protected by law from any individual, personal, financial, or moral responsibility. The creditors must look for recompense to the abstract or 'imaginary human' or 'corporate ghost' whom or which they had ill advisedly trusted. This became an irreversible risk: everything to win and nothing to lose but the net bet.

"Over the centuries the wealth amassed through this corporate mask built up such unassailable prestige that it could afford to invent an abstract 'admirer' of itself in the form of a •corporate' (pretence bio-organism) 'image.' the advertising and public relations corporation

which could develop such verbal cosmetics skill as to gradually build the corporate image into a moral and thrilling 'Being'--- with supposedly enormous goodwill and far-sighted responsibility for the welfare of all humanity. 'Pollution is a matter best solved by the corporate ingenuity, power, and (of all things!)"

- Cite DECEASE OF LEANING draft, pp.22-23, 28 Apr'71
Corporation: (3)

"integrity of the great industries, whose managerial officers lose their jobs if they don't make a profit this year and would be fired instantly if they ever put human welfare ahead of corporate profit."

- Cite DECEASE OF MEANING draft, pp.22-23, 28 Apr*71
Corporis Imago:
See Madison Avenue, 1964
cgrpgmiQM foTcaUgns*
See Inventions, 9 Feb*64
gOTgmifiM

Sae Individual Economic Initiative World Corporations Transnational Capitalism

S#e Dwelling Service Industry (6) Fuller. R.B: Crisis of 127 (1) Invention, y Feb'64: (a)-(c) Linear Programing, 5 Jun*73 Pollution. 168 Research (1) Service Industry, 15 May'73 Thinking, 10 Dec*73 Immorality, 22 Aug*70 Human Unsettlement, (4) Building Industry, (3)(4) No t-nergy Crisis, (B)(C) Pirates: Great Pirates, 22 Jun*71

Cgrwrtal:
See Metabolic Flow, Autumn'68
Corpuscular:

"The words 'discontinuous compression' and 'continuous tension' ought to be reminiscent of the problem which the young man brought down to me about the two concepts of the phenomenon of light or radiation in general, or the corpuscular and the wave, one being continuous and the other discontinuous.

"I find the corpuscular a discontinuous accounting and the wave a continuous. I found the continuous in universe to be tensional and the discontinuous to be the compressions! of the energy, or the corpuscular. ... I would say probably that the behaviors of the light phenomena" may "be properly explained in terms of the corpuscular theory and so forth, . , then we will be able in the light to have synchronization of the corpuscles as not touching one another and yet have two beams going what had seemed continuous away but really tensionally and therefore not really have any problem of interference. ..."

- Uite UrtmGuN Lecture #5 - p. 160. 9 Jul'62

CQFPM??: Corpuscular:

See Discontinuity k Continuity Wave vs. Particle

Correction;

See Concentric Correction

Correlations:

See Mutual Survival Principles, (2)

See Triangular Topology Integrity, 15 May' 72

Co ma try:

•Geometry just measures the Earth. But cosmety deals with reality in Universe. Reality is the whole: playing the game of reality within actual physical experiences, not local and arbitrary. World measurement • cosmety."

- Cite RBF to BJA, 3200 Idaho, Wash. DC, 1 Oct*71

Cosmic:

"The General Theory is the independently orbiting phase now released to only cosnical coordinates."

- Citation and context at Einstein: General Theory and Special Theory, 4 Mar'Tj

Cosmic:

•Spontaneously regenerative local constellations are cosmic since they appear to be interoriented with angular constancy. ... Each of the families of chemical elements as well as their most complex agglomerations as super star galaxies are alike cosmic structures.

- Cite SYNERGETICS text at Secs. 601.01,02, 3 Oct'72

Cosmic Absolutes:

"The cosmic absolutes are the sets of generalised principles operating as the special cases of the atoms." P

- Cite RBF to EJA, Aspen, Colorado, 1J Jul*74

- $e_{D a} (CQF f / AMY' 7 y - p r t c Q u f * e i \epsilon - 5 * - f < f ? E' <$

See Number: Cosmically Absolute Numbers

Inventory of Cosmic Absolutes

See Ninety-two Element a, 10 Dec* 64

Cogdc Accounting:

"We are not exegpt fro® Universe. •• that's wh0 we have to go on to coemic accounting."

- Cite HBF to World Oane Workshop'77; Phila., PA; 21 Jun'77

Cftgmle AcgQuntlng •

"The time-energy cosmic accounting and maximum-efficiency alternative technologies, as exclusively employed by Scenario Universe--- and spoken of by us as 'nature'---will be instituted in all human affairs and will be Integratively operated by the world-around, satellite-interlinked computers,

"With the computers's integrative examination of the physical and metaphysical resources available to human beings it will be discovered that we are incredibly wealthy, Wealth, as stated before, being predicated on the degree of organised competence to nurture, protect, and accommodate today's and tomorrow's human lives. It will be clearly manifest that we have aboard Spaceship Earth four billion billionaires---heirsapparent who have never been notified of their magnificent inheritance, which has been over-long hidden within the world's probate courts of obsolete laws, customs, and fee- hungry fiduciary administrators, whose ignorant divorcement of money from wealth has altogether hidden from the fiduciary administrators themselves as well as the rest of the world, the late-20th-century-realised existence of omni-humanity- sustaining, inexhaustible wealth."

- CltCCOHiOUATIHG HU.'Ail Ui.SETTLEiNT, p.22; 20 Sep'7b

Cosmic Accounting:

"Nature is going from the physical to the metaphysical.

The physical, being a closed system, suddenly starts to all go into one pocket in Arabia. They are sitting on top of all the physical energy and so all the gold got to them. They had the ability to buy everything. But the way the game is played through gold nobody has the ability to but what they have. They were suddenly stymied; really in checkmate.

"This is when the Arabs suddenly said: We see there's a game here and so they asked David Rockefeller to come in to Arabia with the Chase Bank and show them how to run their bank for them. And I said: What are you selling here?

"A1J the Arabs have is the physical. (This is what I said to DavAd Rockefeller's accountants.) You don't have any metaphysical in the books. And you're ever here selling 'know-how.' That's purely metaphysical. And the students asked David Rockefeller: What is the function of having a bank in China?

Why do they want you there?"

- Cite tape transcript, pp.27-28; RBF to W.Wolf, Gloucester, Mass., 2 Jun'74

PosnUc Accounting:

"The tatrahadra and octahedra complement one another as apace fillers. This Is not very satisfactory if you are looking for a oenological explanation: the 'building block' of the Universe, the 'key,' the ego's wished-for monopoliser. But if you are willing to go along with the physicists, recognising complementarity, then you will see that tetrahedra plus octahedra--- and their common constituents, the unit-volume, A and B Quanta Modules--- provide a satisfactory way for both physical and metaphysical, generalised cosmic accounting of all human experience. Everything comes out rationally."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 950.31, 20 Dec'73

Cosmic Accounting;

"The cosmic accounting assumes omnivalidity."

- Citation and context at Earning A Living. Dec*72

"What we'll be talking about, I'm sure, will look... almost too much. But it isn't so, because if there's anybody who ought to be able to think about much, it's you. You've had just that kind of experience.

"And I've really been working on what I'm going to talk about for almost a half-century--- 47 years now. And I've been really quite confident that humanity would gradually get around to what I call cosmic costing--- getting real on to the energy balances of universe. If you get into, in a very big way, how you really handle your energies from here to there: Have you ever really studied the engineer's way of designing refineries? How much energy they keep investing in this column, and so forth, and the energy recoveries? Really very fascinating.

"Now what I'd really like to talk about here is what I call metabolic accounting. In other words, Universe really working in energy--- and how much she has invested. She's associating and disassociating. And as far as physics can find out, we are dealing in a Universe that is eternally regenerative. That is, there is no evidence of energy either being created or being lost. And an eternally regenerative system is quite a system.

- Cite RBF to Harvey Kapnick, Chmn, Arthur Anderson Sc. 60., New York, NY, 13 Feb '74

"Now vegetation is designed on the land and the plankton and the algae in the sea, to impound the Sun radiation and then by photosynthesis to convert it in beautiful orderly molecular structures: the hydrocarbons. We have then--- this is what I call instead of entropy; I call it syntropy--- and this is where the energies are being impounded and sorted and collected in the most orderly ways. All the biological organisms making these beautiful hydrocarbons. And one each to the other, and so the little insect gets big, and the trees get bigger, as the

hydrocarbons are continually being impounded, and getting buried more deeply and deeply. And so what we've been dealing in--- actually, oil-wise, and fossil fuels, and so forth--- is really exhausting some of the enormous savings account....

"One of my very great geologist friends, who is particularly an oil geologist of the highest order: and treating energy the way we do treat energy: work, lifting human weight against gravity a given height in a given amount of time--- which you can convert into kilowatt hours, or whatever it may be. I asked him to figure what it costs nature to make a gallon of petroleum. First, its impoundment, and then the shaking of the leaves off, and then broken into dust and what it takes in the way of time*

- Cite RBF to Harvey Kapnick, Chmn. Arthur Anderson k Co., New York, NY, (p.2 of transcript), 1J Kar'74

*and pressure and heat to make a gallon of petroleum. And he came out with the figure that it costs about a million dollars to make a gallon of petroleum.

"And I said to David /~Rockefeller_7, anybody ought to be able to sell a million dollars for fifty cents.

"And he got his geologists to check and he found out that it's the correct magnitude, all right. . , But I said then that when you give up the idea that you've got to earn a living--- and so we spend three million dollars a day to get 50 dollars--- it doesn't make much sense. And that's the kind of nonsense I began to run into when I got into this cosmic costing. Now I see then that the Universe is really trying to build up a savings account here. And we are operating at very low efficiency. If we really were doing well with that energy, we might just justify it for the moment on the basis that it could do better.

Society is obviously... and human beings are invented the way they are and they have to find their way and they have to learn by trial and error and they have to make a lot of mistakes. We have a very big cushion--- by trial and error--- to do things."

- Cite RBF to Harvey Kapnick, Chmn., of Arthur Anderson & co.. New York, NY, (p.3 of transcript), 13 Mar'74

"At any rate, the way we are using our energies then is very significant. And the reciprocating engine is inherently only 15 percent efficient. That's all the work we're getting out of it--- for really very obvious, simple reasons: The push on top of the piston sends it one way and the crankshaft contradicts it and sends it the other way--- so you've lost your direction altogether; there was a little momentum of the crankshaft having a little rotary--- it's called a 180-degree restraint. But we have a little explosion on the side here and the connecting rod--- or call it a turbine-- 90-degree restraint, and it goes from 15 to 30 percent efficiency... fundamentally. Then you get into no restraint at all in a jet engine and you get up to 00 percent. And with the new fuel cells of the space program we get up to 85 percent. (The equipment is expensive, but it's a fantastically efficient operation.

"Now I found that the way we are using our energies--- we've known about the gas turbine for a long time; and the automobile companies and many of the trucks are operated on them, but the tooling costs--- the automobile companies say: society, the hell with it! Though we've had it available, we've not done anything about it. This is fairly typical of why--- I can understand all"

- Cite RBF to Harvey Kapnick, Chmn., Arthur Anderson & flo., New York, NY, (p.3 of transcript), 13 Far'74

"the reasons why. But I find that at any one time in the United States, Mexico, and Canada, there are two million cars standing in front of red lights at all times with their engines going.

So the reason we're having wars around the world is so we'll have oil just to do that much! My gosh! So I find the overall efficiency of our economy, sumtotally, is about five percent.

So 95 out of 100 barrels goes down the flush. This is all really nonsense. So I really began to get very interested in how we could get humanity to see the nonsense.

- Cite RBF to Harvey Kapnick, Chmn., Arthur Anderson & Co., New York, NY. (Transcript p.3 , 13 Mar '74

See Cosmic Costing

Economic Accounting System

Industrial vs. Agricultural Accounting

Metabolic Accounting

Time-energy Economics

Cosmic vs. Terrestrial Accounting

Know-how Accounting

See Design Science & World Gase (A) Wealth (B)

ComlcallT Bankrupt:

See Wealth, Spring*71

Coanlc Bridta:

See One, 20 Dec¹73

See Universal Integrity: Principle Of, Dec'²

Cosmic Cocnunclaton: Coaale Comunclation Circuits:

See Remcmberable Nunbars. 14 Jan*74 Thinktionary, 27 May*75

CQgnic Complementary:

"But every event has a cosmic complementary; ergo, every vector's action, reaction, and resultant have their cosmic tripartite complementaries."

- Cite RBF rewrite of SYNERGETICS
galley at Sec. 521.05,

6. Nov*73

Coswlc Con»clou»ne»ii:

See Womb of Total Human Consciousness, Oct'70

£ftABl£-£finalalflASx :

See Synergy: Degrees Of, (6)

See Bineteln: General Theory *it* Special Theory_t 4 Mar'73

CoaalG gofiUnic:

See Cosole Accounting Sequence, <1)(3)

Dffiffsragy:

Avogadro's hypothesis "disclosed a'Grand Central Station* accomo-
dating all corners, despite 'fundamental' or elementarily unique dif-
ferences of identity, all accommodated on a comon volume (space)-
to-number basis. One molecule of any one element: One space. A
cosmic democracy."

- Cite SYNERGETICS draft, Sec. 410.03, RBF rewrite of 2? May'72

Cosmic Design:

See Eternal *ic.* Temporal, 4 Sep'7?

figflFUG PlacanUnattY fc Local Continuity-

"Thio containment of somethingness by uncontained nothingness:
this split personality +2|, -2\$; +5, -5; "0, -0; plural unity: this multi-
plicative twoness and additive twoness pf unity; this circumferential-
radial; this birth-death, birth-death; physical-metaphysical, physical-
metaphysical; yes-no, yes-no-ness; oscillating-pulsatlng geomet-
rical intertransformability field; Boltzmann importing-exporting

elucidates the a priori nature of the associative-disassociative;
entropic-syntropic; energetic-synergetic inherency of cosmic discon-
tinuity with locally renewable cyclic continuities, wherewith Universe
guarantees the eternally regenerative scenario integrity."

- Cite RBF insert at SYNERGETICS galley at Sec. 1053.17, 15 Jan*74
Caimis Discontinuity fc Local Continuity:

See Articulated & Unarticulated Space Nothingness & Time Some-
thingness U nbond ing-rebond i ng Interference c 'ioninterference

gfiSKlc Econoaicq:

See Econoalc Accounting Syaten, 2y Jun*72

CQMAG 5ngrrr:

See Foeell Fuels, 1973

Industrialisation, 29 Jun*72

Multiplication by Division, 20 Jan'77

Comle Kthlca:

Ses Ethical Physics

P.gMlfc .E.YfflV

"...The sixness of wavilinear and sometimes re-angularly redirected
traveling employs also the six basic degrees of freedom articulated
by each and every cosmic event."

Hi <»7

- Cite SYNER6BTIC<, "Jitterbug as Energetic Model." Sec.
4 Oct'72

See Six Degrees of Freedoa

Coatlca Event;

(2)

See Cube, 6 Nov*72

Symmetry & Asymmetry, 11 Dec*75

£w>at

Sea Cube, 6 Nor'72

^cpanic Flaking:

"The name, COSMIC FISHING, which Ed _/~Applewhite_7 uses in his book came about In the following way. Very frequently as I was working on the manuscript some special turn of thought brought me in full view of a magnificent new awareness. I would stop my work and call to Ed typing at a table behind me and say, 'Ed you are very good at writing things down quickly, please make a record of this/ and I would then describe the new vista of physics or mathematical relationship which to the best of my knowledge had heretofore never been discovered by humans within our known history. I described to Ed the fisherman fishing over the side of a boat with his bait, sinker, hook and line suspended motionlessly deep in the water when suddenly there comes a nibble. The competent fisherman learns to jerk the line Quickly enough to catch the fish's mouth, otherwise fish are very expert in nibbling away the bait from the hook without getting caught. Then the fisherman, if he can hook the fish, reels it in and some fish battle Very powerfully.

"I pointed out to Ed that the intuitions of humanity are the fishing equipment---that many,many people get the bright idea or nibble but then become Interested in some other matter,"

- Cite RBF Ltr. to Buck Williamson, Amherst, ''-A; 5 lay* 77

cpaolc ^FiShiXtf •

"turn away to light a cigarette, go for lunch, foget to write it down and it ie gone ana that fish never comes back.

"In a survey of the diaries, letters, and scientific notebooks of six historically celebrated great scientists* contributions to humanity (where the notes, letters, and diaries, were inspected only for a short period before the scientist made his great discovery as well as at the time he made the discovery and for a short period thereafter): it is common to all those scientists* great discoveries that all of them make it clear that the number one factor leading to their successful discovery was the intuition of the scientist--something that made them turn suddenly in the right direction from another preoccupation. Then they also make clear the second most important factor was the second intuition which came seconds later about what they ought to do about the mind- discovered phenomena in order to bring its significance to bear on human knowledge and to probably thereby enhance the survival advantage of humanity.

"I pointed out to Ed that the cosmic fisherman was always _w occupied in opposite directions when the delicate intuition

- Cite R3F Ltr. to Buck Williamson, Amherst, ' ' • A; 5 »'«iy*77

Cosmic Fishing:

(C)

"nibble alerted him to the possibility of hooking and reeling in and landing the cosmic fish. Ed was always cooperative in these abrupt interruptions of his intense work at the type- writer."

- Cite RBF Ltr. to Buck WilllanBon, Amherst, MA; 5 May*77

Cosmic Fish:

"... word-netted shoals (schools) of cosmic fish, i.e., epistemological pieces.

"...we My classify and sort our cosmic fish catch of overmultiplying Universe's special-case experiences."

- Citation and context at Applewhite. E.J.: Coamlc Fish, g Feb'73
Floh SMumcp: <¹>

"Cosmic fish in the Grand Banks that's what's going on in this room where we have developed such a sensitivity that it seems it might be well to stop a moment and take an inventory of what really is going on here there is the business executive type who would be saying why don't we finish this chapter why don't we get this book out but thank god you are not doing that and that is just the opposite of what you're saying letting me do all this what might only seem to be digressions but it isn't important what we read in the newspaper because all the very extraordinarily rapid evolution is going on in the invisible spectrum and the press and TV are really missing the big show what I'm saying is that right now all of humanity is really breaking through to a completely different way of looking at Universe here we have Brendan cutting things out and telling me what is the really latest going on in physics really beginning to come out where I've been all along and Brendan and now all my friends in a sort of new strategy of just spontaneous deputies, associates, Ed Schlossberg very good at this and Allegra really extraordinary at bringing me things I would have missed so we're all around getting these reports indicating that science in general is converging with us and"

- Cite RBF to EJA, 16 Oct'72

"the great coordinate system of nature as we have discovered and so what I am doing when I may not seem to be working on the book is this really very important cosmic fishing first you have the intuition and then you have the second intuition about what you should do with the first we're coming in now on really the Grand Banks teeming with all these cosmic fish that have never been caught before with comprehensivxty of the role of man in Universe because humans really do

have a purpose and the metaphysical is what is really very suddenly coming into prominence and these kids really just take sex and how different it is now when evolution used to have, to reproduce itself and they had to think of their bodies as just this great baby-making machine home well all that's becoming extinct and the kids don't act that way any more and the metaphysical is emerging terribly fast and the physicists all know that I am on to the right thing except that when that man Teller who went with Alger Hiss and the atomic bomb the hydrogen bomb and he was talking but the other scientists present really found me far more cogent and interesting while Teller was the one physicist who was just giving the capitalists the big boom they wanted but now quite clearly we are all coming into phase*

- Cite RBF to EJA, 3200 Idaho, 16 Oct'72

Cosmic Fish Sequence* (3)

"so if we make an inventory of what's going on in this room right now and the cosmic fish on the Grand Banks first we have now all the permeabilities of the MITE's and the number of nonregular octahedra and the number of nonregular rhombic dodecahedrons and then we have next the total sphere as the convergence in the vector equilibrium with its spaces and concave and we have the concept of the limits of asymmetry in respect to the vector equilibrium as the limit of coming to the molecules that's what we have nuclear uniqueness and all of its variables within the domain of the three-frequency vector equilibrium and all the things we've been doing the past couple of days dealing with the transformation of the jitterbug and tensegrity forming from tetra to icosahedron by sliding the point of concentrated pressure going from the ends to the middle and our confirmation of the original concept that the vector equilibriums are nuclear structures embracing all the variables of Universe associating all the molecular build-ups which has to do with syntax because I am holistic and I really don't want

to be limited by it's like a bunch of picture puzzles used to have a picture on the box of what you were making but let's just suppose we had no picture on the box and we had ten puzzles in different transparent plastic bags and we mixed them all up each of the puzzles with the other"

- Cite RBF tp EJS, 3200 Idaho, 16 Oct'72
- Cgynic Fish Sequence: (4)

"puzzles I think we could you and I sort of intuit which kinds of pieces Bust be with one puzzle and which kinds of pieces with another and eventually we could at least get them all in the right bags again so they could be worked out and that's what it's been like here working these days like we had a picture puzzle of George Washington crossing the Delaware and we'd have one little piece that looked like sone ice and we'd have another little piece that looked like George's hat and we're really Just throwing in the tiles and that's what I'm doing giving a lecture when the kids are alia following it and you really can go very fast while you're talking about George Washington's hat and then you're talking about the ice around the boat all

you really have to say and all you have time for in the lecture is just to say HAT or just to say ICE like that and eveijpody follows and we're really throwing in the tiles and we have the Picture of George Washington Crossing the Delaware.**

- Cite RBF to EJA, 3200 Idaho, 16 Oct'72

See Applewhite, E.J: Cosmic Fish Fisherman Theme Feeding a Flock of Sea Gulls

See Energetic Information, 23 Apr'76

See Loss: Discovery Through Loss, 7 Nov'72; 14 Dec'73

P-AMIC

See Jitterbug, 4 Oct¹72

fiaaalo Gestation:

See Helpless: Hunana Barn Helpless, 1? Dec⁷73

gpamlc Hierarchy;

"The cosmic hierarchy is comprised of the tetrahedron's inherent---
four active, four passive---intertransformable interrelationships, all
of which occur within the six primitive, potential, omnidirectional vec-
torial moves per each primitive system's (timeless) event potential."

- Citation & context at Finite Event Scenario, (1); 23 Jan^{*}77

Hierarchy:

See Tetrahedron: Hierarchy of Pulsating Tetrahedral

(1)

Arrays

Topological & Quantum Hierarchies

Hierarchy of Geometrical Transformings

Primitive Hierarchy

Geometric Hierarchy

Hierarchy;

(2)

See Time is Only Now, 19 Jul'76

QuantumMechanics: Minimum Geometrical Fourneaa,

Finite Event Scenario, (1)* Triacntrahedron. 3 May'77 Min-max Lim-
its, 8 Aug[»]77 Synergetics, 17 Oct'77

PffflRlc Inherency: (i)

"Four Kinds of Twoness: Sines unity is plural and, at minimum, two, the additive twoness of systematic independence of the individual system's spinnability's two axial poles, the latter's additive twoness must be added to something, which thinkable somethingness is the inherent systemic multiplicative toness of all systems* congruent concavo-convex inside-outness: which additive-two-plus-multiplicative-two fourness inherently produces the interrelationship $2+2+2$ slxness (threefold twoness) of all minimum structural system comprehensibility.

"All systems are conceptually differentiated out of Universe. System + environment " Universe. Universe - system \square environment.

•"The environment is dual consisting of the macro and micro (outsideness and insideness}. Ergo, a fourth twoness of all prime structural systems is synergetically accountable as $Z+2+2+2=8$.

"Integral system is threefold twoness $\square 6$. Integral Universe is fourfold twoness $\bullet 8$."

- Cite SYNERGETICS, 2nd. Ed. at Secs. 1073.10-.U, 27 Dec'74

cpsyjg Inherency:

12)

"Spin twonesa - $\bullet - - - 2$

Duality twonesa - $- - - 2$

Interrelationship twonesa - 2

Environmental twonesa - $- 2$

$8 \bullet$

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1073.14, 27 Dec'74

cggng Inharwr:

"Since unity is plural and, at two

The additive twoness
Must be added to something
Wherefore being at the minimum two
It inherent
At minimum twoness
To which the
Additive twoness is always added
Therefore 00 CQ?

A

“ tetra - minimum structural system in Universe.²⁹
Cosmic Integrity:

"The cosmic intellectual integrity manifest by Universe. The orderly interaccommodation of all the generalised principles constitutes a design. Design is exclusively intellectually apprehendable and comprehensible. As the human mind progressively draw aside the curtain of unknowness the great design laws of eternally regenerative Universe are disclosed to human intellect."

- Cite SYNERGETICS draft at Sec. 1056.11, 1} May»73
ffgmle Integrity Palancng?
See Complementarity *of* Growth fc Aging, 22 Jan*75
ffiwalc Integrity:
Sec Allspace Filling, 2 Nov'72

Individual Economic Initiative, Dec¹72

cgmXc IntgUiggngg •
(D
See A Priori Intellect

29 Cite RBF holograph rewrite, Philadelphia, Pa., 11 Dec¹74

Eternal Designing Capability

Higher Consciousness Science: The Great Design Supreme Intellect
Synergetic Integral Transcendental Universal Mind

JataUltWCV Coaaic Intellect:

12)

See A Priori Mystery, 24 Feb*72 Design, 8 Sep'75

Cosmic Inventory*

See Technology: Enchantment vs. Disenchantment, (2)

Cosmic law Family: (1)

* Progress in understandings harvested during the--- known to have occurred--- five and a half million years of accrued human experience aboard our planet Earth have been reviewed, integratively and progressively by mind, until there now exists a confident awareness regarding the reliable persistence of a certain number of members of the family of a priori eternal laws which govern Universe both integratively and differentially. It is now understood also that human discovery of additional scientifically generalized principles may, in time, increase the now humanly known members of the Cosmic law Family.

"Starting life in absolute ignorance, no human can know in advance what the size of the a priori family of cosmic laws may be. He may in time discover what that size is, but discoveries are inherently unpredictable."

Cite Dreyfuss Preface, "Decease of i'eaning" 28 April 1971, pp. 5-6.

BBF DhFIMTluNS

Cosmic Law Family:

"As each of the entirely unexpected discoveries of the utterly unforeseen existence of the thus far discovered generalized principles was made, their discovery, only momentarily, seemed to complete the cosmic family. More and yet more have been discovered, however, and each discovery synergetically modifies humanity's cosmological understanding." . • •

"As the roster of known members of the family of a cosmic laws is expanded, the progressively greater whole produces inherently synergetic surprise and requires new cosmological comprehensions of the overall intersignificances of the expanded awareness."

- Cite Dreyfuss Preface, "Decease of Meaning" 28 April 1971, p. 7

CQPFXC MJAV

"The sphere contains the most volume with the least surface enclosure of any geometrical form. This is a cosmic limit at maximum.

' 'In the four great«-circle planes we witness the same surface area as that of the sphere, but containing no volume at all. This too, is cosmic limit at sero minimumness•**

- Cite RBF rewrite of SYNERGETICS galleys at Sec.

4 Nov'73

Cosmic Limit Point:

"Let ua consider a tetrahedron, which also always has an externality and anjflkternality. At its internal center is ita terminal turn-around-and-come-outward-again condition. This is exactly why in physics there is a cosmic limit noin at which systems turn themselves inside out.They get to the outside and they turn themselves inside out and come the other way. This is why radiation does not go off into a higher

velocity. Radiation gets to a maximum velocity unrestrained in vacuo and then turns itself inward again--- it becomes gravity. Then gravity comes to a maximum concentration and turns itself around and goes outward--- becomes radiation again.*

- Cite RBF rewrite of SYNERGETICS galley at Sec. 441,04.

3 Nov'73

See Lin.it Point

Co sale Limit:

12)

Sae Absolute Velocity, 30 Oct'73

gop«4<? ft

"Spontaneously regenerative local constellations are cosmic since they appear to be interoriented with angular constancy."

- Citation to context at Pattern. 3 Oct'72

Saaato.fi total • •

(1)

See Astro & Nucleic Convergence A Divergence Cosmic Discontinuity A Local Continuity No Local Change Nuclear A Nebular: Nucleus A Galaxies Proximity A Remoteness World Pattern vs. Local Pattern Human Beings A Complex Universe

See Coneptttoning, i960 Pattern, 3 Oct*72* Pattern Conservation, 3 Oct'72 Structural Syste, Nov'71 Phase ic. Interphase, 9 Feb*76 fte-generativity, 17 Jan'75 Nature Ships Tension, 29 Jul'76 Macro-micro, 1964 Fourfold Twoness, 10 Nov'74 Human Unsettlement, (6) Accommodation, i960 Sensings 4 Sventings, 26 kpr'77 Fuller, R.B: On Drinking, Liquor, 22 Jun'77

Coral f. Middle Ground:

"Just as triangular geodesics transformational projection can alone reduce the astronomical to the cosmic middle around of eye-comprehensible coordination with the mind explorations and formulations in metaphysics in general and mathematics in particular, especially in relation to computer programming, so too, may the triangular geodesics transformational projection enlarge the complex invisible microcosmic patterns to eye- and sense-comprehensibility."

- Citation and context at Twenty-Foot Earth Globe and 200-Foot
Celestial Sphere (11), SJ J<n>7j

Peggile MgnXtpr:

See Mind, 31 May'74

PolapAc..y mral :

"... The 70° 32' and 109° 28' relate to the 'twinkle angle' differential from 60° (cosmic neutral) and to the 109° 28' central angle of the spherical tetrahedron."

- Context at Dihedral Angles of Tatra A Octa. 16 DM'73

- Cite SYNERGETICS text at Sec. 905.66, 16 Dec'73

See Hexagon, 30 Dec*73

Dihedral Angles of Tetra & Octa, 16 Dec*73

See Instant Universe Newton's Cosmology of "At Best" Motion of Einstein as Absolute Speed

See Onninations, May'72 Orbiting, 5 Jun'73

Cgals ftrWi Cows PartUUtr

See Conceptuality, 5 Nov'73 Visibility & invisibility of Systems, (1)

£ggaXg RfnnarttUQn'

See Local Cone enrat ion - Coeaic Regeneration

Cosaie Religious Sarnie:

See Einstein: Casale Religious Sense

Coenlc Heaervolr:

See Junkyard, 1971 Science, 1947

ffwalg figures;

See A Priori Mystery, 6 Mar*73

Cosmic Speed:

See Gravity: Speed Of, 21 Oct*72

"Thank you for your lovely letter, I congratulate you and thank you for your identification of the Bible's 'firmament' with my use of the concept cosmic structuring. When my math book. SYNERGETICS, comes out next October, you will find it elucidating what appears to be fundamentals of cosmic structuring.

"Because sound has speed, we do not see the jet plane in the sky in the direction in which we hear it. The speed of sound is approximately 700 m.p.h., while the speed of light is 700 million m.p.h. The further things are away from us, the further they will be from where the sound or

light was transmitted at the time we receive that light or sound event.

"one of two adjacent stars in the Big Dipper's handle is 200 light years away from us and the other one is 100 light years away. A light year is six trillion miles. Therefore, the nearest one is 600 trillion miles away and the other one is one quadrillion two hundred trillion miles distant. Both are moving through the firmangt in opposite directions at speeds greater than 100 thousand m.p.h. Yet they seem to us not to be changing their relative interpositioning."

- Cite RBF Ltr. to Mrs. Pearl Horn, 21 Feb'73
SflSttLC (2)

"Where any stars of the heavens may be in respect to any of the others at any given moment is as yet uncalculated by astronomers* If we could have an instant or simultaneous location of all the visible stars, we might witness a very regular celestial geometry* Who knows? To appreciate how difficult such a calculation would be, we must appreciate that with our naked eyes we are able to see the nebula in the constellation Andromeda, which is a live show just reaching us which was taking place two million years ago, and that was twelve quintillion miles away from us at that time.

Where that nebula may be today in relation to all the other stars and nebula would take extraordinarily complex calculating. There are a billion galaxies of one hundred billion stars each in our thus far telescopically observed Universe, many of whose 'live shows' reaching us tonight took place eleven billion years ago.

"Galaxies revolve at peripheral speeds of a million miles an hour and stars within galaxies travel locally at lesser speeds of hundreds of thousands of miles an hour.

"I would appreciate your writing me more about what it was"

- Cite RBF Ltr. to Mrs. Pearl Horn, 21 Feb'73

Cosmic Structuring:

(3)

"That your mind's eye saw that suggested the geodesic spherical grid in the heavens above us."

- Cite RBF Ltr. to Mrs. Pearl Horn. Spitalny's Real Estate.
4521 Indian School Road, Phoenix, Arizona 85031, 21 Feb'73
itraWw: Cosmic Structuring:

See Pattern Conservation, 3 Oct'72

tasalc gymffcjnn

• In contradistinction to *07 other Platonic or Archimedean aynetrleal ¹ solid/ only the tetrahedron can accooaodate local asysnetrical addition or subatrtraction without losing its cosmic Bvmmctry. Thus the tetrahedron becomes the only exchange agent of Universe that ie not itself altered by the exchange accomodation.”

- Cite RBF rewrite of SYNERGETICS galley, at Sec. 623/4, 9 Nov'73

tonic. syHM&gi

Seo Seven Axes of Symmetry, 13 May*73

CIWUfi SyRBhgflX*

See Heard & Unheard Reenancee, 17 Jan*75

cgmifi 3yngerty-

"Love, faith, trust, intuition and wisdom Manifest cosmic synergy

Which is combiningly regenerated By both metaphysical and physical synergies Which are inescapably co-joined with The eternally enveloping and permeating A priori mysteries Of whence, why and wither Nowhere and nowhen, The within the within-ness

And the without the without-ness

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH, Jan. *72, p. 6.

See No Tine

See Eternal Design Complex, (p.147J May*72

toggle yg> TjixoBirUl Accowttlwr (D

•Cosmic accounting contradict* humanly-invented terrestrial accounting.... Terrestrial accohnting is founded entirely on physical property wealth whose deeds of *ownership* derive exclusively from undisputed coups of might. Overlord

ship of lands were proclaimed by invincibly armed men, often accompanied by priests who solemnly affirmed the warriors* claims as being blessed by God's pleasure that the proclaimed sovereignties be so established. Cosmic accounting is exclusively metaphysical.

- None of the economic accounting books list metaphysical assets. Metaphysics are held to be unsubstantial, meaning in Latin, 'nothing on which to stand*.

- Patents can only be granted for .special cases, i.e., limited, physical practice applications of abstract generalized principles, which principles alone are inherently metaphysical and unpatentable--- being only discovered and not invented. Physical patents are capital. *

- Energy in either of its states--- associative as matter or dis- associative as radiation--- being physical, can be entered into the capital account ledgers."

- Cite RBF Ltr to Neva Kaiser; pp.1-2, 10 Jun'74

Cosmic Y3» Terrestrial Accounting;

(2)

"In cosmic accounting we find that it costs nature one million dollars to produce one gallon of petroleum as calculated in the astrophysicist's and astrochemist's respective energy terms accounted for in kilowatt-hour equivalents at the going 1974 US public utility retail selling rates to the consumers as expressed in dollars per kilowatt hours for the following cosmic services calculated at net cosmic energy investment and expenditure costs without cosmic overhead or cosmic profit:

- (a) The quantity of energy involved in the photosynthetic conversion of Sun radiation into hydrocarbon molecules and their subsequent vast multiplication incident to the building, operation, and regeneration of all the organic bodies of all the other biospecies of the intricate intercomplexities of the ecological complex of our planet;
- (b) The vast amount of Sun energy impounded by the biosphere's one billion cubic miles of Earth's

atmosphere always exposed to the Sun whose energies are articulated in work as the critical terrestrial temperature control of its biospheric ecology and as winds and storms and atomization of the waters"

- Cite RBF Ltr. to Neva Kaiser; pp.2-3, 10 Jtn'74

Cosmic vs. Terrestrial Accounting: (3)

"elevated outwardly into the sky as clouds to be distributed around the Earth to be precipitated and rained inwardly ever and again to water the vegetation, and to shake off its leaves, and to knock down its old trees, and to gradually wind-cover their composite residues ever more deeply; and subsequently to drainflow them into the seas or Earth crust until they attain the specific critical heat and pressure conditions at which petroleum or coal are formed;

- (c) As specific pressure and heat magnitudes energetically maintained for given critical time durations essential to fossil fuelization.

"Evolution is now confronting the world's politicians, businessmen, and their master bankers with the residual fact that only the metaphysical truths can produce the commonwealth realities of human life support....

"For millions of years possession, or 'legally' covenanted occupation of the lethally scarce life-support producing lands —meant life or death. All revolutions of the past have been"

- Cite RBF Ltr. to Neva Kaiser; pp. 3,6, t 7, 10 Jun*74
Collect. Terrestrial Accounting: (4)
"fought in dispute over physical property 'rights'.

"The industrial proliferation of mass production tools and managerial techniques as well as proliferation of food preserving and world-around distributing means has brought about the withdrawal of the 90 percent of humanity who heretofore occupied and operated farms. That pattern is now spreading to embrace the whole planet's life-support operation. Possession of the land is no longer synonymous with economic success nor with general life support of humanity.... All large industry is trending to provide rentable services instead of trying to sell technological products. Services are primarily metaphysical know-how systems. Here again evolution trends to the metaphysical wealth which has not been on the capital account books."

- Cite RBF Ltr. to Neva Kaiser; p.7» 10 Jun'74

Casale. y«. Terrestrial Accounting:
See Cosmic Accounting

Cosmic Costing

Know-how Accounting vs. Physical Accounting

eeals-llaa:

See Available Cosmic Time

CQ8M16 Totality:

See Humanity, 30 Oct*73 Truth, Jan*72 lpp.8-9)

£BMU TnumlMloni

See Eye-beenod Thoughts

Intuition as Remote Cosmic Transmission Man: Interstellar Transmission of Kan

Radiation as Information Carrier

Extraorganic Travel Electromagnetic Transmission: Subjective i Conscious

cgwilg Tr»ngal8BAgn=

(2)

See Tunability, 16 Mot¹72

Railroad Tracks: Great-circle Energy Tracks on the Surface of a Sphere, 22 Jun'72

°paalc VftGMua °IMmor:

"A comet is a celestial itinerant, a cosmic skyways vacuum cleaner trying to accommodate an aggregation of stardust as it travels successively through the orbital neighborhoods of planets, stars, and other comets. The radiation pressures from the nearest stars, however, tend to blow the vacuum cleaner's stardust gleanings out into a 'dustbag,' causing what we erroneously speak of as the comet's tail. These 'tail*' displays should be spoken of as Sun-radiation blowoff trajectories. As the comet comes into critical proximity of syntropically Importing planets, the stardust aggregates of their inverted 'tails' are gravitationally depleted by the planets they pass as much of that stardust falls into the planets or moons to become Dart of those import centers' syntropic build-up in a multibillions-of-years syntropic preparation of their stored energy aggregates to be converted into the state of an entropically exporting star."

- Cite RBF remark to EJA as rewritten and incorporated in SYNERGETICS, 2nd. Ed. at Sec. 1009.69, 16 hfeiy'75

See Field: IVM Fields of Thought or Physical Articulation Vector Field:
Eternal Cosmic Vector Field

Cosalc Vect-ora:

See Truth, Jen¹72

See Mistake, 7 Hov` 75 Helpless: Humana Born Helpless, 7 Nov*75

CgffBIS

"Cosmic aero is conceptually but siselessly complex, though full-sise-range accom-
modating.**

- Cite RBF rewrite of SYNERGETICS galley at Sec. 443.03, 4 NoT* 73

ggmlfi

See Equanimity Model, (2)

CflJBBlfi. • Cosmology: Cosmos:

See Anticosmological

A Priori Great Design Cosmic & Local

Field of Cosmic Formabilities

Game of Cosmic History Human Affairs Cosmos Nonlocal Subcosmic
Ultracosmic

Unit Cosmic Energy

Scenario Universe vs. Big Bang Theory

See Communications Hierarchy, (3) Dynamic va. Static, 12 Nov'75 En-
gineering, 13 Nov'69 Eternal Principles. 22 Nov'73 Fourth Dimension,
1? Nov*72 No Speed, 27 May»72 Periodic Experience, (9) Synerget-
ics, 1959 Universal Integrity, 22 May'73 Wholes & Parts, May*72

See Coan

Cosmetry
Cosmic Accounting
Cosmic Accounting Sequence
Cosmically Bankrupt
Cosmic Bridge
Cosmic Coherence
Cosmic Communication Circuits
Cosmic Complementary
Cosmic Consciousness
Cosmic Consistency
Cosmic Costing
Cosmic Democracy
Cosmic Discontinuity & Local Continuity
Cosmic Economics
Cosmic Energy Harvester
Cosmic Ethics
Cosmic Event
Cosmic Fish
Cosmic Fish Sequence
Cosmic Event Katrux

See Cosmic Freedoms

Cosmic Gamut
Cosmic Gestation
Cosmic Integrity

Cosmic Intelligence

Cosmic Law Family

Cosmic Limit

Cosmic Limit Point

Cosmic & Local

Cosmic Middle Ground

Cosmic Neutral

Cosmic Norm

Cosmic Partiality: Cosmic Parts Cosmic Religious Sense Cosmic
Reservoir Cosmic Source

Cosmic Structuring

Cosmic Symmetry Cosmic Synergy

Cosmic: Cosmos: Cosmology:

(3C)

See Cosmic Syntropy

Cosmic Time

Cosmic Totality

Cosmic Transmission

Cosmic Vector Field

Cosmic Vectors

Cosmic Zero

Cosmogony

Cosmic Monitor

Cosmic Absolutes

Cosmic Coordinates

Cosmic Inherency
Cosmic Integrity Balancing
Cosmic Vacuum Cleaner
Cosmic Regeneration
Cosmic Wisdom
Cosmic Speed
Cosmic Symphony Cosmic Inventory
Cosmic Design

Caasaiani:

0)

See Chaos

Earth Birth

Life's Original Evenet

Nature Has No Separate Departments Orderliness Operative in Nature Primordial

Eternal Outset

No Start

Scenario Universe vs. Big Bang Theory

Scenario Universe: Physical Evolution Scenario

See Communication Hierarchy, (3) Dynamic vs. Static, 12 Nov* 7 Engineering, 13 Nov»69 Individual Universes, (1)---(3 Integrity, 24 Jan* 72 Order, 6 jul*62 Perceptual Peephole, Dec*69 Synergetics, 1959 Wholes & Parts, May'72 Eternity vs Energy, 2 lay'78 Tine vs Energy, Dec*40

See Afford

Buy or Die Cosmic Costing

Costung:

"And I find the young world enjoying costume and what feels good,"

- Citation and context qt Child Sequence (4), 14 Apr'70

Cotrayel: CotraTelllnx:

Sae Co-orbit

Coatuaeg:

See Finite Event Scenario, 23 Jan'77

gQWftTfX: fflraislUM:

(2)

Sea Aggregate. 20 Dec*71

Critical Convergence A Flying Huddle. 9 Dec*73 Earth, 10 Feb*73

See Starduet, Kay'65

°auntfircJLlGhfl»

See Cliche 4 Countercliche

Count artoroue;

See Torque & Countertorque

Counting:

Saa Interval_l 6 May*48

cgsmriw?

"The largest patterns of industrialization will never be done in terms of countries. The idea of * countries' was never more than a convenience to the Great Pirates, the men of power who divide and conquer. The Great Pirate is glad to have everyone speaking different languages and all those things....

"The little countries can't possibly do it. It's very nice in a sense for their inferiority complexes for these countries to be recognized-- to get in the UN and get a democratic voice. But the UN is really quite pathetic.... While they are doing everything parliamentarily, they are just inching. They are glacial; they can't keep up at all with what is necessary to make our world work.... Their talking and procedures will just be years behind the emergencies and unable to cope with them."

(Context of first para, at China (C))

- Cite transcript of RBF tape to Barry Farrell, Tape #3, Side A pp.8-9, Bear Island, 12 Aug'70

Countries:

See Nation Sovereignty Transnational

Coupler:

"So you have 70° J2' and 109° 28*. The coupler fills allspace with a unity of 24 - $1/24$ tetra. Two spheres kiss in the coupler. It provides 92 basic rearrangements of the A and B Modules to accommodate the 92 chemical elements.

"All number relationships are covered by the octant, insideouting, plus-minusIng. and so forth. What are all the variables of the system? That is the question to ask. All of the variables of the system are in the coupler."

- Citation A context at Veetorlal St. Vertaxial Geometry (1) 27 Jan'75

Coupler:

"The Coupler is the asynnetric octahedron to be elucidated in Secs. 954.20 through 954.70. The Coupler has one of the most profound integral functionings in metaphysical Universe, and probably so in physical Universe, because its integral complexities consist entirely of integral rearrangeability within the same space of the same plus and/or minus Mites, rfe will now inspect the characteristics and properties of those Mites as they function in the Coupler.**

- Cite RBF insert to SYNERGETICS galley at Sec. 954.01, 20 Dec'73
Coupler;

"Lach of the 12 rhombic dodecahedra *r.e completely and syninetrically omni surrounded by--- and daiaond-face-bonded with--- 12 other such rhombic dodecahedra, each representing one closest-packed sphere and that sphere's unique, cosmic, inters|>here-space domain lying exactly between the centers of their 12 surrounding rhombic dodecahedra--- the couplers of those closest-packed-sphere domains having obviously unique cosmic functioning.

- Cite RBF insert to STNLXGhTICS galley at Sec. 954.21, 20 Dec*73

Coupler;

"...There is a rhombic dodecahedron around every point in the isotropic vector matrix. I explained my billboard model successively activating each point in an isotropic vector matrix... The center of the face of the rhombic dodecahedron is congruent with the center of volume of the asymnetric octahedrmal coupler. It has eight faces and brings in the octave system, with the value of one... The interior octahedron of the vector equilibrium made up entirely of energy-conserving A Quanta Modules..."

- Citation and context at Fuller, R.B.: Meeting With FcnrendM-Mgran (2), 5 Apr'7j

Coupler: (j)

"The basic complementarity of our octahedron and tetrahedron, which always share the disparate \square numbers 1 and 4 in our topological analysis (despite its being double or 4 in relation to tetra - 1), is explained by the uniquely asymmetrical octahedron which is always constituted by the many different admixtures of AAB Quanta Modules, the Kites, which asymmetric octahedra are like the 4A's-2B's, the Sites, also allspace fillers, as are the cube (72 AB's), the rhombic dodecahedron (144 AB's) (spherics).

"There are always 24 A's or B's in our uniquely asymmetrical octahedron (same as 1 tetra) which we will tentatively name the coupler because it occurs between the adjacently matching diamond faces of all the symmetrical allspace-filling rhombic dodecahedra (of 144 A's and B's). The rhombic dodecahedron is the most faceted, identical faceted (diamond) polyhedra and accounts, congruently and symmetrically, for all the isotropic-vector-matrix vertexes in closest-packed spheres and their 'tween' spaces. Each rhombic dodecahedron's diamond face is at the long-axis center of each coupler (Vol. ` ` 1) asymmetrical octahedron, with each of the rhombic"

- Cite KuF holograph memo to EJA 22 bar*73 Incorporated in SYNERGETICS draft at Secs. 954.21,22.

Coupler: (2)

"dodecaHira sharing its 12 omni-adjacent spherics. We see that the following variety of energy effects the variety of A and B Quanta I-module associabilities are contained uniquely and are properties of the couplers. one of whose unique characteristics is that its volume is the exact prime number one of our tetrahedron (24 A's) accounting system. It is the asymmetry of the B's (of identical volume to the A's)

which provides the variety of other than plus-VHMHMB-and- minus-ness of the all A-constellated tetrahedra. Now we see the octahedra which are allspace-filling and of the same volume as the A's in complementation. We see proton and neutron complementation and non-mirror-imaging interchangeability and intertransformability with 24 sub-particle differentiabilitys and 2, 3, 4, 6, combinations: enough to account for all the isotopal variations and all the nuclear substructurings in omnirational quantation."

- Cite HbF holograph to EJA. 22 arA.73 Incorporated in SYI.ERGt.TICS draft at Sec. 954.23

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Synergetics text at Sec. 954.21

SsMfilaE-

See Mite fc Coupler

See Free Mil, 20 Dec >73

Octahedron: Nuclear Asymmetric, 1 Apr*73 Octantation. 14 May'73
Vector Equilibrium: Eight-pointed Star System.

to Dec'73

CouplingB:

"The tetrahedron can handle all couplings because one edge is pre-
ceased to the other edges*"

- Cite RBF to Earth Metabolic Design, Inc., New Haven, 10 Dec'73

See Disparity: Coupling of Disparate Actions Intercoupling Interface
Couplings Polar Coupling Universal Joint Evenly Coupled Vertexes Al-
teration of Face Couples Hallway Trains: Loosely Coupled

See Tetrahedron: Coordinate Symmetry, NOT*71 ; 10 Jul*62

Courage:

"Without vulnerability there is no courage.*

- mi >T Tm UJA, Huy* "' III ^{1,11} rrv e p¹ w ~v
- Citation at Vulnerability, 14 Sep'71

Cousins. Norman:

See Fuller, R.B: Cousins, Norman, Inscription to RBF

HBF DEFINITIONS

"Frequency and wave are covariably coupled; detection of one discloses the other."

- Citation at Frequency & Wave. 26 Sep*73
- ChZBrWq*

There are only two possible covariables operative in all design in universe. They are Modifications of angle and frequency,-

- Cite DOIADIS, p. 337, 20 Jun *66
 - Clatloa at Anrit t FrWWMT IMulatIW. *pr'71
- syue<err'<s- 5JC TZ s'zl

RBF DEFINITIONS

CQYrtnian?

"There is a tantalising proximity and magnitude relationship--- especially when they vary together. The equatability of volumes and powers " covariation.**

- Citation and context at Synergetic Constant (1}, 14 May*73

See Angle 4 Frequency Modulation Cofunctions

Complementarities

Design Covariables: Principle Of

Frequency Modulation

Frequency &. wave

Intercovarying

See Angle & Frequency Modulation. 20 Jun'66

Equilibrium, 25 Feb»69

Frequency A Wave, 26 Sep'73*

Jitterbug, 11 Oct'71

Rest of the Universe, 22 Jun*72

Rope, Dec'?1

Synergetics Constant (1)*

Trigonometric Limit, 22 Jun'72

Universal Kind, Mar'72

Universe, 22 Apr'68

Wave, dec'71

XYZ Quadrant at Center of Octahedron. 22 Jun'72;

14 nay¹⁷⁵ '

Integrity, 2 Nov*73

Newton's First Law of Motion: RBF Restatement Of.

See>77

Cow:

See Intuition of the Child, (2)

Coxeter, H.S.K:

"Thin work Is dedicated to

H,8.M. Coxeter

To me no experience in childhood so reinforced selfconfidence in one*s own exploratory faculties as did geometry. Its inspiring effectiveness in winnowing out and evaluating a plurality of previously unknowns from a few given knowns, and its elegance of proof

lead to the further discovery and comprehension of a grand strategy for all problem solving.

By virtue of his extraordinary life's work in mathematics, Dr. Coxeter is the geometer of our bestirring twentieth century. The spontaneously acclaimed terrestrial curator of the historical inventory of the science of pattern analysis.

I dedecate this work in particular gratitude to him and In thanks to all the geometers of all time whose importance to humanity he epitomizes."

- Cite SYNERGETICS decicatory note, RBF Rewrite, Nov*73

Coxeter: H.S.M.;

"This work is dedicated to

H.S.M. Coxeter

By virtue of his life's work, Dr. Coxeter is the geometer of our times, the acclaimed terrestrial curator of the science of pattern analysis--- in gratitude to all the geometers of history.

- Cite RBF draft for revision of SYNERBETICS title page papers, 200 Locust, Phi la., 4 Nov'73

See Descartes, 31 May*71

Kites Make All Regular Polyhedra, 27 May*72

Crab a Walk Sldawara:

See Future: Man Backs Into His Future, 27 Dec*73

Cafe:

See Horseshoe Crab

Marine Life Analogy of Humans

CQX: Arta fc Crafts:

See Indus trial! Mt ion, (A)(B)

Craftone; (Pronoued "craft-wun*")

Above 18 RBF solution for craftperson-craftwoman dileans- eja.

- Cite RBF via telephone from Philadelphia, to EJA, 13 Apr*75 (But he says this occurred to him while dting the lithographing at West Islip.)

See Craftone

CxfiXV Grrffc Twigs

(1)

S«e Repetitive Labor Tasks Tools: Craft 4 Industrial

See Sphemralisation, 1 Jun*49

fisarns

Cracnln<;

Prine Nunbar, 16 Oct*71

Creaa Rich:

See Resources, 13 000*73

Create;

"The new reliable understanding of meaning requires ... the substitution of the word 'realisation' for the very inaccurate use of the verb 'to create.* Kan creates naught. If he comprehends in principle, he rearranges locally in Universe by realisation of the interactions of principles."

fliu ffilYII 7H1IJIIIIH, Jfci, p. TfV;

- Citation and context at Realisation_f May*49

JtBF DLFIilTIOUS

Creation;

"Ko I don't like to use the word 'creativity',¹ and I don't even like the word 'creation',¹ The mind is properly concerned with generalized principles and to qualify as generalized principles they must be devoid of exceptions—i.e., eternal.

"Ilan does not create he only discovers and employs. He did not create the lever, nor did he invent the lever..#, he can invent new uses for the lever but not its principle.

"What humans refer to as creation involves a beginning and an end. Human beings deal only with apprehending special case, inherently terminable, phenomena. Only brains ask for beginnings and endings. Human mind discovers the eternal interrelationships existing between special case phenomena that are not predicted... and characteristics of system's parts when each is considered only separately. Since human mind deals with the eternal, original 'creation' is an untenable concept, -that people mean by creative is special case inventive use of eternal principles."

- Cite RBF to Robert »ialesky at MFR taping. '<'ash.DC;

*28 far*77*; rewritten at 3200, Idaho, 29 i-ar'77

Creation:

"In respect to the words 'Science: A Creative Discipline',* I'm convinced that the word creation belongs to God and nobody else. We are all endowed with extraordinary faculties. The Universe is endowed with extraordinary generalized principles. The principles are progressively discoverable only by man's faculties. Tan may interrelate them to produce unique results. The individual at times fulfills high potentials with which he is endowed, ' ./hen he does he seems to be creative. However, the men who are spoken of as creative always refer to what they have done as discovery. They do not claim creativity. Through exploration and experiment they acquire sublime conviction of the a priori etrnality of the verities, I can't accredit 'disciplined creativity,*"

- Cite transcript in AAUW Journal, p, 172, May '65

Creation va. Olacovarr:

See Euler, Sep*58

Create? Creation?

See Decreation

Creativity:

"Creativity is a teleologic process consequent to an uncorrupted coordination of total being. This involves all the subjective sensitivities of including and refining, understanding, and the objective coordination of the organ! whole toward articulating with specific clarity and economy: all the truth of synergy as well as nothing but separate truths of each specialisation."

- Cite HYPER, World >fag., 10 Apr'73

Creativity:

- . « « The increasing trend on the part of government and the scientific professions to discover the educational conditions most favorable to the cultivation of what is spoken of as srsfillllX."

io

- Cite HIPER, World Msg., p.38, Jipr'73

Creativity:

"Creativity: I would reserve the word for the integrity of universe. I would not suggest that it is the role of the individual to add something to the universe.

Individuals can only discover the principles and then employ them to move forward to greater understanding."

- Ci* RBF to Students International Meditation Seminar - U. Mass., Amherst, 22 July 1971. Talk 12, p.

Creativity:

"I'm not inclined to use

The word 'creativity'

**In respect to human beings, 'What is usually spoken of as creativity
Is really a unique and unprecedented Combination in the use of principles which exist a priori in the universe.'**

- Cite HOW LITTLE, p. 25. Oct'66

BBF DEFINITIONS

Crwunkr (D

• I reserve creativity for that which came before nan. I think of god not as a superman but as the great comprehensive a priori integrity of the Universe within which man finds himself to be operative* • •

"Now there is, in the Universe, a vast order. It never lets you down. I throw a coin into the air and it returns and hits the floor every time. Nature is never at a loss what to do when she takes over after you and I sign off. Nature never vacillates in her decisions. The rolling oceans cover three- fourths of the Earth. Along the beaches, the surf is continually pounding on the shore. No two successive local surf-poundings have ever been the same, nor will they ever be the same. They typify the infinitude of Individualism of every special-case event in the Universe. While there is great music in the pounding of the surf, as the infinite creative integrity of the Universe is manifest, I cannot identify man, who hears this music, as the creator. I therefore do not use the word creativity in man's employment of a priori infinite variety.

"True, men have been endowed with very extraordinary faculties." • Cite Mergers 4 Acquisitions, Vol 1, No.3, pp.42-44, Spring'66

CMftUXltXi (2)

"The Universe is endowed with very extraordinary principles. The principles are discoverable. When nan fulfills his extraordinary abilities and does discover, or really un-cover the mysteries of the ordered Universe, some very strong interactions become available to society. Humanity is constantly being surprised by these Interactions. But, as for the 'discovery. • it was always there, waiting to be uncovered. "

"When you talk about 'creative men you are really talking about men who know and understand something of the Universe, and who, regardless of public acceptance or rejection, know.

"I certainly worry about the teaching of creativity that so many talk about today. In science and technology, teaching creativity is. in reality, teaching about the Universe. If you understand the laws that govern its working,

you. ipso facto, must be creative, for you cannot help but apply those laws in a new way— in your language, a 'creative*' way, in my language, an 'extraordinary' way." - Cite Mergers & Acquisitions, Vol.1, No.3, pp.43-44, Spring'66

Creativity;

"Since you all insist on using the word creativity to designate the complex of unspoiled innate faculties of every healthy newborn, to save time, tape, and type, I will let the word ride. . . "

- Cite RBF transcript in AAUW Journal, p. 173, May '65

Creativity;

"I am convinced that creativity is a priori to the integrity of Universe and that life is regenerative and conformity meaningless."

- Citation & context at Subconacious Coordinate Functioning. 10 Oct

***63**

- -40,. -W-Oot'63 eMWMesHMMMeaa

Creativity of Children:

"I think that every one of ue has had the experience of hearing a little child suddenly, saying, or asking a question, or making a statement that is so lucid that we are astonished. There have been hundreds of millions of little children--- one after another saying these extraordinarily beautiful things, ijnerson spoke of poetry as saying the most important things in the simplest way and children are continually saying these important things in simple ways. I think that is what society in general talks about as creative, as if you were just being a little child and retaining that quality when you are older, when you have had more experience and can still see

elderly and lucidly and say things economically. That is what man has been caljng creativity. About creativity as a word, 1 would not myself feel that men aspire to add to the Universe, but they discover the great extraordinary principles within it and can employ them from time to time in very novel ways quite clearly moving forward to greater understanding.*

- Cite HriF at SILS, U.LJass., Amherst, 22 July *71, Talk 12, p. 14
Crwtirlev-.

See Education: Evolutionary Touchdowns Eaploy Find Fuller, R.B: On Creativity Discovery Invention Gestation Lag Realisation Rearrange Regeifrativity Sciences: Left Hand A Right Hand Sciences

(2 J

See A Priori, 10 Oct'63* Euler, Sep*5\$ Franklin, Ben, 22 Jan*73 Least Resistance. 1938 Realization, May*49 Subconscious Coordinate Functioning, 10 Oct*63* Technology, Oct*69 hbf definitions

Creator:

"I am not 4 creator³⁰"

Cryturw:

See Environment: Altering the Environment, 1970 Information, 12 Feb*72 Ecology, 15 Feb'73

Credit:

See Mortgagiiation

See Prefabricated Credos

Credo: Creeds:

<2)

See Belief. Oct'71

30 Citation and context at IrreleTanciee , 1971

Robin Hood Sequence (1) Custom: Lest One Good Custom Corrupt the World, (A)

Credit a» Tranafar of fofurntln;

Sea City, (1)(3)

See Wave Pattern of a Stone Dropped in Liquid, 16 Feb*73

cjiaa:

Crlnlnalltv:

See Design Revolution: Pulling the Bottom Up (D)(9)

Crtmlnn In:

See Local Hadiue, 14 Feb*73

See Prognostication about Futue of Man

See Point of No Return, May¹72

Crlalc **at** Icier*net:

See No Energy Cid a18, 4*0*75

Qrflfl or 1927:

See Fuller, R.B: Crist of 1927

grlaacrooa-

Seo Grid: Crisscross, Right-enle Grid Two-way Crisscross

Crltchlow_r Keith;

See Complexocta, 20 Dec*73

Critic;

"I've never liked this 'critic' thing, • , where it seems to say that man is always smarter than god, Kipling really slid it in the Last Picture, 'when the youngest of critics has died,'"

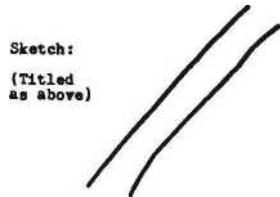
- Cite RBF to EJA, 3200 Idaho, Wash.DC; 29 Sep'76

£rltlc»l Convergence and Flying Huddle:

"The two parallel interference lines illustrate cotraveling which is co-orbitlng."

- Cite RBF response to query from EJA, New Haven, 9 Dec*73

(RBF addition to categories of interference phenomena entered on Synergetics Illustration #14, New Delhi, India November 1971.)



- Cite BBF holograph, New Delhi, Nov*71
- Critical ConTargenco » Flvliut Huddla:

See Sphere, 30 Dec*73

SxlUCTl MW?

"The only way to reach critical mas is synergetically.

The process was not arrived at by the assembly of parts.

- Cite RBF to Richard Stone, at Billy*martin'8 Carriage House, 12 May*77

See General Systemeua Theory

(D

Critical Spiral Path Orbital Feedback Circuitry Critical Path

Sea Done: Rationale For (I) Starting with Universe, 7 Nov'73 World Game: Grand Strategy, 2 Jun*74 Intuition Sequence (1) Orbital Feedbacks, 10 Sep*74 Orbit □ Circuit, 10 Sep*74 General Systems Theory, (2); (B)

RBF DEFINITIONS

CrIUcgl^P-FQxlalty:

"The term critical proximity is not a conventional concept in physics, I invented the phrase for my articles in 'Fortune' in 1940,"

(N.d: The phrase does not appear in the 'Fortune' articles; he must mean that he developed the terra at that time. - EJA)

- Cite RdF irlresponse to direct query from EJA, Belmont Stakes restaurant breakfast, NYC, 3 Apr*75.

Critical Proximity:

"The special case of critical proximity where bodies converge due to the extreme disparity of relative mass magnitude is the rare special case at which special exceptional case point in Universe humans happen to exist."

- Citation and context at Normal_f 6 Far*73

HBF DEFINITIONS

Critical Proximity:

"All special case events are generated in critical proximity. Critical proximity is inherent to all intertransformability and interaccounting of eternally regenerative Universe, as for instance in the myriad varieties of frequencies from aeons to split seconds. When the Earth's orbit passes through a comet's stardust plume we witness some of the comet's stardust falling in to Earth captivity, some of it igniting as it enters the atmospheric gases, some falling into Earth, and some with such acceleration as to pass only through the atmosphere leaving meager entropic dust to fall to Earth,"

- Cite SYNERGETICS draft at Sec. 1009.69. 1\$ Feb'73

Critical Proximity:

"Omnitopology recognizes the experimentaliv demonstrable fact that two energy event tracteries (lines) cannot pass through the same point at the same time. It follows that no event vectors of Universe ever pass through any of the same points at the same time, Wherefore it is also operationally evidenced that the conceptual system geometries of omnitopology are defined only by the system withiness and withoutness differentiating a plurality of loci occurring approximately midway between the most intimate proximity moments of the respectively convergent-divergent wavilinear vectors, orbits, and spin equators of the system."

- Cite SYNERGETICS draft at Sec. 1009.11, 15 Feb'7J

kbb DEFINITIONS

Critical Pr.ftXlm.lSy:

"The frequency timing of orbits 1b such that as one energy event comes into critical proximity with any two, the mass attraction four-folds every time the distance between them is halved. We get to a condition where the floating body is suspended between two others like landing on an invisible trampoline, as in man-made machinery the teeth of gears enter into the valleys, the mass attraction forces finally provide an invisible suspension bridge whereby none of the atoms ever touch one another."

-Cite SYNERGETICS draft at Sec. 1009.5*, 10 Feb'73

jfrivirel PrOTlFittYi

"4/heraa none of the geodesic lines, 'trajectories,' of Universe touch one another the lines, 'trajectories,'¹ approach one another, passing successively through regions of most critical proximity, and diverge from one another, passing succesively through regions of most innocuous remoteness."

- Cite SYNERGETICS Corollaries, Sec. 240. 1971

Critical ProxiMtx:

"Critical Froxioity accounts for the whole Universe as we observe it; the collections of things and natter and noncontiguous space intervals."

--- Cite RBF dictation to EJA, Chicago. 1 Jun'71. incorporated into SYNERGETICS draft at Sec. \$13,05, Jun'71

MMI critical PrQxUUty;

"The coining apart phase of critical proximity is radiation. The coming together and holding together phase is emphasised in our ken as gravity."

- CTpt-iffiF-iTiMrfc: LUZSXttEftftiyHCS (ConeentuMllLy__r__fyrH--t-nT,

- Citation at Radiation-Gravitation. 1 Jun*71

Critical Probity:

□Critical proximity accounts for the whole Universe as we observe tt, the collections of things and natter and noncontiguous space intervals. The coming apart phase of critical proximity is radiation. The coming together and holding together phase is emphasised in our ken as gravity.*

- Cite RBF insert to SYNERGETICS (Conceptuality, Critical Proximity), Chicago, 1 June 1971.

Critical proximity?

"Critical proximity explains mass-attraction coherence. It accounts for all the atoms either falling into one another or precessing into local orbits. This accounts for the whole Universe as we observe it, the collections of things and matter and noncontiguous space intervals. The coming-apart phase of critical proximity is radiation. The coming-together and holding-together phase is emphasised in our ken as gravity."

- Cite SINERGETICS text at Sec. 51S.05; RBF rewrite, Jun'71

Critical Proximity?

"Though lines (subvisibly spiraling and quantitatively pulsative) cannot go through the same point at the same time, they can sometimes get nearer or farther from one another. They can get into what we call 'critical proximity,' Critical proximity is the distance between interattracted masses-- when one body starts or stops 'falling into' the other and instead goes into orbit around its greater neighbor, i.e., where it stops yielding at 180 degrees and starts yielding to the other at 90 degrees."

- Cite SYNERGETICS text at Sec. 51S.01; RBF rewrite, May'71

Critical Proximity;

"Critical proximity occurs where there is a 90° angular transition from falling back in at 180° which is precession."

* Cite RBF to LJA Beverly Hotel, New York 28 Feb 1971

Critical Proximity:

"Energy associative as matter - K where critical proximity accounts for all the atoms either falling into one another or pressing into very local orbits."

Cite INTUITION, Draft Feb »71., p. 16)

Critical Proximity:

"Critical proximity" occurs "where mass attractions provide a coherence."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, 1967
Critical Proximity:

"Though lines can't go through the same point at the same time, sometimes they can get nearer or further away from one another. They can get into what I call critical proximity. Critical proximity would be, for instance, the relative positioning of the moon and the Earth where in there is a mass attraction hook-up. If there is a mass takeover attraction, they operate thereafter as a universal joint. Either body is quite free to carry on all kinds of individual motions and transformations by itself, such as revolving and precessing. But they cannot escape their critical proximity to one another as they orbit together around the sun with which they are jointly in critical proximity."

- Cite NASA Speech, p. 51» Jun'66
- Cite XV-July-Ja. •

Critical Proximity Co-orbiting:

The sixth interference "Is a going-the-same-way. 'critical proximity' attraction link-up such as that established between the coordinated orbiting of the Earth and Moon around the Sun,"

- Citation and context at Interference, Nov'71

Critical Proximity Co-orbiting:

See Co-orbiting of Earth A Moon Around Sun

See EO 12066, 1982

See Ecology. 15 Feb*73

Fall-in: Falling-in Effect, 15 Feb*73 Orbital Escape from Critical Proximity, (I)(f)

BBF DSFIMUIOHS

Critical Prowl wlfy Threshold 1

•Critical proximity la a threshold, the absolute vector equilibrium threshold; if it persists, we call it 'natter.'*

- Cite smKSGBTICS text at Sec.518.06; RBF rewrite, 19 Jun'71

Critical Prnil.it. Threshold:

See Point, 6 MOT*73

See Closed Spaces of Critical Proxlalty

Co-orbiting

Coherence

Critical Proximity Co-orbiting

Critical Proximity Threshold

Fall-in: Falling-in Effect

~~Proximity of Critical Proximity~~ Hannerthrow Interference Precession

Tetrahedron: Leak in the Corners Vertexial Connections

Critical Proximity Programming

Orbital Escape from Critical Proximity Twist-pass

friilal frwdaltY=

(2)

See Angle, 18 Mar'69 Boundary Condition, 26 Sep'73 Donains of Actions. 21 Dec'71 Johansen Guages, 16 Jun'72 Nornnl, 6 Mar*73* Omnitopology, 19 Dec'73 Point. 19 Dec'73; 19 Jun'?1 Radiation-gravitation. 1 Jun'71* Three-way Great Circling: Three-way Gris, 17 Feb'72 Triangle, 5 Jul*62 ; (a) Aberration, 19 Dec'73 Tetrahedron, 22 Mar*76

Critical Spiral Path:

See Building, 10 Sep*74

See Oriels of Hunanity Crisis of Ignorance

See Birth, 22 Dec'74

See Critic

Critical Convergence k Plying Huddle

Critical Maas

Critical Path

Critical Proximity

Critical Proximity Co-orbiting

Critical Proximity Programming

Critical Proximity Threahold

Critical Spiral Path

Crocodile:

"All systems— whether octahedron, icosahedron or crocodile— have unit surface."

- "nr *"
- Citation at Unit

urf?c?7 I' May! 71

Sea Omnidirectional Halo, 14 Kar'72 Skinning: Tiger's Skin, 1J Nov*69 Thinkable
System Takeout. (1) Twenty-foot Earth Globe *L* 2CO-foot Celestial Sphere (4)-(1)
Unit Surface, 4 Kay'71

Crop Rotation:

See Annual Rotation of Crops

grpp SubcldlcB:

See Nonproduction, 12 Jun*69

Crossbreeding:

"There are those /.` ` children? ^{haT®} special inbred aptitBudes and those »ore crossbred who are eore comprehensively coordinated."

- Cite NASA Speech, p. 19, Jun*66

See United States la Not a Nations

World Kan

Homogenising of Nations

Human Unsettlaent

£rQFfl-t>FMdln& fcrJAEan-

(2)

See America, 22 Jul*71 One-town World, 1968

toaa»-l>r»«UM=

See Genius Inbreedinc Pollination

See Science: Comprehensive Integration of the Sciences, 4 Apr*73

Croas-r«ltlli»e:

See Poll!netion

Crossing:

"Two remotely remotely crossing trajectories have no insioeness nor outsideness, but do produce optically observable crossings, fixes, which are positionally alterable in respect to a plurality of observation points."

- Citation & context at Point_t 1 Apr'72

Ke<nnKty=a±rpQrt_r*X Apr '72

Crossing:

"Our definition of an opening is that it is surrounded, that is framed, by trajectories. Every trajectory in a system will have to have at least two crossings. These are always as viewed, because the lines could be at different levels from other points of observation."

- E.TA rrSewei see

A pi 11

- Citation at Opening. 22 Apr*71

Crossing:

"There are no surfaces. Therefore there are no areas*

So Euler's topological aspects have to be altered® to read: "lines" « trajectories: "vertexes" □ crossings: and "areas" • openings, i.e., where there are no trajectories or crossings. This relates to systems."

- Citation at System. 22 Apr*71

RdF DiiF'Iis ITIbnS

Crossing;

"Crossings are superimposed lines. They do not go through each other. They are just a 'fix' --- what physicists call points."

"Crossings are vertexes."

- Cite RBF to EJA Beverly Hotel. New York 7 Kerch 1971

icxruft; tic.

~~to~~ggingg, Ppgnlngg ft Traectori eq;

See Events, Novents k Event Interrelatabilities Vertexes. Faces ft Lines Fixes, Discontinuities ft Continuities Points, Areas ft Lines Joints, Windows ec Struts

PrwXM Turner

"Two lines can within critical nass-attractive proximity be drawn into crojslng tangency which looks superficially (only) as though the line were closing back within itself."

- Citation and context at Triangle. Feb*72

See Constant Relative Abundance Euler's Game of Crossings Fix Point
Vertex Vertexes - Crossings Intersect Domains of Crossings

Croaeln>i

See Anglo, 18 Mar¹69

Opening, 22 Apr'74*

Pattern, 20 Feb'72

Surface, 17 Feb'72 Systes 22 Apr'71* Triangle, Feb'72*

Vertexes, Faces ic. Lines, 1 Jan'75 Point, 1 Apr'72*

Crowd-reflexing:

"Chagrin and mortification caused by their progrssively selfdiscovered quadrillions of errors would have given humanity such an inferiority complex that it would have become too dis- ccp'aged to continue with the life experience. To offset this, humans were designedly given a pride and vanity which can---ana usually does--- tend to self-deception. Witnessing the mistakes of others, the preconditioned crowd-reflex!ng says. 'Why did that individual make such a stupid mistake?... We knew the answer all the time.'... So effective has been the nonthinking group self-deceit of humanity that it now says, 'Nobody should make mistakes,' and punishes people for making mistakes. In love-bred fear for their children's future life in the days to come beyond that of their own survival, parents train their children to avoid making mistakes lest they be put to social disadvantage."

- Cite RBF Ltr. to Bro. Jos. Chuala, p.2; 7 Nov'75

Crowded: Crowding:

**See Population Density: Manhattan Cocktail Party Slow: The Slower
We Get the More Crowded We Get**

SrudltT la Fait of th.

So. Induatralliatlon, (A)

cry9Affll£gs

"As we get Into cryogenics--- taking energy-as-heat out of the
system--- the geometries become more regular and less asymmetric,
thus fortifying the assumptions of synergetics about the vector
equilibrium."

- CH" n»r in m---aoo Idaho_r -2A_actx«- Context at Invisible Circuitry
(1)

SnaxsaUi;

See fcimergy as Heat

Invisible Circuitry, (1)

Crystallisation³¹

•Crystallisation is structurally and vectorially linear is not allspace-
filling."

Crystal:

"The crystals may be unique to our planet; they night be incandescent
at different dittances from the Sun."

31 Citation & context at Ice. 29 Apr*77

- Citation & context at Quantum Sequence. (3), 2? Jun*75

Crystals:

"Nature uses the crystals only for tension."

- Cite RBF in Barry Farrell Playboy Interview, 1972 - Draft, p. 47.

CrxglAlUllftfl:

"In trees and human beings the crystalline are used only for tensions! continuity.**

- Citation and context at Load Distribution, 9 Doc'73

Crystal: Crystalline:

"We get even closer inter-mass positioning when there are three-corner bonds (i.e., triangular faces congruent with faces.) This produces crystalline rigidity.

Crystalline or triple-bonded structuring does not distribute loads as do gases and liquids. Nature designed the triple bonding to produce thi high cohesiveness in tension of crystalline structures. Due to its triple bonding the most difficult structure to pull apart is the crys-talline."

- Cite Synergetics draft, Sec.Ufc\$2-, August 1971.

Crystalline Aecarasue:

See New York City, (1)

Crxataj: CrYPflUn? A_MfegV«\£±g:

"The triple bonded tetrahedron syatem is like an engineering fixed joint: it is rigid. It demonstrates the behavior of crystalline substances."

tSee Illustration #21.)

- Cite SYNERGETICS ILLUSTRATIONS,Caption #21 1967

Crystallization:

"In comprehending probability's transformation of omni-randomness into triangular or tetrahedral castalligation. it" appears "that any number of events, no matter how randomly sited or disposed in simultaneous or nonsimultaneous time arrays--- always have a triangular crystallisation OB regularity of total interrelationships, and that the sum total of all experienced progressions always has a tetrahedral crystallization of omni-interrelationships."

- Cite Ltr to Professor von Hobhstetter, 28 Oct 1964, p. 2.

Crystalloglcal:

"I will give you the design *of* the crystalloglcal.

We find seven fundamental symmetries" and they relate to the "seven great circles that are foldable."

- ~~Mf nmr win I I«wni lye fhlnrn—ilslsl.se... itavn—~~

JPP*

- Citation at FMndfimntll ffy—atriaa_T 1 Jun* 71

Ms ** sr#»/»Fr<y - sec. jowzToV)

Crystallography-.

"Crystallography is always special case and is always confronted with near-symmetric asymmetry; ergo, crstallog-raphy must recognise and reference its special case aspects to generalised symmetry. Generalized synwetric conceptuality is only manifest as the vector equilibrium and its involvement domain. The regular---regular means absolutely uniangular--- tetrahedron is absolute and generalized, and thus never physically realized. All physical reality is special case.

This is why Universe has a Capital U."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 532.18; RDF rewrite 11 Dec*75

Crystallography:

**"„We have 14 primes... which primacy will accosir-odate all the SMi
14 unique structural faceting of all the crystallography..**

- Citation and context at Trigonometric Limit: First 11 Primes.

14 Jan*74 "

RBF DEFINITIONS

"All the crystallography is done through the vector equilibrium relationships where there is turbinizing. There is an accumulation of right and left turbinizing--- positive and negative, inside and out--- not stopping at equilibrium and therefore always relatively asymmetrical*

"The first photographs through a field emission microscope actually show the discrete atoms themselves. The point of a tungsten needle shows a stapling of oranges or whole cannon balls, laying bare layers of whole balls and they are graduated... You'd have to pile them approximately a mile high to come out as the beautiful surface you see on a needle. The atoms are never fractionated; they always come out whole atoms, whole protons and neutrons. Photographs made of the nuclei of whole atoms always come out in that beautiful vector equilibrium pattern."

- Cite RBF to Barry Farrell, Bear Island; Tape #6, Side B, transcript p. 18, 17 Aug'70

"It is a very Interesting area--- DNA--- where the chemistry could be called crystallography, It could be called metals or it could be called animate."

- Cite Urjon Lecture ifk_t p. 135. 6 Jul'62

CrTBtallographlc M«n.gr«bllytv:

See Vector Equilibrium, (2)

Crista!: £mtsH!nti CrvBt«lll»*tlon: CrrBtallomnhT! (i)

See Radio Tuning Crystal Hierarchy or Crystallisations Iceland Spar
Crystals Three Axes of Crystallography Chemical Bonds: Triple Bond
Liquid-crystal-vaporincandecent phases Minimum Set □ Crystal •
Tetra Liquid vs. Solid

See Animate & Inanimate, (1) ; 11 Dec'75 Compound. 13 Mar'73 De-
sign, (1) Equilibrium, 25 Feb*69 Incandescence, 5 Jun*73 Load Dis-
tribution, 9 Dec*73*J 13 Dec'>3 Member. 9 Nov*73 Regenerative,
1960 Tensegrity: Miniature Easts: Positive &. Negative, Dec*61

Thermal, 6 Mar*73

Seven Fundamental Symmetries, 1 Jun'71* Spectrum, 15 Oct'72

Spheric Domains, 6 Nov*72

Triangle, Jun*67

Trigonometric Limit: First 14 Primes, 14 Jan'74* Quantum Sequence,
(3)* Communications Hierarchy, (l) Modules: k t B Quanta Modules,
20 Dec'73 Triclinic, 31 Aug'76 Tactile, 22 Feb*77 Ice, 29 Apr'77*

Cube:

"Though synnnetrically coordinate with the isotropic vector matrix
none of the co-occurring cube's edges is congruent with the most
economical energy-event lines of the isotropic vector matrix;
that is, the cube is constantly askew to the most economic energy
control lines of the cosmic-event matrix."

- Cite SYNERGETICS text at Sec. 982.16; as drafted 6 Nov'72

Cube: (jj)

"If the cube is an entity it has 15 structural lines.

If a dodecahedron is an entity, it has 32 vertexes, 60 faces, and 90 structural lines. (The primes 5 and 3 show up here to produce our icosahedronal friend 15.)

"Whenever we refer to an entity it has to be structurally valid and therefore it has to be triangulated. This does not throw topology out.

"A nonstructurally-triangulated cube exists only by self- deceptive topological accounting: someone shows you a paper or sheet-metal cube and says, 'Here is a structurally stable cube without any face diagonalising.' And you say what do you call that sheet-metal or paper which is occupying the square faces without violating the cube would not exist. The sheet-metal or paper does diagonal the square but overdoes it redundantly.

"a blackboard drawing of a 12-line cube is only an imaginary, impossible structure which could not exist in this part of Universe. It could temporarily hold its shape in gravity low regions of space or in another, imaginary Universe.

» Cited by LJA » -3209 Idaho, DC, 20 Feb '72, re-written 22 Feb.

Cube; (2)

"Because we are realistically interested only in this Universe, we find the cube to be theoretical' only. If it is real, the linear strut cube has 12 isosceles, right-angle annexed, triangular faces."

- Cite RBF to EIA 3200 Idaho, DC, Incorporated in SYNERGETICS at 20 Feb '72. Re-written 22 Feb. Sec. 617, 22 Feb '72

Cube:

"... The cube is not structurally stabilized until each of its six Unstable square-based pyramidal half-octahedra are subdivided, respectively into two."

Cite RBF in Synergetics marginalia at "Modelability. Basic Triangle, Foldability of Great Circles." 14 Sept. 1971.

Cube:

"The cube relate# to cheaietry, the external affaire of the atom. Organic cheaietry begins with the cube: carbon. The tetrahedron, octahedron and icosahedron relate to physics, the internal affairs of the aton."

. r.t-t-w RBF in liH, IIIiiiTRiiInTHi lliiii el rihsfliii-11 Mar-HjlTlf

- Citation at .Physicy: Diffgr.en.gs BttMffim, PhTOlCl and ChMlitrY j i ray* f\

Cube:

"The cube defines the domains of the vertexes of the octahedron. The octahedron is the structural system. The cube exists only as the total pattern of the domains of the vertexes of the octahedron."

- Citation at Domain of Octahedron. <c5 Apr'71

-iiiKPfjlWHIiH niuiiiias*

. <ui.e GYMuRhM M L TLu-iri -'fnni (ii Tintlty mrgiiwfcte.ij

Cube :

"Cubes take three times as much space as tetrahedra.

- Cite P. PEARCE, Inventory of Concepts, June 1967

Cube:

"Because the cube is the basic three, if we asses space in the terms of the cube as volumetric unity, we will take three times as much space as would be occupied by the tetrahedron as volumetric unity. The arithmetical-geometrical coordination in terms of cubes is threefold inefficient for we are always dealing with physical experience and the structural systems whose edges consist of events whose actions, reactions and resultants consist of one basic energy vectors; therefore the cube requires threefold the energy to structure it as compared with the tetrahedron, rfe thus understand why nature uses the tetrahedron as the unit of energy, as its energy quantum, because it is three times as efficient. All the physicists' experiments show that nature always employs the most energy-economical tactics."

~~Cite Draft~~

~~Return to p---V---~~

- Cite Nas_a Speech, p. 72, Jun'66

Cube:

. We have trouble with the vectorially fashioned cube; it collapses, it doesn't hold its shape. Cubes and squares will not hold their shapes. MB¹ they lack structural integrity. To hold its shape a square must be divided into two triangles. But because two vectors cannot go through the same point at the same time the two diagonals of the (quasi) square are tangent and thus form a flattish tetrahedron. To hold its shape a cube has to have a tetrahedron in it. There are eight small or two large tetrahedra in every cube. Either one of the big tetra or four of the little tetra will maintain the cube's shape."

Jun'66 NAS*

Cube;

"Experiment shows that cubes are invalid as structural devices, although the building industry and society in general commonly think of buildings in terms of cubes or quadrangular coordination. If you make a little cube of twelve toothpicks, and join their ends with soft rubber balls you will find that the cube wobbles and collapses whereas a tetrahedron made in the same way, with six toothpicks and soft rubber ball vertexial jointing is utterly stable. The cube becomes rhombic. Each little square will flatten down very readily. The tetrahedron is made up entirely of triangles which are the only inherently stable polygons."

(See Illustration nk.)

- Cite KEPES, P. 82, 1965

Cube;

*. . . One thing very nice about cubes was that they account all space, without any other device."

~~-*~tr ~CZFi bonda-le' Draft~~

-WetuEfttg GnnrdinaJion_f-p, -¥I.1j—

—I-jn

- Citation & context at Allanace FillinM_f 10 Jul*62

KBF DtFINITIUNS

Cube;

****It is really more or less of an assumption that a cube is normal, but the fact is that you don't find many cubes in Universe."**

- Cite Oregon Lecture #3, p. 10\$. 5 Jul¹62

pMte DiWnal gf Cyfr?:

"Synergetics has discovered that the vectorially most economical control line of nature is the diagonal of the cube's face and not its edge; that this diagonal connects two spheres of the isotropic-vector-matrix field: and that those spherical centers are congruent with the two only-diagonally-interconnected corners of the cube. Recognizing that these cube-diagonal-connected spheres are members of the closest packed, allspacecoordinating, unit radius spheres field, whose radii • 1 (unity), we see that the isotropic vector matrix's field-occur- ring-cube's diagonal edge has the value of 2, being the line interconnecting the centers of the two spheres, with each half of the line being the radius of one sphere, and each of the whole radii perpendicular to the same points of intersphere tangency."

- Cite SYNERGETICS galley rewrite at Sec. 982.21, 20 Dec'73

Cubs: Dja/mna! Qf Cpfo: (1)

"We find the associated behaviors of various atoms complementing each other so that we are not just talking about one thing and another one thing, but we are beginning to get something like the interplay of the two three-vector events, i.e., the six-vectored tetrahedral structure. If I bring two tetrahedra symmetrically together, they have a common center of gravity and make a cube.

"Each tetrahedron has four vertexial 'star points'.¹ Instead of having two sets of four separate stars, I now have eight stars symmetrically equidistant from the same center and from each other. All the stars are nearer to each other in their separate four-star aggregations as tetrahedra, where the distances between the star vertexes were the uniformly-sized six edges of the tetrahedra. In their cubical integration the next three nearest stars to each star are only the distance of their right-angled legs of the cube's 12 edges apart from one another, while the tetrahedra's edges are the diagonals.

or hypotenuses, of the cubds' six square faces. Each star has three nearer stars as well as three more remotstars, already transfixing, ergo, step-up of, its coherences, which is $1.41 \times 250,000 = 352,500$ psi."

- Cite HBF marginalis at old Chap 2, "Synergy," 1.4, 18 Mar'69

Cube; Diagonal of Cube:

(2)

"The stars therefore attract one another gravitationally in the terms of the second power of their diminished relative proximities, in accordance with Newton's gravitational principle. So it is no surprise to discover suddenly that the closer interassociation of the energy stars gives us a four-folding of the tensile strength of our strongest component of the alloy chrome-nickel-steel of 350,000 psi in relation to nickel's 80,000 psi."

- Cite Marginalis at old Chap 2, "Synergy,"

1.4, 18 Mar'69

c: PAAKSMI af Qubff:

"All the structuring of nature is probably done by rational tetrahedral increment coordination in which the XYZ coordinates also may be employed to describe the arrangements but only in awkward irrationality because of the cube edges' inherent irrationality in respect to their cubic face diagonals' hypotenuse values, which hypotenuses are the edges of the tetrahedra in the omnidirectional matrix of vectors in the natural structuring itself."

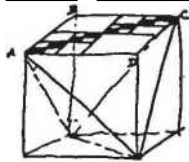
- Citation and context at Tetrahedral Coordination of Nature.1965

Cube: Diagonal of ^{Cut*} *P cpffWl length-

•We have learned elsewhere that the sum of the second powers of the two edges of a right triangle equals the second power of the right triangle's hypotenuse; and since the hypotenuse of the two similar equiedged right triangles formed on the face of the cube by the sphere•center-connecting diagonal has a vsrtle of two, its second power is four; half of that four is the Second power of each of the equiedges of the right triangle of the cube's diagonaled face: half of four is two."

- Cite SYNERGETICS text at Sec. 982.30, 19 Nor*72

Cube; Diagonal of Cube As Wave Propagation Model:



h Mr. Fatter's view, dttra «* M Wgft Um*, aoly waves mtmMtag them. ts diagjra®, any sigzag yath froci A to C oquate ssnn ot >Mn AB wxl BC. If zlcu< is infUItd/ smU, it looks Ukt a dtefona] that stoonii bt shorter thaw ABC. It la as*.

N.Y. TIMES - $\frac{1}{2} \frac{v}{c} \frac{1}{m}$

RBF DYNAMICS OKS

Cube: Diagonal of Cube AB Wave Propagation Model;

"The minute the cube goes from being static to being the dynamic, the potential to the radiant. • •

"As it becomes a wave, the linear becomes the second- power rate of growth. The sum of the squares of the two legs = the square of the hypotenuse - the wave. The 12 edges of the cube become the six diagonals of the tetrahedron by virtue of the hypotenuse--- the tetrahedron is the normal condition.

"Table 5, Column 3 (Omnidirectional Halo, p. 158, SIU Ed.) shows ratio of tetrahedron edge to cube edge of .1179.

"This is how you explain the extraordinary radiational constant. How the e.g.s. goes into the second power: seconds to the second power. It is a time thing."

- Cite RBF to EJA in response to Hugh Kenner's "Emergency Bulletin," of 6 June 1972, Beverly Hotel, NY, 22 Jun '72

$f_{TE} \sim \frac{1}{2} \frac{v}{c}$

Cjffes: PlfKOMI of-a.-Cube no Wave Propagation Model: (1)

tfave action is illustrated by "a steel cube mounted on a frame with a diagonal axis running from one corner of the cube to an opposite corner. (See Illustration 64.) . . . We see the triangle rotate ... in such a manner that it goes from being congruent with the positive tetrahedron of the cube" to being congruent with "the negative tetrahedron of the cube. » * With an oscillating system . . . we find that each one of the little triangles rotates as if it were swelling locally. There is a lag in it . . . exactly like our dropping the stone into the water and

getting a planar pattern for a wave but in this one we get an omnidirectional wave. We can see the electromagnetic wave pattern as clearly demonstrated by one energy action in the system. This is the first time I think a man has been able to have a conceptual picture of a local disturbance. We must remember that in the local water where we drop the stone the molecules run inwardly and outwardly towards the center of the earth gravitationally; the water does not move. It accommodates a wave moving through it. We see that a wave is a pure principle accommodated locally to be broadcast.

- Cite Oregon Ltfuture':#?, 'p_k246, 11 Jul'62
- *set*- * 43.

"We are able then to sand mathematically a wave in pure principle without really having to make anything go from one place to another. A wave inherently goes outwardly in pattern without any of the parts going anywhere

- Cite Oregon Lecture #7* p.26O, 11 Jul'62
- See Basic Raft

Control Line of Nature

Deliberately Nonstraight Line Mensural Unity Prime Vector Tetra Edge
Hyperbolic Paraboloid Stabilized Cube

See Mensural Unity. Feb*72

Synergetics, (1)(2)

Synergetics Constant. 20 Doc'73: (A)(B)

Triangle, (p.43) I960



"When looking at pyramids, if you were starting with a cube as unity, then the volume of the tetrahedron would be some odd number. If you were using the edge of the cube for your control, and using the same edge for the tetrahedron you would find that the volume of the tetrahedron is a very odd number and comes out 1.7426 or something like that. The volume of the octahedron would seem to be some other strange number. They would be uncomfortable numbers in respect to you cube as unity. But you wouldn't be suspicious between the tetrahedron and the octahedron where the edge lengths are the same: the volume is exactly four in the octahedron and the tetrahedron is volume one,"

- Cite Oregon Lecture #6, p.214, 10 Jul'62 (over)

See Nonradial Line

(1

£yfafi_gdZfi:

<2)

See Mensural Unity, 21 Sep¹71 Synergetics Constant, (A)(B)

Oita, M. a. fttffgld:

See Hexagon, 6 May¹48

Cube: Two Tetra as Cube:

"The accomplishment of experienceable, structurally stabilised cubes with a minimum of nonredundant structural components will always and only consist of one equiangular and equiedged 'regular tetrahedron on each of whose four faces are congruently superimposed asymmetrical tetrahedra, one of whose four faces is equiangular and therefore congruently superimposable on each of the four faces of the regular tetrahedron; while the four asymmetrical tetrahedra's other three triangular---and outwardly exposed---faces

are all similar isosceles triangles, each with two 45-degree-angle corners and one corner of yO degrees. Wherefore around each of the outermost exposed corners of the asymmetrical tetrahedra, we also find three yO -degree angles which account for four of the cube's eight corners; while the other four yO -degree surrounded corners of the cube consist of pairs of 45-degree corners of the four asymmetric tetrahedra that[®] were superimposed upon the central regular tetrahedron to form the stabilised cube. More complex cubes that will stand structurally may be compounded by redundant strutting or tensioning triangles, but redundancies introduce micro-invisible, high- and low-frequency, self-disintegrative accelerations, which will always affect structural enterprises that overlook or disregard these principles.**

- Cite SYNERGETICS text at Sec. 615.04; galley rewrite 9 Nov'7j

£tt^{be} Two Tetrahedra As Normal Condition of the Cub*?

"The 12 edges of the cube become the six diagonals of the tetrahedron by virtue of the hypotenuse--- the tetrahedron is the normal condition."

- Cite RBF to EJA in response to Hugh Kenner's "Emergenfy Bulletin," of 6 Jun'72, Beverly Hotel, NT, 22 Jun'72

Two. Tetrahedra as Normal Condition of the Cube:

Mexico 63, p.24, 10 Oct'63

Prevailing Conditions in Arts, U or O, p. 102, 10 Oct'64 □* Oregon Lecture #1, p.33, 1 Jul'62 110 223.62 463.03 464.07 842.02 982.42-982.48 1009.32

Cube & YE as Wave Propaation Model;

"Both the cube and the vector equilibrium's flexible, necklacelike, six-square-face instabilities can be nonredundantly stabilized as structural integrity systems only by one of the other of two possible diagonals of each of their six square faces, which diagonals are not the same length as the unit vector length. The alternate diagonalizing brings about positive or negative symmetry of structure. Thus we have two alternate cubes or icosahedra, using either the red diagonal or the blue diagonal. These alternate structural symmetries constitute typical positive or negative, non-mirror-imaged inter-complementation and their systematic, alternating proclivity, which inherently propagate the gamut of frequencies uniquely characterizing the radiated entropy of all the self-regenerative chemical elements of Universe, including their inside-out, invisibly negative, Universe provokat, split-second-observable imports of transuranium, non-self-regenerative chemical elements."

- Cite SYNERGETICS text at Sec. 615.07; 23 Feb'72

Cub* fc VE a* Ware Propagation Kod«l:

See Stabilised Vector Equilibrium

BBF DEFIKITICliS

Cuba: Volume-3 Cube:

"A non-nucleus-embracing 3-volum* cub* say b* produced by applying four of the Elgth-Octahedra to the four equiangular triangular facets of the tetrahedron. (This is illustrated at Sec. 950.30.) Thus we find the tetrahedral evolution of the prime number three as identified with the cube. Ergo all the prime numbers--- 1 \ 2, 3, 5, 7--- of the octave wave enumeration aystea, with its seroneliness, are now clearly demonstrated as evolutionarily consequent upon tetrahedral intertransformation."

- Cite SYNERGETICS text at Sec. 905.tfc, 16 Dec'73

Cube: Volume-3 Cube:

"... The cube, part inside part outside the sphere, is three."

- Citation and context at Constant Relative Abundance. 29 Nov'72

Cube: Volume-3 Cube:

□We can find topologically that the cube has a fundamental prime number, three.*

- 'fW-carbonttale-Braft

datura to > iudolabi44typ. $V \leq 6$

- Cite Nasa Speech, p.70, Jun'66

See Octahedron: Voliuae-3 Cube

Cjjja: ymiUK-j CJIM:

(2)

See Experience, 25 Aug*71 Planck*e Constant, (B)

See Carbon

**Fourteen Local Squareness Nucleated Cube: Nuclear Cube Square
Three-dimensional Hexahedron**

Stabilized Cube

Minimum Stable Cube Domain of Cube Duo-Tet Cube

See Allopase Filling, 9 Jul'62

Constant Relative Abundance, 29 Nov*72*

Curvature: Compound, 22 Sep*71

Domain of Octahedron. 25 Apr¹71*

Monological. 9 Jul*62

Physics: Difference Between Physics & Chemistry, 31 May*71*

Sixty-degree Modulatability. 19 Nov*72

Vector Equilibrium, 19 Nov¹74

Multidimensionality, (1)

Triclinic, 31 Aug* 76

Four-dimensional Reality, 30 Apr*77

Domes, 12 May@77

Cubing:

"• . • We can only get eight cubes, close packed, around a point. The cubes represent 2 - 8. Cubing does not permit the making of models of or n\

(See ILLUSTRATION # 2J.)

- Jibe Carbendable Draft-

met c u i Bat ant to foednlablUty, - V.12

- Cite NASA Speech, Jun*66 ' r

Cuoing: Cubic Accounting:

See Powering: Fifth & Eighth Powering, 11 Dec'75

25 Jan'76

Cuboctahedroq;

See Vector Equillibrl.ua

Cui de Sac: IfftUIUTgXY JMdTftrtffft:

If I had not entered this intuitively inadvertent cul de sac

I would never have been excited (by attempting to correct it) into discovery of the neat five value of the nuclear sphere, which eliminates the necessity of employing pl in synergetics coordinate systems, though it discloses where and why pi coexists, but only as a terminal vestige."

- Cite RBF holograph at SYNERGETICS galley #270, 30 Dec*73

Cuj de ga<;: Intuitively Inadvertent:

See Discovery, 18 Nov*65 Psychiatry, (2)(4)

See Technology & Culture, 25 Oct*77

Cultural Life:

"So our cultural jlf is one that is lagging way behind the very important events that are reorganising our total relationship to Universe through our technology and science

ity p, 19i 1 Jul

- Citation & context at Architecture, 1 Jul'62

Culture;

J.H. Plumb (professor of history, Camlidge) in NY.Times Book Review, p.3, 23 Jan*77:

"...Others have been preaching that nothing is alien to social history whether it be a chair, a costume, a meal... what counts in human society is economic organisation and political action."

RBF: "Beautiful culture is just hobbling to a beautiful mind. It is all exactly the reverse from the way Plumb has it! 'Political action' simply means 'Who is going to survive in a world of scarcity?'

"Here is where the wonderful British nation got the idea of the intellectual servant---in service to the state. The English "pure" scientists are all tied up with the symbols. The East India company masquerading as the British Empire... Secure as the Rock of Gibraltar... the Rock of Gibraltar went out with World War II. Millay said there are no islands any more. It's the end of sovereignty."

- Cite RBF to EJA, upon being shown cited review at breakfast. 3200 Idaho, Wash, DC; 27 Jan`77

Culture;

"Culture just means getting things stewed up. . . like growing algae or microbial broth in the laboratory, keeping the light out.

"Culture is porposeless to-ing and fro-ing, back-burner steering. It is moody drifts: flotsam and Jetsam. Culture is flotsam saying to the jetsam: I think we ought to have a law against any waves."

- Cite RBF to EJA, 3200 Idaho Ave. Nw. Wash. DC; 11 Aug»76 Incorporated in COSMIC PISHING:)d. p. 11 -3.

Culture:

*1 use 'culture' in a biological sense. There are certain growths, intercomplementations of culture in human affairs, cumulations of poetry, painting-, art, knowledge, and inventories of our understandings. But much of cul/re is highly conditioned reflexes, often very impeding reflexes. Our educational system is the essence of it. I question whether the word 'culture' is useful; it does not necessarily represent a net gain all the time.

"At its most ambiguous it represents a closed system of two kinds of people: the cultivated and the uncultivated.

**there is, of course, a synergetic Interaction of all of humanity and the 100 , 000 nuances of definitions of all our experiences in the dictionary are a great memorial to hmranity. (It's different in the orient due to the holdover of ideographs which represent a different way of generalizing.}"

- Cite RBF in response to EJA query at Videotaping session. Philadelphia, Pa., 1 Feb'75

See Communication <t Culture

History

Technology & Culture

See Cctaaunicatlons Hierarchy, (2) News k Evolution, (l)-<4) Custom:
Lest Oie Good Custom Corrupt the World, (A)(B)

See File Cards with Triangular Arrays of Holes

See Hierarchy of Conatellar Conflguraticne, 1959

See Powering: Third Powering, 28 Oct*73 Spending. 25 Kar'71
Words, I? Jul*73

See Vessel

See Hand, Nay'70

Tools: Craft It Industrial, 29 Aug'64

See Mend vs. Cure Pathology: Preventive vs. Curative

Curioaitv:

See Aggressiveness, 7 Nov*67 Generalised Principle, (3) Helpless:
Humans Born Helpless, 15 May*75 Human Beings fc. Complex Uni-
verse, (8)

farain gf VjataQwn-Maff?

See Coaeic Integrity, 13 May¹73

Curtain: Curtalnlnn:

See Manbrane

Omnidirectional Shutterrebla Sieve

RBF DEFINITIONS

Curvature:

*Radiation is pushive, ergo tends to increase in curvature. Gravity is
tensive, ergo tends to decrease its overall curvature. The ultinate re-
duction of curvature is no curvature. Radiation tends to increase its
overall curvature, (as in the "bent space' of Einstein), The pushive
tends to arcs of ever lesser radius (microwaves are the very essence
of this); the tensive tends to arcs of ever greater radius."

- Cite SYNERGETICS draft at Sec. 541.04, 23 Sep'73

Curvature:

"Tensions are always curved. They never can get straight.

- Citation & context at Tension. 5 Jul'62

- -Cite HnsjoiT i , -r.TiniO

Curvature: Compound Curvature:

"It is no aesthetic accident that nature encased our brains M and re-generative organics in compoundly curvilinear structures--- there are no cubical heads, eggs, nuts or planets."

- Cite HBF quote in U1D NJi Kim Proposal, 22 Sept. 1971

$Tf*SCCffiTr - sec *7*\{$

Curvature: Compound:

"Spherical arrays and compound curvature begin with the tetrahedron."

- Citation ± context at Convex & Concave Tetrahedron, Aug*71

Curvature (Coaindli

"£1 (o/) is irrelevant in Synergetics because the sphere is not experimentally demonstrable and the tetrahedron is the minimum sphere* Compound curvature starts with the tetrahedron. Pi drops out because chords are more economical than arcs."

- Cite MF to EJA; Blachetono-Ketel, Chicago, --31 May 1974
- Citation and context at Sphere, 31 Kay* 71

"Compound curvature, i.e., locally omnitriangulated convexity gives the greatest shell strength per weight of any given structural material."

- Cite RBF Ltr. to Mr. Robertson, 12 Mar'74

HBF uaFWITIOHS

SttaiKi: SoaMwad Curvature:

• As we hare deaonstretod with geodesic donee a ad spheres, what is meant by compound durvature is • omni-intartriangulated structuring (i.e.«_t balanced connectors) of concave-convex surface points.”

Citation and context at Twenty-Foot Eartfr Globe and 200-Foot Celes-
tial Sphere (6), 2J Jan'7J

"I prefer to stay with compound curvature because it ia structurally stronger than either flat surfaces or aimpie cylindrical curvature or conical curvature. The new compound curvature geodesic structures will employ the tenaegrity principles. The comparative-stregth, performance, and weight tables, by Richter, showB clearly that the geodesic dome geometry is the most efficient of all compound-curvatures. omnitriangulated, domical structuring systems?"

- Cite SET "X", p.6, Augfc'72

RBF J*F1WIT1UHS

"Compound curvature, or sphericity, gives you the greatest strength with the least material."

- Cite RBP toe EJA, 3200 Idaho, Washington 3 October 1971

reuse C-KITI- src tSi.Gi

Curyavprg: cgfflMMnd Cypyatur?:

"Compound Curvature starts with the Tetrahedron

- Citation de context at Chords. 31 Nay*71

See Chorda. 31 Kay'71*

Geodesic Structure, (1)-(4) Projective Transformation, (4) Sphere, Apr'49; 31 Kay'71* Twenty-foot Earth Globe, 2J Jan'73* Convex & Concave Tetrahedron, Aug'71 Wind Stress & Houses, (1)

Curvature: Sianle; (1}

"We can demonstrate the great structural gain inherent in the principle of simple curvature over rectilinear structures when we take a limp sheet of paper and curve it into a tube. Previously an amorphous diagram of little structural advantage, it afford dramatic structural ability in the form of a tube. When the paper is curved, the concave side forms an arch of infinitely minute parallel compression staves, fulcrums of pinched rows of atoms. The convex surface of the curved paper is stretched around the compression arch of parallel fulcrum lines— tensed atoms.

"The paper may be reversed so that what has been the inside of the cylinder's surface becomes the outside surface. Thus it is seen that the simple curvature structure is a principle and not a unique characteristic of the atoms constituting one surface or the other. The stability of simple curvature is enhanced by the length of the parallel lines. As the lines shorten to approach 'points,' the compression of the arch approaches the ball joint which then tends to curve in any direction. The curved compression in the barrel or cylinder was confined to"

- Cite PREVIEW OF BUILDING, Chap. 11, I&I, p.2>6, 1 Apr'49

Curvature: Simple:

(2)

"articulate its tendency to curvature within one plane by the compression (strutted) positioning of every point of the line of curvature afforded by the parallelism of the staves and their inertia.

"In a staple curvature tube of paper all the circles of tension, including all the circles of compression, are parallel to one another and give one another no help. Therefore a cylinder be flattened— in which case each circle becomes a double line. In order to do this, we see that the tension circles exert all their pull in levering the many compression points within to compress exquisitely the two opposite, or polar, compression point. This is then, the genesis of the ultimate, two-way focussing compression tension line resulting from stressing simple curvature."

- Cite PREVIEW OF BUILDING, CaJ/p. 11, 141, p.217, 1 Apr'49

RBF DEFINITIONS

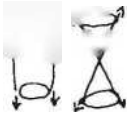
Curvature. (Simple);

Parallel lines can be torqued. So may the parallel lines of a cylinder be twisted as we see them in a rope. A rope and a cone are both forms of simple curvature."

- $G \pm tBrTnni5t" > ttirTNTKGnTTTrn, P_T$

- **Cite m**

- Citation at Torque_T 1 Apr*49



Curvature: Simple and Compound Curvature;

"The difference between simple and compound curvature is two vertices.

" • "T

"Simple curvature is inherently $V - " * ' / ff -$

infinite whether cylindrical or r 't

conic: $l | \setminus /$

"Two points A and B close these systems unique and axially symmetric planes:"

Cite RBF holograph, 2 May56

Curved Space:

"A sphere is unit, but a line is not because the terminals of a line must represent arbitrary cut-offs. All lines, except when abstractly considered as 'direction,' are somewhat curved, and all curved lines must eventually intersect--- no matter how remotely. Not even a graphed spiral is forever possible because the errors in a graphed line constantly dislocate the line and insist upon an ultimate intersecting contact. This, quite simply, is the essential concept in Einstein's 'curved space.' • The only possible symbol of unity in plane geometry is the circle."

- Cite NINE CHAINS TO THE MOON, (AO-29), p.11d, 193d

Curved Space:

—
—

Nine Chains to the Moon, (AO-29), p. 113, 1933

522.21

522.22

541.04

826.14

1009.52

1009.97

CMmd Spagg: Bent Sac.:

See Curvature, 23 Sep*73

Gravitational Field, 8 Kar'73

Acceleration: Angular ft Linear. 11 Feb'73

Space, 19 Oct'70

Otherness Restraints ft Elliptical crblts. (2) Geodesies, (1)(2)

c«milnpar-'

"... Lines are always curvilinearly realised because of universal resonance, spinning, and orbiting."

- Citation and context at Line. ? Nov'72

See Charts: Curves & Trending Curved Space Industrialization: Curve Of Linear & Curvilinear Omnicurvilinear Ring Spiral Wavilinear Tendril Curve World Man Curve Flat vs. Curved

See Geometry of Vectors. Aug*71 Plane, 19 Feb*72 Radiation: Speed Of, (D) Rope. Dec'71 Tension, 5 Jul'62*

AuhlAK: fir* Harrgy minn CMfihlni: (1869-1939} **"Dr. Harvey Cushing— 1869 to 1939—**

Was so great a neurosurgeon

That his professional colleagues first called themselves

The Harvey Cushing Society

But later adopted the more formal name

Of American Association of Neurosurgeons

And at the same time MMMt instituted the Harvey Cushigg As the principal address of their annual congress Oration And though I am neither a neurosurgeon Nor a professional of any discipline

An aberration of fate brought me the honor of delivering

'The 1967 Harvey Cushing Oration*

To two thousand of their members

At their annual meeting in Chicago."

- Cite BIAIN AND MIND, first verse. 1971

Cussing:

See Spit-punctuated Monosyllabic Verbal!so

Cussing:

See Fuller, R.B: Koratxjrium on Speech, (1) • (3)

(2)

Cuntoma Barrier a:

See Sovereignty: Elimination Of, 29 Jun'72

Custom: Lest One Good Custom Corrupt the World? (A)

Q. "Individuals do not survive, but the species does

survive through all the environmental stresses, ` •hat are the ethical and moral standards should we use in determining the environment that humanity must choose?"

RBF: "I do not hink of any kind of (social or philosoph

ical) 'movement.* We are all born in the presence of the truth. We do have this enormous cultural yearning—but it is so remote from what Universe is trying to do. Human mind is everything: credos and culture are not it.

"Poets, being sensitive, feel the significance of events more than do scientists. Scientists, beginning with Lavoisier and Priestley, have found out about thermodynamics and its second law of entropy bringing about increasing disorder. This is what Tennyson is saying—it all happened in his lifetime. Tennyson accepts the idea of entropy, the operation of inexorability in human affairs. His 'Korte 'Arthur, the Death of King Arthur says—

- Cite RBF to World G_{aP} Workshop; Philadelphia, PA; 22 Jun'77

RBF Dr. rUITICKb

LgSt-Pae Good custom Corrupt the World:

(B)

'The old order changeth yielding place to the new. And God fulfills himself in many ways, Lest one mood custom should corrupt the world.'

"Tennyson saw that a custom once appropriate to a given time, adopted by virtue of 'being realistic' might survive too long. He thought the bad customs would take care of themselves.

Hut—since change is inexorable—it's the good customs that may hold up change and bring great delays and lurches in the inevitable evolutionary trends. It is an interesting notion of Tennyson's, The only thing that counts is not customs and culture but what the evolutionary trends of Universe may be.

- Cite RBF to World G_a Workshop; Philadelphia, PA; 22 Jun'77

Lest One Good Custom Corrupt the World:

"If change is inevitable, then any attempt to stay the change— by holding with a custom that had been so satisfactory yesterday— would build up an obstacle to the change that would bring about possibly the greatest revolutions."

- Cite RBF Johns Hopkins Lecture, (as transcribed and quoted in Johns Hopkins Alumni magazine of Mar'74) - 3 Oct'73

cmæ: food Cuatm corrupt tht,WgrX<b

*We all know the lines

'The old order changeth, yielding place to the new, And God fulfils himself in many ways,'

- But we're not so familiar with the next line, which is:
'Lest one good custom should corrupt the world.'

□That's the point about one good custom--- if change is inexorable-- holding on to a custom which was satisfactory yesterday, may be an obstacle to evolution today.

"We are now at a point where all of humanity is coming into a new fundamental relationship in Universe. . . It's man's mind that has access to those eternal principles. There are no exceptions to the principles therefore they are inherently eternal. The larger complex of Universe is never predicted by the lesser. It is grand strategies of working from the whole to the particular which will characterise our education in the future, abandoning any thought that the parts are going to tell you about the whole. That's what Tennyson was trying to get at<

- Cite RBF in Johns Hopkins Lecture, 3 Oct'73

RBF JtFILITIGLS

Custom: Lest One Good Custom Corrupt the World:

"In the time of Tennyson tradition was about as strong as it could be; change was abput at its lowest in social affairs. Technology had not yet taken over. Still, Tennyson was able to conceive of the approaching industry-- even to consider flight. In Korte O'Arthur he said

'The old order changeth, yielding place to the new As God Fulfills himself in many ways...'

And then he says something that is unfamiliar to most people:
'Lest one good custom should corrupt the world.'

"He realized that a habit that was once completely satisfactory to man may be maintained after its time. As entropy is always operative and the Universe is altering, change is inexorable. Therefore, holding on to a good custom is equivalent to damming up the Universe and so the flood will only be worse when the dam does break. It is really the most pleasing traditions of yesterday that bring about the greatest social revolutions. At the moment we are finding a great many seemingly satisfactory kinds of custom from yesterday---ⁿ

- Cite draft Preface for Francis Warner, 1970
Custom; Lest One Good Custom Corrupt the World;
(2)

"due to the improved communications--- so the past seems very attractive to hold on to. The young life is doing almost everything possible intuitively to break from custom without knowing intellectually why it should. You can always find the logic behind what man does, but this is much deeper and more mysterious,"

- Cite draft preface for Francis Warner, 1970
TtXT Cli.iTIUhb
Custom; Lest One Good Custom Do Corrupt the World:
* Arts & Letters Gold Medal, Kay '68
Dreyfus preface (Decease of Meaning) p.23, draft 28 Apr '71
Introduction for Francis Warner, pp 5-6, 1970

See Tennyson

Yesterday's Virtues
See Advertising, 28 Apr '71
Customs:

See Doing What Needs to be Done. 22 Jan'72 Metaphysical Environment, 1J Nov'69 Nation, Oct'70 Optimism: Reverse Optimism, Aug*64 Industrialisation, May'72 Young World, 28 Apr'71 Wealth, 20 Sep'76 Technology i Culture, 25 Oct*77

Seo Finger: Cut Your Finger

See Coupler Structure. 10 Jen'50 Velvleg, 13 Kay'?J

Cybernet!eg:

"Cybernetics, the Greek nene for the steering of a boat we first employed by Norbert WMner to Identify the human process of gaining and employing Information. When the rudder of a ship is angled to one side or the other of the ship's keel line, the ship's hull begins to rotate around its pivot or deepest keel point. Since ships have great weight—usually in ton magnitudes—frequently in thousands of ton magnitudes— the momentum of that tonnage's pivotong tends to keep rotating the ship beyond the helmsman's intention. He therefore has to 'meet' that ship's altering of its course which he does by putting the rudder over into the opposite angular direction, which always produces a momentum contradiction and a resultant course alteration to the opposite side of the desired ship's course. It is impossible to altogether eliminate the ship's course re-alterations. It is possible only to reduce the degree of angular errors by ever moro sensitive, frequent, and gentle corrections.

"Through successively sensed visual information, the ship's helmsman discovers that he has oversteered first on one side and then on the other side of the compass course he is desirous of maintaining in order to reach his unseeable, faraway destination

- Cite RBF Ltr. to Bro. Jos. Chuala, pp.3-4; 7 Nov'75

Cybernetics;

"Computer strategy— which is known ae cybernetics."

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, p. 87. 1969

RBF D&FINT10NS

Cybernetics:

"It is found in cybernetics that original questions, asked either by humans or by computers, are always produced by unexpected interferences."

- Cite AAUW JOURNAL, May 1965, P. 176

"Order is achieved through--- positive and negative Magnitude and frequency controlled alteration Of the successive steering angles.*

- Cite HOW LITTLE, p. 71. Oct'66
- Also cite AAUV Journal, May '65.

CyberneticB:

See Age of Cybernetics Bits Rudder Society: Control Of Steerability
Wiener: Norbert Programming Forecasting Capability Feedback Servomechanisms Servomechanisms

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to Phy.i=.l Selene, U>

Sru^r. P sSS*o"l^{ng}of &X., (2)

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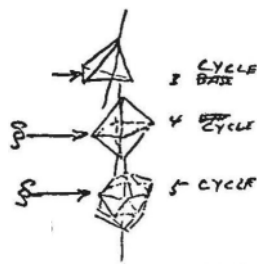
"Convergence to frequency magnitude is tunability.

As with all wave phenomena, tunability is in terms of T<

whole cycles leveled with ~?~74 a vertex.

Three intervals plus three events □ tetra.

Four intervals plus four events Five intervals plus five events There are no other fundamental cycles. <£1



- Cite RBF holograph, Synergetics Notes, 1955

octa,
icosa.

- Sketch by R2?, bantu Barbara, 10 Feb*73

Cycle:

****A minimum of two cycles is essential to frequency fractionation**

Cite SYNERGETICS, ' • Corollaries," Sec 240 52 1971

"It is characteristic of waves that they always make
a cycle."

- Cite RBF to Sli-ib Seminar, U. KASS., Amherst, 22 July 19/1

Cycle:

•The cyclically moduled length of the edge of any triangulated, special case, structural system can represent the basic 'standard of relative comparison on a recycling basis of subdivision. Each increment is one unit of frequency and each increment is one unit of wave."

- Cite NASA Speech, p.103, Jun*66

Cycle:

"Convergence to frequency magnitude is tunability. As with all wave phenomena, tunability la in tensa of whole cycles converging to a vertex.

"Three intervals plus three events - tetra;

"Four intervals plus four events octa;

"Five intervals plus five events icoaa;

There are no other fundamental cycles."

- Cite RBF holograph, Synergetics Notes, 1955

Cyclical:

"...cyclically. ergo inherently, ergo eternally synchronized..."

- Citation and context at Carrier Wave_r 9 Mar'73

Cyclic Bundling of Experience_{cg};

"The circling bands of cross-sectioned tree or the scalloped terraces of the shellfish are convergently secreted structures (interference of higher order) of cyclic bundling of experiences.

"If wave embodiments of cyclic experience appear everywhere in the accredited morphology of nature's omnidirectional convergent-divergent, synchronous-dissynchronous, infinite plurality of pulsating controls of interactive events in principle."

- Citation *in* context at Periodic Experience_t(11), May*49

Cyclic Dividend:

See Irrational Number, 14 Jan'74

Cyclic Experience:

"The wave embodiments of cyclic experience appear everywhere in the accreted morphology of nature's omnidirectional, convergent-divergent, synchronous-dissynchronous, infinite plurality of pulsating controls of interactive events in principle."

- Cite RBF quoted by William Gilman in THE LANGUAGE OF SCIENCE, (p.37) : New York; 1961

See Angle & Frequency Modulation Diurnal Cyclic Experience Heart-beat Cyclic Experience

(2)

Sea Line, 28 Jan'69 Time 4c Sixe, Hov'?1

CTCIIc Wmlaa:

See Acceleration, 14 Feb*73

Cyclic Reference:

See Omnidirectional, circa 1y70

See Comet: Around Cooes the Comet Again Wow: The Last Wow

Entropy, 16 May'72

unitn

"Where unity (1) equals 360° , 180° equals one-half unity (i) and . . . 720° equals two times unity (2) therefore, we may identify a triangle as one-half unity and a tetrahedron as cyclic unity of two."

224.12

Cite Synergetics draft Sec. 224T©84 - June 1971.

Cyclic Unity:

"Cyclic Unity embraces both wave and frequency since it represents angles as well as cycles."

Cite RBF to Beverly Hotel. New York 7 I-arch 1971

RBF DEFINITIONS fHMB Cyclic Unity:

Sorneof ancient Greece's natural philosophers and geometers took effective advantage of synergy when they recognized that the sum of the angles of a plane ^{18?} ' or e?agtlly one-half of cyclic unity taken as 360 — ergo unity equals ⁶}es- 1 aa®umed in 1917 that 'unity is plural and at minimum two.'*

- Cite DOXIADIS p. 312. 20 Jun*66

B cYc11c OnltT-

"720° is the angular description of two cycles of unity, unity being the 360° of total angularity around a point and as such the unit cycle of all time wherefore 720° is exactly two cycles, wherefore the tetrahedron as the minimum system, with total angularity of 360° or 720°, bears out our long-held hypothesis that 'unity is plural and ad minimum BHB is two,'"

- Gite NASA Speeeh, p» 63

--- Cj li'l i 1P2 FT j"*T V » Aft

- Cite NASA Speech, p.63, Jun'66

Cyclic Unity:

/Cyclis7 "Unity is the full circle sweep around an axis.

Padded by LJA - Cite OMNIDIRECTIONAL HALO, P. 144 1961

See Infinity & Flinity. Dec'61

Pi, 11 Oct'72

Tine-eixe, 2 Nov'72

Unity ie Plural, 20 Oct'73

Universal Vertex Center Model, 29 Apr'43

See Angle At Frequency Modulation Design Cycle Diurnal Cyclic Experience Ecological Cycle Frequency Frequency Modulation Heartbeat Cyclic Experience Minimum Cyclic Enclosed Circuitry Multicyclic Multiorbital Orbital Subcyclic Wave Redesign Cycle Time-size Cyclic Modules Holuing Pattern Industrial Cycle

See Acceleration: Angular & Linear. 1(2) Carrier Wave, 9 Mar'73* Cosmic Discontinuity & Local Continuity, 15 Jan*74 Description, Jun*66 Gears, 22 Jul'71 Hexagon. Nov'71 Interval, 6 May'4d ratter vs. Radiation, 7 Nov¹'73 Now, 7 Nov'73 Personality, May'49 Quantum Wave Phenomenon Sequence, (1) Size, (1)(2) Synergy; Degrees Of (5) Time, 19 Oct'70; 28 Feb*71 Periodic Experience. (6) Frequency Islands or Perception, 13 Noy'75 Regenerativity, 17 Jan*75

Cylinder;

See Curvature: Simple

Rolle

Geodesic Spiral Tube Tensegrity Mast

Cypher:

See Cipher

CrtoBino;

See DNA-RNA

D

RBF DEFINITIONS

"All through the years Daddy was the authority. Daddy came home, brought home the food, brought home the killings; he was the hunter and the soldier; he was the farmer protecting the family.

"And Daddy saw the other people, the iWher soldiers and farmers; he saw the king and he was able to tell the kids what the authority says outside his authority and what the rules are.

This is what his Pa taught him; this is how you handle the tools. Daddy is an authority about everything. This is the way Dad says it is and that's the way you emulate the way he says it is.

"So that was how language evolved.

"When I was 32, in 1927, suddenly Daddy came home and the kids said, 'Daddy, a man's just flown across the Atlantic. Lindbergh.* And Daddy says: 'How do you know that?' 'It's coming over the radio, Daddy.* Daddy didn't bring that news home and he hasn't brought it since.

"So a completely new thing happened as a consequence of World War I. And World War II brought us to the point where television*

- Cite tape transcript, pp.21-22; RBF to W. Wolf, Gloucester, Hass. 2 Jun'74

Daddy: (2)

"came in.

"Most important of all we had to invent languages. All those languages are so different; but sight is a universal language, what you see. What this did was to bring the world together in a way it had never been put together before.

"It's not really what the npcaster is saying; it's what the kids are really seeing out there anywaprwhere. Kids look at the way things work. They see everbody around the world now. They are being educated together; nobody's going to put some tricks over them politically. Now this wasn't predicted. But the kids see that Dad and Mum are absolutely a minor authority.

They can tell you what's going on in the shoe stores, tell you a little bit of local news, but it's all absolutely irrelevant. Dad's not telling us about Man's getting to the Moon. Man's been her for three and a half million years and Daddy's been the authority all that time. Suddenly nature has gotten enough information and the tools for communication and there's a young world here. She's cut the metaphysical cord, the metabilical cord.

- Cite tape transcript, p.23; RBF to W. Wolf, Gloucester, Mass., 2 Jun'74

Dali. Salvador:

See Artist, 24 Jan'72

Artist: Histrionics, (1)

Dalton: John Dalton: (1766-1644)

"Dalton was then at the mental stage of the interpretation where he thought that they really had found the smallest thing, the atom. He thought all the atoms were made up of the hydrogen atom. There was no nucleus, just atoms. They were not broken up into protons or anything else, it was just atoms and they thought they had actually found what Democritus had talked about. He thought that they had found the smallest hard core thing. It was invisible, below sight, but there it was--- if you could get a fine enough microscope you could find a hard core thing."

- Cite Oregon Lecture #4, p. 123. 6 Jul'62

Dalton John:

See Building Blocks, (1) Darwin, (A) Twenty Questions, (1) Human Beings k Coalex Universe, (6)

See Hydroelectric Das

Dag;

(2)

See Rearranging the Environment, 9 Apr* 71

Dance t

"Dance is the language of Unlvaraa."

- Cite GOLDYLOCKS, Intro. (C), 30 May'75

Dancing:

*. . . We learn that we can orbit and spin at the same time. We call that dancing."

- Cite Oregon Lecture #4, p. 143. 6 Jul'62

Dance: Dancing:

See Conversation Sequence, (1)(2) Communications Hierarchy, (2)

Dapgeroua Condition:

See Equilibrium, 1965

TEXT CITATIONS

Pare To 3c Naive?

Synergetics: Trent natter: "Moral of the Work,* First line

Pare to Be Halve:

See World-around Communication Transcends Politics

(2)(J)

Repetition, 2 Jul*75

Self-diBcipline, 28 Mar'77

Darling:

See Outlaw, 1968

Darwin: Charles Robert: (1809-1832)

"Since experience is finite it can be stored, studied, directed and turned with conscious effort to human advantage. This means that evolution pivots on the conscious selective use of cumulative human experience and not on Darwin's hypothesis of chance adaptation to survival nor on his assumption of evolution independent of individual will and design."

10 as re-written for SYNERGETICS (Sees 502.23)

- Cite MARKS. p. by RBF. I97I

Daryin: Evolution May Be Going the Other Way:

"...There is no breeding experience of Earthians which suggests that the limited inventory of different chemical elements constituting amoebas could be progressively amplified and complexed to produce the wide variety of chemical elements constituting the unique information-harvesting organisms employed by metaphysical humanity.... It is implicit that amoebas and other simple organisms can

be progressively, sub-divisionally isolated out of complex organisms such as those of humans and introduced into an intercomplementary environment-sustaining complex, but not vice versa.... Darwin's evolutionary sequence was brilliantly conceived, but its occurrence programming was in reverse of reality,"

- Citation in context at Human Mind vs Physical Evolution. (2)(3) 5 Jun'75

•I've been recently supported by scientific developments which suggest that I may prove to be correct in assuming that Darwin's theory of evolution is in reverse. Darwin assumed evolution proceeding from the simplex to the complex. I am evident that the Universe works the other way, developing simplexes to accommodate the a priori of a Universe in which there are 92 regenerative chemical elements. There are too many chemical elements involved in humans to be able to go from amoeba to man. Man is not born a specialist. He can't fly or swim very far, or anything. But he can use his mind to discover and employ the principle of negative pressure, which is called 'lift'; and he accomplishes flight and flies ten times as fast as the bird, then takes off his wings when he's not using them and lets others use them. So humans have the capability to understand abstract 'weightless' eternal principles and we have the maximum number of sensitivities with which to gain information and employ in principle. You can't come to this maximum complex of human sensitivities and information handling from just a hydrogen atom. There's a lot of hydrogen in us but at the time of Darwin, Dalton was the great physicist and he thought all atoms of higher number"

- Cite KBF quoted in HOUSTON AC GARDEN Interview, p. 202, May '92
Evolution fav Be Colne the Other Way:

"Were comprised of hydrogen atoms. So with this buildingblock idea Darwin built a science of evolution. Now it's very easy to inbreed by concentrating parental genes and a special type--- that is to breed a faster running

(B)

horse by mating two fast runners. Inbreeding is always accomplished by breeding out general adaptability. It is easy to go from a man to a monkey by inbreeding butthere's no indication, nothing in the history of breeding anywhere, that suggests being able to go the other way." *

- Cite RBF quoted in HOUSE & GARDEN Interview by Beverly Russel, p. 202, May 1972

Dantla: Evolution May Be Going the Other Way:

"The notion that starting out with unity as one (such as Darwin's single cell) will provide simple and reliable arithmetic compounding (such as Darwin's theory of evolution: going from simple to complex* ameoba-> monkey-> man) is an illusion that pervades the elementary educational concept.*

- Citation MMHHRMM & context at Synergetic Advantage Principle UL
21 MP¹ J

Qffryla: Evolution May Be Going the Other Way:

"It io possible that Charles Darwin was wrong. Man may have come to Earth from another Planet. In Darwin's time all the sciences were unsophisticated and Darwin had to base his theory of evolution on available information, Now there is different information, gained from nuclear physics, genetics, molecular chemistry. Archaeologists keep

finding examples of man having lived on Earth as long as four million years ago, but the evidence does not always indicate a more ape-like structure. Evolution may be going the other way--- Niwrad--- and it is possible that we may be making monkeys of ourselves.^{rt}

- Cite HOW LITTLE I KNOW, Queen, Kay '70 (Not in Bantam edition)

Darwin: Evolution May Be Going the Other Way:

"We will probably learn that Darwin was wrong and that man came to Earth from another planet and monkeys are hybrids degenerated by overlong inbreeding of isolated humans."

- Cite THE PROSPECT FOR HUMANITY. WDS Doc 3, p. 65, Aug'64

Darwin- Evolution KAY Bg taint tho Qthgr ys

"So I began to see that so-called evolution had been really inversed. About 1935 I had the advantage of Meeting Henry Fairfield Osborne who was at that time head of the Natural History Museum in New York and author of three volumes updating Darwin. . . I asked him if there was anything in Darwin's data that said that the patterning could not have been in reverse. There was no question about the integrity of the interrelatedness of the VBB patterning--- that this one is very close to that one and that there is an evolution between them--- but could the evolution not have been that of separating out, rather than associating? Might you not then have had another way the Universe came out which would have been like us ... I am talking about . . . defining man as one way the Universe could have come out. . . "

- Cite Oregon Lecture #5, p. 173. 9 Jul'62

Santlin: Evolution May be Going the Other Way:

See Building Block#, (1)

Evolution, 1960

Free Will, 1960

Metaphysical Independent of Inbreeding, (1) Synergetic Advantage:
Principle Of. 24 Mar*71 Human Mind 4 Physical Evolution, (2) (3)*

Paraiba ETQIUUQQBFY Tenda;

See Darwin: Evolution May Be Going the Other Way

TEXT CITATIONS

Darwin:

(For a systematic exposition of Jarwin see THIS IS YOUR GRAND
STRATEGY, 4 Feb '68, pp. 8-9.

--- Barry Farrel tape transcript; Bear Island; 14 Aug*70 - Tape #4;
Side B; p. 22, 21 - 24.

229.02

502.23

See Determinism

Early Man

Evolution

Free Will vs. Darwin's Determinism

See Building Blocks, 9 Jul*62

Design Revolution: Pulling the Bottom UP (1)(2){6} Free Will, 1960
Leaders Can Yield to the Computer, 4 Mar*69 Marx, Karl. 7 Aug'70
Pirates: Great Pirates (5) Twenty Questions (1)(2)

Synergetic Advantage: Principle Of. 24 Mar*71 Human Beings it Com-
plex Universe, (6)

See Vitalistica

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Ba.taa_ln. MB Flit:

Seo Census of 1010

Fuller, R.B: Discoveries of 1913

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Energetic/Synergetic Geometry: Original

Publication in 1944

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Nineteen Seventy-two: 1972: History's Most
Critical Tear

Social Economics: Majority Control of Social

Economics by World Man by 1975

Year 2000

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Dwelling Service Industry: 1977 Birth Of
One-town World of 1927

Dome House Grand Strategy: 1927-177

Trial-balance Cut-off Year: 1977

da Vinci:

See Leonardo

Pftwilni Awarwiftaa •

Seo Intuition, 26 Dec*74

Dawn: Dawning:

See Awareness, 27 Dec*73

Naw, 25 Apr*71 Second, May'72

ax:

(1)

See Diurnal Cyclic Experience

(2)

Dax:

See Invented Periodicities, Hay*49

Qead Anlmaj:

"Live animals' brains sense only that The'dead'animal is inactive.

Animals do not think.

They have only brains.

Kan alone has mind.

Fan alone can think.

Only thought can discover

The hierarchy of generalized principles.”

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan'69

Py1

See Animate A Inanimate Burial of the Dead

V.aarf-Panttr **st** Vaiv<g,tt=

See Experience, 12 Sep*71 Vector Equilibrium, 1 May'71

Dead Center;

See Alternate Dead Centers

UfiA&h*

"Employing the scientifically accurate words IN and Out in the place of DOWN and UP synchronises our everyday reflexing with the 20th century-emerged electromagnetic Universe behaviors, 'hat we once thought of only statically as 'solid things' vs. 'empty space' becomes that unique program which we have tuned into our tunable set vs. all the millions of now-being-broadcast programs which we did not have tuned in (i.e., are tuned-out, but may be tuned-in.)

"Death is all the cosmic programs we haven't as yet tuned in."

- Cite RBF rewrite of 28 Mar*77 citation; 3200 Idaho Ave., Wash, DC; 29 Mar'77

Death:

"Death is just something we haven't tuned in yet."

- Cite RBF to White House Fellows. Watergate Hotel, Wash. DC; 2S Mar'77

HBF DETIN IT I OKS

Death:

*1 am not the physical. Life is immortal. I have no feeling of death. I know you may not be able to see me again....

•I write to Jack and his wife said I'm sorry but he died. But I'm still writing the same Jack; I'm not writing a dead Jack. Jack can't die; it's really so."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb'75

Death:

"Comprehending and knowing are eternal. Little children know this fact intuitively. The child can play ¹ shoot grandmother,* because he knows that her love is eternal. You can't kill graryn other. Grandma, grandpa, and everyone else are eternal. A true storv: Father, mother, and little boy are driving along the freeway en route to grandmother's house. Little boy keeps talking about grandpa and how he is going to play with grandpa. Finally his mother says. 'Darling, you have forgotten that grandpa is dead.' Little boy: 'What! Again?' Only residual ignorance of temporality dulls the growing comprehension and allows fear to corrupt the child's innately absolute trust in love."

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag., 11 Sep'73

Death:

"rfrhere syntropy is gaining over entropy life prevails tfhere entropy is gaining over syntropy death prevails."

- ~~rim~~ HTIH in t i i in,wn >“,H i ir~ p fli'i l'nj '7

- Citation & context at Feedback. May'71

Death:

"So he spoke about then the fact that if a man is born then he grows up, he has children, has grandchildren, then he dies; he overlaps these children. He is an □ energy aggregation that grew and waxed and then he disassociated."

- Cite RBF at SIMS, U. Mass., Amherst,22 July *71, IHB

ueat.h:

"/-y body, 14ft pounds . .. when I die it will be unimportant--- yester-day* s cereals."

« Cite RBF in Robert Snyder film (140-minute version.), 4 May'71

Death:

"Only life's temporary vehicles Can be destroyed.

"Life is inherently imortal."

- Cite Dreyfuse Preface, "Decease of Meaning."D.L

28 April 1971,

Death:

"[t]fith death the individual loses nothing, but gains the insight and knowledge of all others as well."

- Cite SYNERGETICS - "Conceptuality: Life" - RBF Marginalia, Somerset Club, Boston - 25 April 1971

Death:

"Our individual life is a special case. Death reverts to the whole. It nay not seen satisfactory but the individuals survive in awareness because they are potential to the whole-** like the avei&e of plus (+) and ninus (-) wiiijhts."

- Cite RBF to

- Citation and context at Life. 13 Mar'9 71

Death;

•When early navigating man was separated from his group by a storm, he would rarely find them again. He would discover unfamiliar places. Out of this sprung a fatalistic philosophy--- I see you now but soon I may never see you again. Thus death itself was not to be abhorred. God became the prevailing winds and currents which seemed to be leading you away. He carried you forward. One learned to release the old and take on the new. There was no basis for grief or nostalgia because you never touched upon the past again. This is the reason that the oriental feels so differently about death."

- Cite NAGa TO THa INVISIBLE. SLA, p. U. 1970

Death:

"The concept of life Is unique to the mind.

Brain apprehends

Only the physical.

Brain does not differentiate life and death."

- Citation at Brain & Mind. 28 Jan'6y

~ i ii riimriTTffrn rniiTTriwn, fi?, n

Pg³² Ifa:

"Normal speed ia 46,000 times nan*a rocket speed. Therefore nan ia--- relatively speaking--- alaoat aa immobile aa death."

Death:

"I begin to realise the dimension of the thinkable you are phenomenal when 1 hear the radio and hear Moxart.

In these kinds of dimensions there is quite a different relationship to what we call dead, which is strictly a tactile thing. I put the touchable thing in the ground but I can't put the thinkable you in the ground."

32 Citation & context at All-acceleration Universe. 20 Jun*66

fitn i'ngsn-iisfrtiuws 1, ji 90-J

- Citation and context at Thinkable Youi 5 Jul'62

.D.mb: Apparent Discontinuity Of:

See Evolution: Man aa Evolution Kodifeer, May*49

Death: Slaw Death by Slung w. War as_ Quick Death:

See War: Slow Death by Slung va. War as Quick Death

Paath by ^{tf}ant>

Se® WarJ Slow Death by Simas vs. War as Quick Death 4 Jan*70

Death: Weighing of People >a They D±*:

" Connunicat ion is weightless. In the weighing of people as they die, science has found that no weight is lost, only electromagnetic frequency is lost...."

- Citation & context at Communication, 21 Jun*77

Weighing People Aa They Die:

•Humans dying in hospitals have often been weighed as they crossed the threshold between life and death. No weight is lost. Life is weightless, imponderable. When life has departed the radiant heat, the brain-propageted energy waves, and the radiance of being are alike gone. The full physical inventory of the corpse remains--- useless, reninscent, but that is all. That is the way I read the data of nan's significant exploring.

- Cite THE PROSPECTS FOR HUMANITY, Sat, Review, 3 Oct'64

WtUhlM, gf FgQPIfi Afi Thgy Dj₀:

"Humans about to die in hospitals have been carefully

weighed as life departed. No weight was lost. Whatever life is, it is imponderable. •

"When in good health and 'good form' the total myriad component functions of our physical organic being are entirely subordinated to subconscious coordinate functioning, commanded by the integrity of the individual life. When life has departed, the full physical inventory remains--- useless, reminiscent, but that is all."

» context at Subconscious Coordinate Functioning.

10 Oct'63

Sgath: Weighing or People as they Die

See Autonation, Jun'69

Life, 13 Nov'69; May'72

Subconscious Coordinate Functioning, 10 Oct'63

Twenty Questions, (3)(4)

Wave Pattern of a Stone Dropped in Liquid, (A) Communication, 21 Jan'77*

Sea Afterlife

Birth-death Interplay

Burial of the Dead

Dead Animal

Discontinuity of Death

Dust of Death

Game: Dying as a Game

Grandfather Dead: What Again

Inanimate

Immortality

Life & Death

Life Is Not Physical

Local Dying

Mortal

Pyramid Technology

Quick & the Dead

Threshold of Life

Yesterday's Concept of "Into the Next World"

Stone Falling and It's Going to Hit You on the Head War: Slow Death
by Slums vs* War as Quick Death

See Complementarity of Growth and Aging Teeterdav'e Concept of
»Into the Hext World* Between ® Beyond

Seo All-acceleration Universe, 20 Jun*66* Artifacts, 1963 Brain &
Mind, 28 Jan*69* Feedback, May*71* Life, Kay*49; 13 Mar*71*
Nora of Einstein as Absolute Speed, Jun*\$6 Phantom Captain, 1938
Subconscious Coordinate Functioning, 10 Oct'63 Syntropy k Entropy,
Feb*71 Thinkable You, 5 Jul*62* Teleology, (1)(2)

Debiasing;

See Self-de biasing

Debt:

"Debt indicates depletion
and borrowing from diminishing resources.

Debt was a necessary item in accounting for agricultural failures of
the Isolated periods.

There is no possibility of absolute debt occurring in the new eco-
nomics made available through the accomplishments of science.

This is because the basic constituents of the wealth can no longer be depleted."

- Cite Part II. Earth Inc. Fuller Research Foundation Yellow typescript, p. 1J.

See Deficit No Absolute Debt

SM Docaxial:

"Offhand I don't know of any pentaxial system. But the ten axes connecting the mid-faces of the icosahedron would, of course, make up a decaxia1 system,"

- Cite RBF to EJA, 3200 Idaho, Wash, DC, 25 Feb '72

Decay:

Seo Growth & Decay

Pgpe Qf Mfiftnlnt:

See Meaning: Decease Of

See Eternal Slowiown

Acceleration & Deceleration

See Scenario Universe, 22 Apr'68

Dflcontrallio Ta. CantrallM?

*I have listened with great interest to discussions regarding decentralisation and centralisation and I have thought that the question of whether it is valid to decentralise or centralise is unanswerable because it deals with one one-way sign in two-way traffic. It is a static question in a dynamic Universe

- Cite PREVIEW OF BUIDDiG, I4.I, p.199, 1 Apr»49

Deceptiveness of Topology:

See Quanta Loss by Congruence

Deception: Deceit:

See Self-deception

DWIJMI flirt PurtwiflAl:

"Pictured at Synergetics Illus. #69 7 are the 15 great circle developments from rotation of the icosahedron in respect to the 15 axes interconnecting opposite midpoints of the icosahedron's 30 edges. The 120 resulting right spherical triangles represent the maximum unitary subdivision of a one-radius system. This fact was long known in mathematics. Since 120 is 10 times 12... this geometric relationship may underlie both the decimal and duodecimal systems of modular accounting; and may have been derived by subdividing a finite system into its lowest common denominator... We inherited the combined decimal and duodecimal systems from this fundamental thinking in early Babylonian science and in the mathematical invention of the Sino-Indian navigators."

- Cite MARKS, p.138, Fig.1,7, caption. 1960

Pgcimal &. Duodecimal :

See Prime Number, 16 Oct'71 Universal Vertex Center Model, 29 Apr'43

PoGQDdiUpn MT Subconacioua Reflexing!

See Twelve-inch Steel World Globe, (1)

Esgamiffn: P«cor«tlm:

See Exterior Decorators

P«cre««lM Confusion:

So« Conaeraation of Finito Utdvaraa: Principle Of, 20 Jun'66

See Destructuring

See Structural Sequence, (B)

Deed: (Property Deed):

See Real, 20 Apr'72 Squatters, (1)

Defense;

See Politicians & Defense Budgets

Deficient: Deficiency:

See Antipathy, 15 May*72

Diet, 11 Feb•73

Heredity, 15 May'72

Nora:.. Tetrahedron as Nora, 15 May*72

Deficit Accounting:

"There will be no such things as deficit accounting. You cannot live on deficit accounting. You cannot eat deficitly or drink water deficitly. What is to eat is there--- as the water is there."

- Citation and context at EfigfloaXg. (1)» Feb*67

Deficit Accounting:

See Afford

Debt

Resource Inadequacy No Absolute Debt

"The locally definable entity is not complete for it does not exist by itself. All experiments show that local entities are inherently both entropic and antientropic, i.e. all local systems are always intimately linked with the rest of Universe by measurable import and export pattern trans** actions. Definable entities are uniquely functioning components of Universe.*

- Cite OMNIDIRECTIONAL HALO, p.135, 1960

Definable:

"Definable thought patterning deals only progressively (by rescanning) with the local event foci of experienced patternings of Universe. Definable thought, though constituting systematic consideration and orderly reconsideration which returns omnidirectionally upon itself in local conceptual relationships, is only a subdivision of finite, which is Universe, which is inherently inconceivable unitarily."

- Cite OMNIDIRECTIONAL HALO, P.134, 1960

Definable:

"... The universe is finite, and all its components definable."

- Cite INTRO, to OMNIDIRECTIONAL HALO, p. 122, 1959

EsXlnaUa: DerintblUt-y:

See Generalized Topological Definability Wave & Particle Definability Angle & Frequency Modulation Nondefinable

Local Definability

SsInSktUAlx: Defining:

(2)

See Closed System, 1965

Up & Down Sequence, (4)

Visibility & Invisibility of Systems, (1)

Omnirational Control Matrix, 12 May'75

Definite:

"I assume that the physical universe is definite And the metaphysical universe is finite.

What men have called infinite

I call finite

And what men called finite

I call definite --- i»«»» definitive.

Finite is not conceptual.

Definite is conceptual.

Therefore, the combined

Physical and metaphysical universe is finite."

- Cite HOW LITTLE, p. 58, Oct'66

Definite:

"Einstein¹'s intellect - Defined energy as $E = MC^2$ Energy cannot define intellect. Intellect the metaphysical Is comprehensive to Energy the physical While Universe is finite Energy is definite Because definable."

Cite HOW LITTLE, P. 35. Oct'66

Jefinite;

"What man used to call infinite, I call finite what nan used to call infinite, I call definite: i.e. definable--- conceptually definable. The differences are all finitely and rationally calculable."

Hite NfrfiA Speech, -p,-07_r Jun¹66

- Citation and context at Comprehensive Universe (1J_t Jun*66

KBF JiFlhiTluNS

Pg-fXrUV«>:

"different shapes, ergo different abstractions, are nonsimultaneous;
but all shapes are de-flnite components of integral though nonsimul-
taneous, ergo shapeless. Universe."

- Citation 3c context at Abstraction. ly?1

- intriui nr., "IMIWITUL!. .Im . Iijyk

De»Finite:

"De-finite is a sub-set of finite."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, < 1967

Da-Finite;

"I assume that the physical.universe is definite And the metaphysical
universe is finite.

What men have called infinite I call finite

And what men called finite

X call definite--- i.e., definitive. By my philosophy

The finite, but imponderable fietaphysical universe Embraces the def
ini®, Ponderable, physical universe. Finite is not conceptual. Definite
is conceptual.

I have mathematical proof That the difference between the sums

Of all the angles around all the surface vertexes Of any concep-
tual definitive physical system And the finite but nonconceptual
metaphysical universe Is always 720°

Or a difference of only one Definitive tetrahedron Therefore, the com-
bined Physical and metaphysical universe is finite."

- Cite HOW UTfLh 1 KNOW, p.jg, Oct'66

De-finite:

^wDe-finite equals finite minus outwardness and inwardness."

- Cite UMilDIDRECTluNAL HALO, p. 142, Caption Fig. #4, i960

"It is in evidence that Universe as the coordinate integral of all experience is finite yet nonsimultaneously recollectable--- ergo, unitarily unpatternable--- ergo, conceptually unthinkable--- ergo, undefinable. This is to say undefinable does not mean infinite or un-finite. It means that definability--- de-finite is a subset of finite--- ergo pattern definition is a subset of finite-yet-unitarily-undefinable Universe. The definable conception is therefore the first thinkable subset functioning of Universe."

- Cite OhKIDIRECTIUNAL HALO, Pp. 133-134, I960

De-finite:

' 'Universe is finite.

Local systems are de-finite. **

- Cite COLLIER'S, p. 113 Oct*59

Definite: De-finite:

(1)

See Finite ft. Definite: Flnity A Def ini ty Finite Minus Definite Locally
Conceptual Local Definability Nond@finable Local Systems

See Abstraction, 1971*

Bias on One Side of the Line, May'65 Comprehensive Universe, (1)*
Shape, Oct'59

Tools of Geometry, (2)

Universe, (1)(2)

DgflnAUffns

"Vectors and tensors constitute all elementary definition.

- Citation at Vectors ft Tensors_f 11 Oct'73

Definition;

"Physics has found the whole physical Universe to be uniquely differentiated and locally defined as `waves.'^{*}

- Citation at Physical Universe, Nov'71

- t r u i i < J t J t y N K H I . R ' I I I

Definition:

"The frequency and magnitude of event occurrences of

any system are comprehensively and discretely controllable by valving, that is, by angle and frequency modulation.

Angle and frequency modulation exclusively define all experiences which events altogether constitute Universe.^{**}

-frYllhROETiefr

- Citation at Angle fc Frequency Modulation. Oct'71

Definitions:

"Synergetics predicates all its relationship explorations on the most accurately and comprehensively statable observations ... of direct experiences."

RBF DKFIN_{rn} ONS

Dfifnl_{tl}gng:

"We nay assume that all definitions are tentative.

- Citation *k* context at Indeterminism_r, Oct'69

PMIP_{IUOM}:

"Angle and frequency modulations . . . discretely define

all events or experiences
which altogether constitute universe.”

-

- Citation at Angle fc Frequency Modulation. Jun*66

Definitions:

"Unless we have experimentally demonstrable and scientifically definable meaning in our words, we cannot communicate effectively with words, . .

"... The degree of effectiveness of communication is proportional to the degree of exactness of commonly accepted definition of meanings of the words used. This statement is a corollary of my long-held working assumption that a problem adequately stated is a problem fundamentally ripe and * potential of solution."

- u IMilfTAJiT⁻¹_t ~ p ~ 3°?,

- Citation & context at Communications Theory, 20 Jun*66

See Angle & Frequency Modulation, Oct'71*; Jun'66* Communications Theory, 20 Jun'66* Conceptuality, 24 Apr'71 Eternal Slowdown, (1) Indeterminism, Oct'69* Omnitopology, 19 Dec'73 Physical Universe, Nov'71 Synergetics, 9 Dec'70* Tenetative, 1971 Thinking, 2 Jul*62 Time. 1970 Truth, 30 Jun'75 Structure, 23 Jan'76

MMi ^DcfnlUYg:

"Physical science ... restricted its comprehensive accounting strategy to the special case of definitive isolations within the physical portion of Universe. This left the remainder of all experiences, no matter how earnestly and meticulously reconsidered, outside the definitive portion of comprehended experiences of Universes, i.e., the physicists said that all that is not physically encompassed as $E = mc^2$ is meta-physical."

- mu

- Citation and context at Physical Sciences. 1959

Definitive:

"Each life as we know it is definitive. I.e., consisting of a plurality of terminable, ergo definite, experiences beginning with each awakening and terminating with each surrender to sleep (no man can prove upon awakening that he is the man who he thinks went earlier to sleep, or that anything else which he thinks he recollects is other than a convincing dream). The intermittent beginnings and endings of conscious experience constitute an aggregate of definitive experiences*- and the aggregate is therefore finite."

- Citation and context at Universe (1)(2), 1959

See Communication Dictionary Meaning Prime Definition Self-definition Indefinable Verb Word Definable: Definability

See Hamaerthrow

(1)

Pea Shooter

UttClesllM: Perioctlon:

See Vieual, 22 Feb'77

(2)

D»nner«tlv«

See Radiation, 1959

KBF DnFliU

Uegemug:

"1 became convinced then that all life is born as genius but gets to be degenlus-ed very rapidly. 1 wondered whether it may not be possible then to develop an environment for a new-born life where it would not get degemuse-ed. This is why 1 became preoccupied with environment. I felt that a little child had what laharishi is able to regain as human beings: how to break through to those fundamental faculties with which we are all endowed. 1 had hoped that 1 might be able to protect what we find in that new-born child, its purity and its brilliant conceptuality, its contact with eternity."

- Cite KBF Mb at SlkS, U. lass., Amherst, 22 July *71, Talk 12, p. 12.

Denenius;

"It la my conviction, from having watched a great many babies grow up, that all of humanity is bom a genius and then becomes der.eniused very rapidly by unfavorable circumstances and by the frustration of all their extraordinary built-in capabilities. Everybody's specialised now. We couldn't be getting ourselves into worse trouble since we also learn that all the biological species became extinct because they overspecialized. So overspecialisation's the way to extinction, and society's all tied up with specialisation. Eve&body is born to be a com-prchensivist. If nature wants to develop a specialist, she does, and if nature wanted you to be as specialist, she'd have you born with one eye and a microscope fastened on to it."

- Cite EBP in "The Listener" transcript by John Donat, 26 Sep'66

itBF DEFINITIONS

Pwnmr

"Every child is born * genius but is quickly degeniueed either by unwitting humane or by physically unfavorable factors of the environment. The bright ones are those who are less damaged than the others."

- Cite NASA Speech, p. 19, Jun'66

See Genius: Children Are Born Geniuses Unlearning

See Education, Jun*66 Environment, 22 Jul¹71 How Little 1 Know,
1968

DEGREES XKT THIS ITU!

D&greeii in thia File:

See Ninety Segreenesa Sixty Degreeeness

See Pulse Pattern. 2 May»71 Twinkle Angle Equimagnitude Phases,
18 Nov*65 J 19 Dec*73 Vextorial it Vertexial Geometry, (4 J Dihedral
Angles of Tetra & Octa, 16 Dec*7J

EqwlBMAUtUdC Fh»ggo» IS Nov*65* IQ Dec*73 Beale Triangle: Beale Diaeqt-
tilibriua 120 LCD Triangle

See

Sphpricql Exg?aa Neutral Angle. 16 Dec*73

HBf DEFINITIONS

Decrees: 6° 16* :

See Pulse Pattern. 2 May*71

ILE UIJICATORS

DexreeB: 7° :

See Aberration Limit, 22 Jun*72

Degreea: 7° 20* :

See Quantum Sequence, (3)

RBF DEFINITIONS Degrees: 7° 20* :

S«« VnilPPlM AnilQ! Tetrtheli

Equimagnitude Phases

\HBF EDSINITIONS

Degrees: $10^{\circ} 32'$:

See FttlPQ Pattftrn, 2 May*71

Dihedral Angles of Tetra & Octa, 16 Dec¹73

See Aberration Licit. 22 Jun*72

Dep-»»»: $20^{\circ} 5V$ IS.57*

See Basic Disequilibrium 120 LCD Triangle Synergetics text at Sec. 902.21 + Table 905.65

See Basic Diaequilibrium 120 LCD Triangle Synergetics text at Sec. 902.21 + Table 905.65

Degrees: $J6^{\circ}$

See Tetrahelix, 10 Jul*62

Oegr.ea: $37^{\circ} 22' 38.53''$

See Basic Disequilibrium 120 LCD Triangle Synergetics text at Sec. 902.21

*** Table 905.65**

See Projective Transformation (IV)

See Octant: Octantation

(1)

Trigonometric Limit XYZ Quadrant at Center of Octahedron

Filx INDICATORS

Pquares; $45^{\circ} \bullet$ (2)

See Aberration Limit, 22 Jun*72

Numbers System is Inherently Octave, 3 Mar*73

Octahedron, 3 Mar*73

Octant, 20 Jul*73

See Icosahedron; Great Circles Of, Oct'72 Pulae Pattern, 2 lay'71
Vect*rial & Vertexial Geometry, (4) Dihedral Angles of Tetra & Octa,
16 Dec'73

Degrees: $59^{\circ} 02 \bullet$;

See Icosahedron: Great Circles Of, Oct*72

See Dymaxlon Alrocoan World Map: IcoBahedral Version 27 Jan*75

TBIT CITATIONS

Degrees: $63^{\circ} 26 \bullet$;

Synergetics text - Sec. 1120.01, footnote.

SM &lll: (D

See Unzipping Angle: Tetrahelix, 1955

Cosmic Neutral, 16 Dec*73

Pulse Pattern, 2 May*71

Coupler, 27 Jan'75

Vectorial &. Vertexial Geometry, (40

Dihedral Angles of Tetra & Octa, 16 Dec*73

RBF DEFINITIONS Decreea: 72° :

See PrzlffctlyO Tr#nafgrMtlpn (*) \angle^{V1}

RBF DEFINITIONS

Peerage: $72^\circ J2'$:

See rrslMUyi-TraialgnaftUfin W

RBF DEFINITIONS

Degrees: **$6k^\circ 44^*$** :

See Twinkle Angle. 1955

Deereee:

98.6° :

(1)

see

Deareea: 98.6° :

See Hiimn Beluga and Hard Machinery, 20 Apr'72 fiBF DEFINITIONS

(2)

Degrees: $109^\circ 28'$

See Sphere_t Nov'52

Coalc Heutral. 16 Dec'73

Tetrahedron: Regular Tetrahedron, 29 Nov'72

Coupler, 27 Jen'75

Dihedral Anglee of Tetra t Octa, 16 Dec'73

KbF DEFINITIONS

uegroeB: 120° :

See Symmetry. 31 May*71 □□□□B Bxnaalg. Stfimtry, 31 May'71

Degrees: $16fl^\circ 50^*$:

See Icosahedron: Great Circles Of, Oct*73

See Triaection of »n Angle. 22 Nov*73

Synergetic Accounting Advantages: HLOTrchT Of $<^1$) Straight Line.
1glinking Side Effecta, 10 Dec•73 Synergetics. 1969

G_CfldgalC. Wtt. 20 Dec*73 Precession la)(b)

FILE INDICATORS

Degreea: 180° :

See Precession k Degrees of Freedom, (1)

REF DEFINITIONS DeerceB: $221^\circ 36^*$:

See Projective Traneforaation (IV)

360° :

See Circular Unity

Babylonian MathenaticB

Nm»ber Sv»te» 1b Inherently Octave. 3 Mar'73

Octahedron. 3 Mar*73

EBF DEFINITIONS

Degreea? 720° :

Sea (2)

$D_c < \ln Us$, Oct *66 PgflC^arVCfl, 19 Jun'71 Triangle, Jun*71

Degreea: 1080° :

See Triangle, Jun'71

"There are six positive and six negative degrees of freedom* It's not
ever an either/or linear, go, no-go, condition.

"So much freedom is permitted by the rules of Universe and at such
high frequency of re-employability as to make 'anything' possible,
though some things will take longer than others--- some in split
seconds, some in billicjs-light-year increments,"

- Cite RBF address to Yale Political Union, New Haven, 9 Dec'73 as amplified by RBF at 3200 Idaho, 13 Dec'73

RBF DEFINITIONS

Dtfnw Qt rrgatfff*

"There are six positive and six negative degrees of freedom. It's not an either/or condition ever-- so much is permitted by the rules of Universe.*

- Cite RBF address to Yale Political Union, New Haven, 9 Dec'73
Degrees of Freedom:

"The conceptuality of different degrees of apartness is fundamental to a plurality of degree of freedom, which induces the realization of time."

- Citation & context at Time. 1 Apr¹72

"The different degrees of freedom are equally free, but they are all of minimum Effort,"

- Citation and context at Economical. 9 Jul*62

Degree-of-freedom Rate:

See Change, 9 Nov'72

Degree of Freedom for Bonding;

"Willard Gibbs' degrees of freedom are the complementary of bonding."

- Cite HBF to EJA, 3200 Idaho, Wash.DC.; 24 Jan'76

Degree of Freedom Bonding

See Four Interrelated Mobility Freedoms, 2 Nov'73

See Four Degrees of Freedom Six Degrees of Freedom Twelve Universal Degrees of Freedom

Alternate: Alternative Chess: Game of Universe Electable Energetic Freedoms Free Will Inventions that Decrease the Degrees of Freedom Inventions that Increase the Degrees of Freedom Loss: Discovery Through Loss Man's Degrees of Freedom of Action Options: Optional Kate: Degree of Freedom Phenomena Ratio Restraints Precession of Degrees of Freedom Kepler Ball Nature Modulates Probability Individuality & Degrees of Freedom Copotentials of Initial Freedoms

< IB)

See Four Interrelated Mobility Freedoms Motions: Six Positive & Negative Energetic Functions Structural Functions

££KS.aa_fi£_&.ssdt-

(2)

See Awareness. 10 Feb*73

Design Science, (1)

Economical, 9 Jul*62*

Fourth Dimension, 1969

Change, 9 Nov'72

Gibbs: Phase Rule, 1960

Most Economical, 9 Jul*62

Parts, 1954

Reality, 26 Sep*73

Time, 1 Apr*72*

Pole Vault, 2 Jul*75

Individual Life as One Way Universe Could Have
Turned Out, 5 Jun*75
Freedom, Jan*77

See Destructures: Destructuring

See Organic A Inorganic, May*49

Deity:

See Early Words, i960

De.1a Vq:

See Game: Synergetics as a Gaae, (1)(2)

Deliberately Non-Straight Line: (A)

"My deliberately non-straight line gets straighter and straighter by having less and less diameter whereas your attempted straight line gets worse and worse. With my deliberate non-straighter of very high frequency, you can keep carry on all the geometrical proofs of the Greeks and Egyptians and all the geometries since that time with confidence that my deliberately non-continuous high frequency event tracery is much straighter than any of the lines employed by the geometers up till now. I said my deliberately non-straight line was also discontinuous as each of the thousands of fibers overlapping each other in my dacron rope consisted of molecules which consisted of myriads of atoms and each atom consisted of a plurality of separate electrons and nuclear components, the electrons being as remote from the nucleus as the Moon from our Earth, therefore discontinuous and cohered only by the mass attraction and electromagnetic laws. In a fundamental way my deliberately non-straight line, when viewed through a field emission microscope, looks like the milky way as a tracery of stars in critical proximity to one another, that is affecting one another and each holding the others as part of a system, the galactic nebula. You can think of my circlet of rope as the same fundamental pattern as the

- Cite RBF dictation to Alexandra Snyder, Ashoka Hotel, New Delhi, India, November 1971

Deliberately Non-Straight Line:

(B)

"great Milky Way circlet of our island Universe."

- Cite RBF dictation to Alexandra Snyder. Ashoka Hotel, New Delhi, India, November 1971

RBF DEFINITIONS

Deliberately Non-Straight Line:

Quasi 'straight' lines are deliberately non-straight lines. See Illustration #13x7

"As we double the frequency and halve the wave length of positive and negative waves we approach relative straightness. Proof that two deliberately non-straight lines between points A - C approach relative straightness to more effective degree than attainable by an assumed straight construction."

- Cite SYNERGETICS ILLUSTRATIONS, caption #13, May'67

Deliberately Non-Straight Line (1)

"Pure mathematics* axiomatic concepts of straight lines are completely invalid. The pure mathematicians' straight line must be infinitely, instantly and all its parts simultaneously existent. It must avoid being progressively generated or drawn as an experimentally-produced actiontrajectory of one system modifying another. Any actiontrajectory's trail-width would not bear microscopic inspection without disclosing gross Irregularities. Progressively closer inspections of experimentally attempted demonstrations by the pure mathematicians of their allegedly 'straight' lines always disclose increasing angular digressions from straightness.

"While the mathematicians' 'straight' lines get less straight, with ever closer inspections the 'Quasi straight line' as a deliberately non-straight line does progressively straighter. It does provide all the Finite geometric functions heretofore served by the mathematicians* alleged but unprovable straight line.

"Progressively doubled frequency of modular subdivision of deliberately non-straight line swiftly approaches an

jtc'ViF] ” Cite NASA sPeech> P •*»*»> Jun'66

Deliberately Nonstraighjt Line:

"Approaches an 'apparently' straight, but known-to-be-non- straight line. Each 'V*' is converted into an equilinear distance 'W.' This single wave 'W' becomes an equal-energy value 'W' or two half-sixe waves. As the frequency of the wave subdivisions are multiplied, the quasis- straight line swiftly approaches 'straight' behaviors.

(2)

•'Lines of sight' taken with transits are truer than string lines or pencil lines. Sight approaches 'staright* behaviors. Lines of sight are high-frequency energy wave interactions. Because the truest lines of sight are energetic wave quanta, they are always finite.

"Light reaching, us from the Sun... is geodesic."

- Cite NASA Speech, pp.44-45, Jun'66

"What the mathematician thought was a straight line is not a straight line but is an ultra-visible high frequency, linearly articulated event. This binary mathematics methodology of halving, or cybernetic 'bitting' not only explains linear wave phenomena but also identifies Pythagoras's halving of a music string to gain an exact musical octave. The computer programmed to employ the cybernetic bits of binary

mathematics progressively subdivides until one of its peak or valley parts gets into congruence with the size and position of the unit we seek. This identification process is accounted for in the terms of how many bits it takes to locate the answer, that is, to 'tune in.**'

- Citation at Bits: Bitting. Jun'66
 jffOotT(&U Sr sres, 5?236. 1 517.3 j?

RBF DEFINITIONS

Deliberate Non-Straight Lina:

"Nature abhors an equilibrium as much as she abhors a perfect vacuum or a perfect anything. For instance, when an airplane in flight comes to equilibrium, we call it a stall, and the plane become unmanageable and goes swiftly out of equilibrium and into a plunging field of gravity. But I saw that we could approach or employ an almost perfect equilibrium as we employed a crooked line which swiftly approached but never reached the perfect or exact. I saw that a comprehensive structural svstem would have to involve all thpositive and negative tendencies either side of equilibrium. The comprehjnsive system would have also to involve all the topological pattern components and as a quasi-equilibrial structure would have to be approximately the same length; therefore, all the angulation would have to be in increments of sixty degrees."

- Citation at Equilibrium. Jun*66

- Cite CALBCTIUAL dltAi'l¹,

See U. iass., Amherst, 22 July '71, Talk 12,

p. 30, et. seq.

251.36 S54O.13

420.041 S54O.14

463.04-4o3.05

502.41

522: 522.01-522.23

See Basic Raft Circuit Cube: Diagonal of Cube as Wave Propagation
Model Hyperbolic Paraboloid Hypotenuse Line: Imaginary Straight
Line No Straight Lines Prime Vector Rope Wavilinaar Halving the
Halves Zigzag: Right-left: Halfway Averaging

See Bits: Biting, Jun*66* Equilibrium, Jun'66* Reductio ad Abeur-
duii, Nov* 71

Deliberate:

"Science identifies as... objective³³., the deliberately initiated and ex-
perimentally instituted responses to the subjective stimulations."

See Design: A Priori vs. Deliberate Design Experiment Inadvertent
Voluntary 4 Involuntary

See Subjective & Objective, 14 Sep*71*

Tunability, Dec*6y Design, 8 Sep*75 ; 29 Mar»77

Deiiall:

See Population of Cities, 10 Sep*75

Delta: p

See Division, i960

Democracy:

*At the time of 1776 democracy worked very well for the U.S. when
America was geographically isolated. But now, with 46-hour world---
around travel, and one-minute world-around speech, the moat pow-
erfully apoken free speech is not always the voice of the people, it's

33 Citation and context at Subjective & Ob1active. 14 Sep*71

just the voice of the CIA or the KGB staging demonstrations in the cold war opponents' countries where 100 people are made to look like 1,000. And all the sides are now using this psychological warfare while they are competing groups. Once communication can be seen as within a single planetary community undivided by individual sovereignties, then democracy can work perfectly again,"

- Cite RBF to EJA, 3200 Idaho, Wash. DC., rewrite of 10 Sep'75

Democracy:

"Democracy worked well with the initial one-to-one correspondence. Today, democracy is not working. It is not the fault of the concept of democracy. Democracy is unable to express itself.... Particularly amongst the young there is a feeling of absolute futility. The system is not working."

- Citation 4 context at Planetary Democracy. (4) (?)» 15 May*75

Democracy;

"Democracy's right-left pulsations are imposed by nature's wave behaviors.*

- Citation & context at Social Sciences; Analogue to Physical Sciences. (1); 13 Nov'69

Democracy:

**... There are no invisible masters of World Two.

Visible masters are anathema in World Two. World Two is inherently governable only by the complementary

integrity of initiative of the individuals of democracy."

- Citation & context at Invisible Masters. Jun'56

"El Ke¹RM | I'm* flW.

Dgnasraa:

"...Democracy, and science, and technology make a complex assembly into industrialisation."

- Citation at Industrialisation* 28 Apr*48

Democratically Coagulating:

See Tetrahedral Coordination of Nature, 196\$

See Closed-sphere-syatea Democracy

Cosmic Democracy Planetary Democracy World Democracy

See Conzunications, 1967 Electronic Referendum, 29 Jun'72 Industrialisation, 28 Apr*48* Initiative, 10.Aug'70 Invisible Masters. Jun*56* Revolution, Jan'72 Thinking. 10 Dec'73 Patent, 22 Aug'70 Sovereignty, Telegraph 8 Jun*75 Social Sciences: Analogue to Physical Sciences, (2) Mutual Survival Principles, (1)

Democritus:

"Thus also synergetically did Democritus Starting with the totally known complex Of visible Universe behaviors, Come to conceive lematically

Of the logically necessary existence Of primary yet invisible components Of the physical Universe rfhich he named 'atoms',¹

More than two aillenian in advance

Of nonsynergetically plodding science's Physical verification

Of the microcosmic stardom role Played by those atoms."

- Cite INTUITION, pp.74-75 Kay '72

Democritus:

hough7 "Democritus did not and does not own any atoms... he is irrevocably identifiable with their conceptioning and naming.

- Cite RBF quoted by Stephen Hullin. In Introduction to UK Edition of UTOPIA OR OBLIVION; 1970

Democritus:

*... When we hear the word 'atom' we are hearing Democritus, for it was he who evolved the sound word 'atom' to identify his unique metaphysical conclusions in regard to the nature of the physical world. Democritus is as large and as persistent in time dimension as may the word 'atom' persist in man's communicable thought. Because concept 'atom' provides our cognition of metaphysically immortal Democritus, the more we think of it the more astonishing it is that we identify man only as the clothes-bedecked chemistry complex through which metaphysical subconsciousness communicates to consciousness of self or others. The error of our spontaneous behavior and cognition is equivalent to our identifying those with whom we communicate via the telephone as being the telephone itself."

- Citation and context at Brain's TV Studio (2) + (3), 6 Jun'69

KBF ULFINITluNb

"Democritus considering experience invented the word `atoca. He invented a very different kind of a concept. It is true that the atom they thought of turned out not to be the atom of our present exploration, but it was invisible and that he dared to think of Invisible entities was very, very daring. Whenever you and I hear the word atom we hear Democritus. That is how big he is and that is pretty big and completely independent of the years."

- Cite Oregon Lecture p. 99. 5 Jul¹62

Pcnasrimt

See Dalton. 6 Jul¹62 Lavoisier. 1 Oct*71 Thinkable You, (1)

See Geometrical Functions of Nine, (4)(5)

8IOU.5l-IOi3.52

See Experitit

**Experimental Decwnstrability Experimentally Founded Mathematics:
EFX N ond emonstreble**

Proofs: Mathematical Proofs Rederaonstruble

See Minimum Limit Case, 9 Jun*75

See largest Connon Denominator

Density - High Frequency:

See Spherical Field, 9 Jan¹74

24M1W Densiricatlon:

See Chemical Bonds, Hay'72

Spherical Field, 9 Jan'74

Chemical Bonds: Quadruple Bond, 1y Dec'73

Denucleated Phase:

See VE & ICOM, 26 Aug»75

Department: Departmentfl; (1)

See Nature Has No Separate Department a

Dffparwnfr» Dflp&rwaVB:

(2)

See Individual Universes, (2)

Pflpcndenti

See Independent Locally Dependent

**See Backyard: My Backyard is Just Getting Bigger Locomotion: Ra-
dius of ban's Locomotion Outreach Sweepout Travel**

Travel in a Human Lifetime

North-south Mobility of World Man Mobility Unsettling vs. Settlements

PaploYKent: Man'a Increasing Deployment Pattern:

(2)

See Acceleration of Change (1)

City, 1971

Humane City, (1)(2)

Human Unsettling, (4)-(6) Old Man River Project, 20 Sep*76 Ghana
Dome: Self-chilling Machine, (1)(2)

DwrwWiw

"We're setting up our books all the time on the invalid basis of depreciation, which was just on the basis that our food was always spoiling. But the values are really cumulative and irrelevant to the agricultural cycle."

- Cite RBF to Henry Liberman, NY Times, 22 Jun'72

PgflrfClfttlQfl: PwOCHUYC: (1)

See Appreciative vs. Depreciative

Oenreclatlon:

(2)

See Building Industry, (1)

See Search vs. Research, 14 Feb*72

PxprflgflQn: Prcft Pcprcfolon gf 1930*0: (i)

Q. Is the recession of 1975 at *11 like the great

depression of the 1930's?

RBF: "Not at all. It is quite different. My book 4-0

was written two years before the crash but its content predicted what cooing. It's funny that not that many people owned stocks and bonds anyway.... Society was just naive.... It was depressing: people stopped being communicative..• they were just sitting in rooms. There were no protests down the street and the politicians--- like Nixon--- were just saying: There's nothing wrong here.

"But there has new been much more education. And the issues are different. The Forgotten !<an is very much in today. In 1929 there was an enormous respect for power per se. The old people were supposed to knew everything. And when the working man did get money he wanted to see things like the older people. But in 1975 the young people are purged. The base is different.

"You hear that things are awful in England, but it really couldn't be nicer in England.

- Cite RBF at videotaping Session Philadelphia, PA., 1 Feb'75
Pearggelgn: Groat UeprefioXon of

"In 1929 people wanted a leader, but politics are not essential. You don't have to have a government. It's like the crew of a ship: everyone knows exactly what to do in spontaneous coordination. Ships rescue each other but people pass you up on the street. If there is anything anathema to the sailor it is a sea-going politician.

(2)

"It's been the money-makers vs. labor. Look at the way the kcDonald's Hamburger stands exploit the young people who work for them. But in England people still love their jobs. Our businessmen are too hard and it takes all the joy out of work. And so we just disconnect.

Once we get out of the clutches of the money-makers people are going to want to work. It can be very informative to wait on tables. Now we have all these big office buildings half-empty. In the 1930's the churches paid no attention."

- Cite RiiF in videotaping session Philadelphia, Pa., 1 Feb'75

Dtprtnlon: Croat Dopreaalon of 1930'ai

See Intuition, 1971

Airspace Technology Environment Controls, (1)

Building Business, (2)0)

Building Industry, (1)

Domes, 12 May*77 .

Fuller, R.B: On Drinking Liquor, 22 Jun*77

Denrolect:

See Dynamic Synnetry, (1)

See Radial Depth

Thickness

See Fortreee Mentality, 12 May*77

Deputy:

See Spontaneous Deputies

PeMllniM t-i nrj;

See No Energy $C_{ti8i_8>}$ (1)

Descartes: (1596-1650.)

"Descartes is the first of record to have discovered that the subs of the angles of a polyhedron is always 720° less than the number of vertexes times 360° . Descartes did not equate the 720 with the tetrahedron, nor with the one unit of energy quantum which it vectorially

constitutes. He did not recognise the difference between the visibly definite system and the invisibly finite universe, which is one finite invisible tetrahedron outwardly and one finite invisible tetrahedron inwardly."

DoJ

- Cite RBF on Synergetics draft, Sec. 224.0S3T - 19 June 1971.

(In response to direct query from EJA.)

Descartea:

"Certainly, Descartes discovered the 720° all right, but he didn't realize it was the tetrahedron. . . .

and that it could be turned inside and outside."

(RBF Cotanent on reading letter from H.S.M. Coxeter to Barry Farrell dated 28 Sept. 1971, in which Coxeter says: "The theorem about 720° , so charmingly described on page 9 /Nehrd Speech/ in terms of flattening ojr a tiger skin, was discovered by Descartes (see my Regular Polytopes, Macmillan. New York, 1063, p.23).")

"... The tetrahedron can become invisible; it has an internal invisible tetrahedron of concave angles 720° or lass.

- Cite RBF to EJA in Chicago, Blackstone Hotel, 31 f May 1971

Bassazisa:

See Calculus

Described Universe:

See Octahedron aa Photosynthesis Model,(E)

Description:

"Edges and vertexes do not cone together as the sane number system. You can describe the world both ways and not be redundant. The world as seen by a child and the world as seen by an old man could not be redundant

descriptions.”

- Cite RBF to BJA, Boar Island, 25 August 1971*

”vtireifj • 55, . i tc7 5 2 VTOT'I

DMmPUQft*

"To describe that of which we are aware we esploy cob pa risen to previous experience. That which we are aware of is hotter, or bigger or sharper than the other experience or experiences."

- **Citation at Coaoarison. 1y Jun*71**

- Sir.* ftftF mrgiaills Ilf fijnePtfatlM

Description: PMGrIpUng?

"ahen man employs nature's basic designing tools he need employ only generalized angles and special-case frequencies to describe any and all omnidirectional patterning experience conceptually subjective or objectively realized.

"For how many cycles of relative experience timing shall we go in each angular direction before we change the angle of direction of any unique system describing operation?"

- Cite NASA Speech, p.103, Jun*66

P-fi-scriblng; PegcripUQn¹

See Definition

Scribing

(1)

Describing: Description:

(2)

See Anle & Frequency Design Control, Jul'71 Comparison, 19 Jun'71*
Words, 12 Hot'75 Awareness, 28 Apr'77

ffWflXfd ThgUlhV

See Man as Local Problea-eolver, 2 Jun'71

Design:

"Design is always a function of intellect, the capability to arrange parts interaccomnodatlve consideration of the deliberate intellectual arrangement of all the other parts or the intellectual composition."

Cite RBF to Robert Sleeky at NPR taping, Waah.DC; 28 I!ar` 77 as rewritten at 3200 Idaho, 29 tor'77

Design:

"Design Is always related to intellect, the capability to arrange."

cite RBF to Robert Malesky at NPR taping, Wash.DC; 26 Mar*77

RBF DET INITIOKS

Design:

"The word design is used in contradistinction to random happenstance. Design is intellectually deliberate. Design means that all the components of the composition are intercon- siderately arranged; i.e., the component behaviors, proclivities, and mathematical integrities are internecommodatively arranged. Ergo, the family of thus-far-discovered scientifically generalised principles which are omniintersccobmodative and omniconcurrent inherently constitute a design, an eternal cosmic design whose eternal interrelationships are expressible only in abstract mathematical terms. Being exclusively mathematical, they are inherently metaphysical, weightless, abstractions, which metaphysics can only be conceived of and dealt with by intellect, and being thus far apuarently eternal and discoverable only by human intellect, they altogether manifest an a priori cosmic intellect of absolute integrity."

- Cite RBF Intro, to H. Kenner's "Geodesic Lath," fl.10, 8 Sep»75

Design:

"...The meaning of design

Is that all the parts are purposely interarranged

In respect to one another..."

- Cite rfHAT I AM TRYING TO DO, p.4, 4 Aug'74

Design:

"Design: that's what we mean by design-- when each of the parts are interscconodatlvely ordered in respect to one another."

- Cite RBF address to Tale Political Union, New Haven, 9 Dec*73 as revised by KBF, 3200 Idaho, Wash DC, 13 Dec*73

Denim:

"Design: that's what we mean by a design— when each of the parts are in view of the others**

- Cite HBF address to Tale Political Union, New Haren, 9 Dec*73

Design;

"There are no other designs than that of the great cosmic intellect's designing."

- Citation and context at JUntfflUfiMMLa. Sep*73

Design:

"When we humans find a pattern of omiorderly, intellectually immaculate, weightless interaccomnodatlve, measurably manifest pure principle we call it a design. The word design involves* an intellectual-pattern integrity."

- Cite GEOV1EW, "No Title,"(Part), World Mag., p.34, 22 May*73

Design:

"The orderly interaccommodation of all the generalized principles constitutes a design. Design is exclusively intellectually apprehendable and coraprehendable."

- Citation and context at Cosmic Integrity. 13 Fay»73

Design:

"The discovery by human Bind, i.e., intellect, of eternally generalised principles which are only intellectually comprehensible and only intuitively apprehended, and only intellectually comprehended principles being further discovered to be interaccommodative, altogether discloses what can only be complexly defined as a d esign. design being a complex of interaccommodation and of orderly interaccommodation whose omni-integrity of interaccommodation order can only be itself described as intellectually immaculate. Human mind (intellect) has experimentally demonstrated at least limited access to the eternal design intellectually governing eternally regenerative Universe."

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS text at Sec. 1t>4, 13 Mar*73

Design:

"Interaccommodation is design."

- Cite RBF to Arthur Clarke at Norman Cousins World party on SS FRANCE, 21 Jun'72

DftgAffiU

"Congruence is allowable only in the vector equilibrium because we can talk about vectors or about circuitry as a design."

--CTSEttBE:

- Citation i context at Congruence. 25 Jan*72

Design:

"We say that Universe is design and that design is governed exclusively by frequency and angular modulations, wherefore the 'angle' and 'frequency' must be discretely equatable with quantum mechanics which deals always synergetically with the totality of Universe's finite energy."

- Citation and context at Quantum Wave Phenomena Smucbcs (1), 23 Sep'73

Design:

"You can design anything by taking any circuit a certain number of frequencies and then changing the angle. The angular modulations of lines is circuitry. There is no half-profile of you. All conceptuality has to have both frequency and angle. The angle part has to do with circuitry design. Sculpture. You cannot design lines which do not have full circuitry."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 23 Jan '72

a Partially incorporated in sYhhrtCEdBSdraft at Sec. 501.96- Mar*72

RBF DLrIMTIUiS

design:

"A complex of interaccommodative principles is what I call a design."

- Citation *k* context at Interaccoanodatire. 22 Jul»71

Design: (1)

``To me the word design can mean either a weightless metaphysical conception or a physical pattern. I tend to differentiate between design as a subjective experience, i.e., designs which affect me and produce involuntary and often subconscious reactions, in contradistinction to the designs which I undertake objectively in response to stimuli. What I elect to do consciously is objective design. When we say there is a design, it indicates that an intellect has organized events into discrete and conceptual interpatternings. Snowflakes are design;

crystals are design; music is design; and the electromagnetic spectrum of which the rainbow colors are but one-millionth of its range, is design; planets, stars, galaxies, and their contained behaviors, such as the periodic regularities of the chemical elements are all design-accomplishments. If a DNA-RNA genetic code programs the design of roses, elephants and bees, we will have to ask what intellect designed the DNA-RNA code, as well as the atoms and molecules which implement the coded programs.

"The opposite of design is chaos. Design is intelligent or intelligible. Most of the design subjectively experienced"

- Cite RBF Introduction to V. Papanek's book, p.2, 9 Apr'71

Design: (2)

"by humans ia a priori--- the design of sea wares, winds, birds, animals, grasses, flowora, rocks, mosquitoes, spiders, salmon, crabs, and flying fish. Humans are confronted with an a priori comprehensive designing intellect which, for instance, has designed the sustenance of life on the planet we call Earth by the photosynthetic functioning of vegetation during which process all the by-product gases given off by t he vegeta tiortre deaigned to be the specific chemical gases essential to sustaining all mammalian life on Earth, and when these gases are consumed by the mammals, they in turn are transformed, again by chemical combinings and disassociations, to produce the by-product gases essential to the regeneration of the vegetation, thus completing a totally regenerative ecological design cycle."

- Cite RBF Inroduction to Victo Papanek's "Design for the Real World," p.2-3, 9 Apr'71

Design;

"The intellectual integrity and infinite order of the Universe obviously are vastly greater than man* Fan is an invention within it. What one did about this understanding would have to be through design* I decided I must not be a persuader, but a doer."

- Cite I SEEK TO BE A VERB, Bantam, 1970

Design:

"Our overall use of our energy, our design,, is very bad.

- Citation and context at Energy Slave (3), Jun-Sul*69

Design:

"Design (considered both subjectively and objectively, metaphysically or physically): Contiguous angle and frequency modulation of event interactions in respect to the axis of any two specific event foci."

Cite "Word Meanings, EKISTICS, Vol. 28, '69

Design:

"AU the designs of any conceptually comprehensible phenomena are subjectively (metaphysically) definable or objectively (physically) articulatable in the terms of angle and frequency modulations as these two are referred, respectively, the first to the axis of any two given event foci and the second to any one given cyclic experience."

Cite Generalised Laws of Design, p. 1. 22 Apr'68

Design:

"There are no generalised designs--- only special case applications.

Design is physical - brain function;

Generalisation is metaphysical - mind function.

Applied science is physical;

Theoretical science is metaphysical.

*e cannot design metaphysical;
We can only invent physical;
We can only discover metaphysical."

-XTfeter Pearre (.hanklinft Fnr RBF Piare'waMKXiyy*67-

- Citation at Metaphysical & Physical, May'6?

JesiRn;

"I look for what needs to be done and then try to work out how to do it best. After all, that's how the Universe designs itself."

- Cite RBF quoted by R.C. Nelson in Interview in Christian Science Monitor, "Nature's Extraordinary Order," 3 Nov '64

Design;

"Competent design is predicated upon frequency modulation by application of the preceaaionai shunting principle."

- Citation and context at Frequency Modulation. 1955

Design:

It 18 a law of evolution and design that designs, whether by man or 'nature,' are reproduced in direct proportion to their mechanical adequacy of satisfaction of universal requirements whether it be a book, a rose, a pencil, or a baby."

- Cite NINE CHAINS 'IV THE huuN, pp. 37-38, 1938

Design: flMBHHMMI Design: Apriori Design vg. Deliberate

****A11** the fundamental nuclear simplexes of the 92 inherently self-regenerative physical Universe elements are apriori to human mind formulation and invention and are only discoverable by mind. Many myriads of complex associability of chemical compounding of the nuclear simplexes can be experimentally discovered, or, after comprehending the order of the principles involved, deliberately invented by human mind. The chemical compounds are temporary and have limited associabilities.

Human minds can then invent by deliberate design, momentarily appropriate complex associative events, as for instance hydraulics, crystallines, and plasmics, in turn involving mechanics of a complex nature and longevity. Omniautomated self parts replacing sensingly feedback industrial complexes can be comprehensively designed by human mind, the mass reproducibility and service longevity of which will always be fundamental to the design laws, both primary and corollary."

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS at Sec. 171, 13 Mar'73

DfilUn: A Priori Design vs. Deliberate design:

See Octet Truss as an Invention, Jan'72

Design Capability!

See God_t Hay'72

Design vs. Chaos:

See Chaos, 9 Apr'71

ttilm —rrlnclPl tf**

"The principle of design covariables states that angle and frequency modulation, either subjective or objective in respect to man's consciousness, discretely defines all events or experiences which altogether constitute Universe."

- Cite SYNERGETICS Draft, J-iarch 1971 Section 225.01, Jun'71

Daaten Coaarlablsg: Pflpglply Of;

"Th* principle of d«»i«n covarlable* nn that 'local structure is a set of frequency associable (spontaneously tunable) recollectable experience relationships having a regenerative constellar patterning as the processional resultants of concentrically shunted periodic self-interferences, or coincidences of its systematic plurality of definitive vectorial frequency, wavelength, and angle interrelationships.*

- Cite INTRODUCTION TO OMNIDIRECTIOKAL HALO,pp. 125-6, 1959;

the abeve passage was described as "The Law of Structure,* the same title given to a second law on the same page. To anticipate SYNERGETICS the caption was changed to "Principle of Design Covariables* in the 1971 Doubleday Edition of NO KORE SECONDHAND GOD with approval of RBF.--- EJA

SYxxS-. o3

PggiKn cy_gi_g:

See Design, (2)

Deslxn Evolution:

See Nucleated Systeos: Idealistic Vectorial Geometry Of U Feb'72

See Generalisation vb. Special Case Invention vs« Discovery Generalised Boat Design: A Priori Design vs. Deliberate Design

See Metaphysical 4 Physical, 1967

Design vs. Happenstance:

3ee Design, d Sep*75

P.ealra

See fright Brothers, 10 Oct'63

Daalm Law:

See Universe. 22 Apr'68 Design, 1938

Pftglin =

See Ecology Sequence, (2)

iiicalm Bo iltiocity:

See Boltsnann Sequence, (6)

Design Revolution;

"All the world's political ideologies assume that our planet's resources are inadequate to support all of humnity. Assuming either yours or mine, not both, the great nations of the Earth sumtotally appropriate 200 billion dollars annually preparing for Armageddon. Nothing politics per ae can do can make the resources adequate to support all of humanity. Adequacy can only be attained by competent design which advances the overall efficiency of humanity's technology from its present five percent to an overall 10 percent. At 10 percent all of humanity can be taken care of for all time to come at a higher standard of living than any human has yet experienced.

"World revolution is ahead for all of humanity. If it is a bloody revolution led by might all of humanity is lost. If it is a design revolution led by right, all of humanity will cross the threshold into an utterly new, omnisuccessful relationship to Universe."

- Cite RBF Ltr. to John Dreyfuss, Santa Monica, CA, 6 Mar*74

RBF DBFINITI.U.L

Dgsixn HevgAutign;

. . The kind of revolution that pulls the bottom up instead of pulling the top down."

- Cite RBF in Barry Farrell Playboy Interview, 1972 - Draft, p. 23.

Design Revolution!

"The young will soon discover, hopefully before humanity has bungled its way into the irreversible clutches of extinction, that their ideals can be realized only by a design revolution--- that is to say, by undertaking to reform the environment so that man's technically advantaged circumstances will permit his omnisuccess and eliminate the causes of war rather than undertaking to reform man by laws and propaganda, hoping unrealistically that he will forsake warring despite and environment which is, as yet, so ill organized as to be able to keep only a minority alive."

- Cite rfOOu DESIGN IN A DYNAi-iLC

TECHNOLOGY, P. 46, 7 Nov '67

Psalm Reyal.tUIQn: Pulling the Bottom UP Sequence; (1)

"The changes taking place are very unfamiliar to everybody, even those who expect change. And these eladerly people have- all of them-- probably given themselves in very big ways, very generous and very dedicated ways; but they are baffled and afraid. And I think it's unnecessary. That's one of the things I'm absolutely convinced of.

"In terms of yesterday's misconceptions there wasn't enough to go around and somebody had to go down: you really did pull the top down. I'm now absolutely convinced we must pull the bottom up and not lower standards.

"One of the most interesting fundamental discoveries I've made relates to that. When Malthus, as an economist, received his data he was the first economist receiving total data from the total Earth as a closed system. And he found that apparently people were reproducing themselves more rapidly than they were producing goods. And then Darwin followed with his explanation of evolution as survival of only the fittest. These two compounded. Not only did the masses of these men agree that all this was correct, but they said that they were the fittest."

- Cite transcript of HBF tape to Barry Farrell, Tape // '3, Side A, p.1; Bear Island, 12 Aug'70

Design Revolution: Pulling the Bottom Up Seouengq: (2)

"We have Karl Marx then running the same jargon, agreeing with the Darwinist argument--- survival of the fittest--- and saying that the fittest was the worker because the worker knew how to cope with nature. He knew how to cultivate, and handle the chisel, and so forth; and the other people were parasites. Marx had an absolutely firm conviction that this was logical; he was assuming that there was no where nearly enough to go around.

"I'm going to jump back now to the earliest days of humans on our planet and I'm going to note that amongst the mammals, or advanced mammals such as horses, we can see a stallion born amongst other stallions and he's a little bigger and tougher and he is a challenge to the speediest and most powerful. There's a fight between these two great stallions and the one who wins inseminates the others. And nature seems to have picked this way of having fights between the leading males to see which will inseminate the group. The other males can just go hump. And the big one doesn't ask for it--- he just suddenly finds himself in that position. He fights and if he is the superior one, he carries on.

"Imagine this happening with men, men in very great ignorance,"

- Cite transcript of RBF tape to Barry Farrell, Tape #3, Side A, pp.1-2; Bear Island, 12 Aug'70

"hungry, born with hunger, born with the need to regenerate, not knowing whether he will survive at all, very ignorant of what will really support him. And he began observing people who ate roots and berries and very often got killed by them--- poisoned. And he saw that the animals who didn't eat all those things didn't get poisoned. So he killed them and their flesh was very safe and gave him a whole lot of food in a great hurry. The most powerful men tended to group together and control that meat. And we find that tendency very powerfully organised in what we call the nobles--- when all the hunting and the animals belonged to the nobles. As late as 1815 in England a commoner caught killing a rabbit could be hung on the spot without a trial. Those animals belonged to the nobles and the king. So we have these most powerful men eating meat and the other people having to make do with what was left over: and eating what they could find, in a great ignorance about what they should eat and what is good nourishment, and having no real knowledge of this. We have a few, then, who are powerful and eat well and can rule by the sword. Their proportion of the total number of people was so small that everybody assumed there was some mystical reason that god had chosen these people specially. And we have"

- Cite RBF tape transcript with Barry Farrell, Tape #3, Side A. p.2; Bear Island, 12 Aug'70

"the kings then having their sons and daughters having to marry a king's son or daughter, even though they were enemies, just so long as it was a special strain. It was recognised or thought of as hereditary; there was something hereditarily powerful and it was ordained by god and had to be protected by god and everybody respected it.

The common people and everybody agreed about this. And the nobility, who were often bastards (so there was a sort of smile spread on this blood), were absolutely astonished at this good fortune and had to protect their position with the sword.

"So there was an assumption of a hereditary thing and it's still absolutely operative. The fact is that there is still a hereditary group; still a hereditary Queen of England; still there. Karl Marx quite clearly recognized this as a cause of what he called class warfare. There was this class of parasites who were genetically wrong; and if there was no where near enough to go around, the workers were the fittest and they would have to be sure to kill off this special breed of trouble-makers. Therefore the Russian Revolution was exactly what you had: the attempt to kill off this special breed."

- Cite transcript of RUF tape to Barry Farrel, Tape #3, side A, pp.2-3; Bear Island, 12 Aug'70

RBF DEFINITIONS

"Now it's very evident to everybody that not only were the poor people illiterate and ill-clothed, and so forth, but they were also quite dumb. They seemed to be dumb. That was one thing that hurt me very much when I was a kid: I was brought up with this class thing, this hereditary supremacy. And I didn't think it was so but I couldn't get over this thing that confronted me: that poor people seemed to be dumb. I worked with them and loved them; but they were dumb. I was trying to help them because they seemed to be so dumb. I think Karl Marx accepted this very much; so he gave you class warfare. These people, while they were the fittest in their dumbness, it didn't bother them to give in to the nobles. They simply had an innate capability with the seed, as they had an innate capability to make babies. So he didn't discount their capability because they were dumb. So here

was class warfare: where they were dumb and you had to work out something to save them. You had to have a very powerful party and powerful rules so the dogma of communism was made very powerful. People absolutely had to follow the rules. Never mind about thinking, because they don't think. Every once in a while there was a genius born among these poor people and he does some good thinking; and he codifies what you ought to do to look out for the people. That really was the" - Cite Transcript of RBF tape to Barry Farrel, Tape #3, Side A, p.4; Bear Island, 12 Aug*70

"way it was happening. It was very fundamental after the revolution that the leaders of the communist party must be followed automatically because you're going to pull the top down; and your people are dumb and there have to be standards and you stick to those standards. Therefore you wear very baggy and stupid clothes; and that's really an accoutrement to these people because they also are unaesthetic, and coarse. And if you wear coarse clothes and are unaesthetic, you don't put on any nonsense. A great many young people were feeling tremendously simpatico with this ideal--- as I did at Harvard. They'd like to join up with the underdog and therefore they'd wear his clothes. They wanted to be coarse and give up their good standard of living, or whatever it might be.

"Well, it is just in the past 10 years that we've had the first scientific proof that malnutrition during the child's time in the womb-- his gestation period, and during the first four years of life--- causes permanent brain damage. And so this dumbness is purely the damaged brain of malnutrition. Now this is a very important matter; what I'm saying. It has an enormous amount to do with the proliferation of new methods--- new methods of not just gaining energy impoundment by agriculture and by nature's own

- Cite RBF tape to Barry Farrel, Side A, Tape J, p.5; 12 Aug*70 processes, like the fish, and so forth, but being able to increase enormously the energy reserves, and learning our chemistry, and how you really have proper nutrition— and also with adding energy by harnessing our water power. And the result of it all is that there are very large numbers of people who are properly nourished today and the brightness is very general. So you see a whole lot of kids who are very intelligent and who are very simpatico; and not feeling smart or better— they hate the idea of class. They think it's all wrong; and they're really going into low standards because they think it's unfair to do anything else. So you still have the idea of lowering standards.

"I'm saying that the real changes come about by increasing the standards. What I'm really confident of here is that now I know that it really is feasible to take care of everybody and that makes the whole socialist dogrra invalid. Obviously, there is no such thing as class. This is clear as hell. And I find that a very exciting, fundamental difference to realize this. But how many know that? I think very few know that. How quickly can we disseminate that idea? How quickly can we get people to realize that it is a matter of pullinh the bottom up. very truly, and not"

• Cite transcript of RBF tape to Barry Farrel, Tape f3, Side A, p.5; Bear Island, 12 Aug'70

"pulling the too down. This really changes the whole strategy of socialism--- the whole attitude that begins with karx's acceptance of Darwin's notion of the survival of the fittest. This is the truth; this is the great potential. I see no reason for pulling the top down.

"There are those who are obsolete or who have been the victims of the specialization of yesterday, victims of all the things that nature had to do. Evolution had to do things her own way, I guess, because man didn't know enough in the beginning. Now he's gotten to the point where he does know better. The amount of information you all have is just magnificent, a fantastic thing. It could n|have been available to you yesterday, but you do have it now,

"Therefore I can still understand yesterday's rampant feeling that the people who are not in gear ought to be done away with--- the idea of pulling the too down in order to have enough to go around. And someone always needs punishing... and others feel they are the de-servers. But I don't think any of us know nearly enough to do that. I don't believe anybody should be punished."

- Cite RBr tape transcript with Barry Farrel, Tape *3, Side A, p.6; Bear Idland, 12 Aug'70

"I don't think our ideas are even mildly valid about what is wrong, what is a crime. I don't think there are any bad people. I see a great many people who have been fantastic victims of circumstances, twisted into knots, and that's totally society's responsibility, not theirs. I don't agree with the young's intolerance for older people. The contributions made by people in the past are marvelous, even when they don't remember what they've done. The most important things people do they don't remember. Almost everybody who seems to be on the shelf and obsolete has probably done something extraordinary and wonderful for his fellow men and given a very great deal."

- Cite transcript of RBF tape to Barry Farrell, Tape #3, Side A, p.6; Bear Island, 12 Aug'70

Design Revolution:

(D)

See Doing What Needs to be Done

Making the World Work

Revolution: Design Science Revolution vs. Global Political Revolution

(2)

See Done: Montreal Kxpo'67 Done Sequence, (3) Fellowshine: life Fellowships in R 4 D, 1969 Trees, (I) Invention, (b) Impossible: Only the Impossible Happens) (A)

Design Science:

"Design science employs the method of accounting employed by nature..... Design science and our very way of thinking deal in terms of limit cases."

- Citation 4 context at Quantum Sequence. 23 Jun*75

"I seek Through comprehensively anticipatory Design science And its reductions To physical practices In the forms of inanimate artifacts To reform the environment Instead of trying to reform Human behaviors and opinions r/hich latter is what All history's political powers Have always done For I am intent Exclusively through artifact invehtions To accomplish prototyped capabilities Of doing ever more with ever less .thereby in turn The wealth augmenting prospects Of such design regenerations rfill induce their spontaneous"

- Cite ./HAT I Ak TRYING TO DO, p,J, 4 Aug*£4

Design Science:

(B)

"And economically successful

Industrial proliferation
By world-around
Exclusively service oriented industries
As the regeneratively escalating effectiveness
Of the latter's resource reinvestments
Per each unit of resource reinvestments
Render comprehensively obsolete
Any and all economic necessity
To own anything
While obsoleting as well
The economically degenerative practices
Of selling off the world's resources
All of which chain reactions
To ever higher performance attainments
Of the improving artifact service events
Will both penr.it and induce
All humanity
To realize full lasting”
- Cite WHaT I AM TRYING TO DO, p.3, 4 Aug'74
Design Science:
(C)

**"Economic and physical success Plus enjoyment of all the Earth With-
out one Individual interfering with Or being advantaged**

At the expense of another...”
- Cite WHAT I AH TRYING TO DO, pp. 3-4, 4 Aug'74
Dflalci. Science:

"Design science is more than the application of engineering and technology. It is more than a plan or a design. Design science means the total responsibility and capability for development, production, and distribution--- of not just a product--- but a total service system on a worldwide basis,"

(This was RBF's consent on 15 Jan*74 citation, which he regards as valid as far as it goes but should include the above considerations --- EJA.)

- Cite RBF to EJA, National Airport, Wash, DC, 6 Feb*74

^DCSXgl Science:

"That branch of general systems science devoted to the application of engineering and technology in the more effective employment of world physical resources for objectives validated by general systems theory."

- Cite EJA proposal to Nava Kaiser, 15 Jan'74

KBF DEFINITIONS

"I am committed to the "theory.* of competent participation in evolution's inexorable transformations and the employment of the multiple degrees of freedoms and options governing the inexorable transformations. My discipline is to reform the environment in ways favorable to the success of all of humanity with confidence that propitious environmental circumstances induce spontaneously pro-social behaviors. The most propitious environmental circumstances would be those which make it universally obvious that there is enough at hand of everything essential to support all humanity for all the foreseeable future. When it becomes commonly known that there is enough to go around, there will be no war. There is so much air for man to breathe that it has always been socialized.

"My whole life is committed to comprehensive anticipatory design science exploration which seeks to learn appropriate ways to employ the principles of nature to do so much more for ever more people with ever less investment in ounces of materials, kilowatts of energy and seconds of time per each unit of realized, desirable, functional performance, that the old ways become obsolete."

- Cite RBF Ltr. to Dayton Young, House Springs, MO, 29 Jun*73

KBF DEFinitions

"I am confident that no political actions, no matter how well thought out, can eliminate war when the resources of the Earth are so ill employed as to fail to take care of all of humanity, "So long as many are going to die due to poverty, disease, and general inadequacy, while others prosper, there will always be cause for the have-nots to displace the haves. Under conditions of general inadequacy and dying prematurely either by poverty-induced ill health or by weapons, the have-nots have everything to win and nothing to lose in undertaking war.

"I now know by experimental evidence that it is technically and economically feasible to take care of all of humanity without anyone prospering at the expense of others, while only employing the world resources already mined and employing only the knowledge already acquired by humanity, all of which universal prosperity can be accomplished by 1985. For example, humanity does not even think of its buildings in terms of weight, but I have found it possible to reduce the weight of buildings to only one percent of the weight now employed, and I have now over 100,000 domes in half the countries around the world to prove the point."

- Cite RBF Ltr. to Dayton Young, House Springs, MO, 29 Jun* 73

Selene*:

(3)

"This is a new option of humanity, of which it is now 99 percent unaware, but its youth is discovering what I say to be valid. My hopes then are not founded on acts of political wisdom or adoption of altruistic conventions. They are predicated exclusively on an informed and experienced competence adequate to the task of physically

accomplishing fundamental cosmic success of humanity. Appropriate political actions must be sequitur to actual capability. PoliticalVBW actions without knowledge of how to attain universal success are inherently wishful and even specious, ergo doomed to failure, or to only momentary advantage gains of an exclusive nature.”

- Cite RBF Ltr. to Dayton Tounge, House Springs, MO, 29 Jun*73

PgslKn

"Generalised design science exploration is concerned with discovery and use by human mind of complex aggregates of generalized principles in specific longevity, special-case innovations designed to induce humanity's consciously competent participation in local evolutionary transformation events invoking the conscious comprehension by ever-increasing proportions of humanity of the cosmically unique functioning of humans in the generalized design scheme of Universe. This conscious comprehension must in turn realize ever-improving implementations of the unique human functioning as well as an ever-increasingly effective concern for the relevant ecological intercomplement orientation involved in local Universe support of humanity's functioning as subjective discoverer of local order and thereafter as objective design science inventor of local Universe solutions of otherwise unsolvable problems, design science solutions of which will provide special-case, local- Universe supports of eternally regenerative generalized Universe

- Cite RBF Ltr to Karan Singh (draft) incorporated in SYNERGETICS at Sec. 165, 13 Mar'73

Design Science;

"How to continually employ the total context of known generalised principles and resource inventory in realizing ever higher magnitudes of performance satisfaction loaded into each recirculation of the imperishable chemical element associations and reassociations. How to do so much with so little in support of total ecology as to render all humanity economically and physiologically successful."

- Cite RBF revision of "Ten Proposals for Improving the tforld " for EARTH, INC., New Delhi, Dec'72

DfigUm SgicRC?:

"Realization of De: ign Science Competence: How to continually employ the total context of known generalized principles in realizing ever higher magnitudes of performance satisfaction loaded into each recirculation of the imperishable chemical element associations and reassociations,"

- Cite WORLD-AROUND PROBLEMS THAT HAVE TO BE SOLVED BY BLOODLESS DESIGN SCIENCE REVOLUTION, NY Times, 29 Jun'72

Design Science;

**And thia greatly augmented

Humanity's competence

To heed anticipatorily

The lessons of past negative experiences.

And with enlightened logic

To alter the environment

In ways permitted by nature,

Wgich would protect humanity

Against external and internal deprivations

While increasing the sustenance

Of increasing numbers of humans

For increasing numbers of days

Of their potential life spans.*

- Cite INTUITION, pp.16-17, May '72

Design Science:

"Playboy: 'What was different about your technique that made you call it design science?'

"Fuller: 'The whole thing was finding out what was first- things-first in Universe, and to do that you have to get away from any ideas of specialization. You've got to develop your comprehensive literacy and find out what your problem is. It takes a long time to get to know anything that way, but once you do, you know it so clearly and cleanly that anybody who'll really sit down and work it out absolutely can't go wrong on it.'"

- Cite RBF on tape transcript of Barry Farrel PLAYBOY Interview, February, 1972, p. J7.

ttUF Jr.Flhj.uhS

D«»l«n Science:

"•Pure* science seeks to find mathematical order permeating the subjectively acquired data, and applied science employs objectively the mathematical orders discovered in formulating them into special design uses«"

- Citation *t* context at Science: Pure *t* Applied. 14 Sep>71

Science:

"... If you are interested in what your thought discloses to you in the way of principles which seem to be operative in our Universe which do not seem to be properly heeded by man, then you can undertake to learn how to employ those principles and reduce them into some kind of rearrangement of the physical environment that will induce evolutionarily positive and universally considerate behaviors of humans.**

- Cite Museums Keynote Address Denver, pp. 2~3. 2 J urn*71

Design. Science:

"I can prove to young people that it*8 completely possible to take care of all humanity at a higher standard of living than anybody ever thought of; that the war which they deplore is the same as other wars, which have been based on the assumption that there's not enough to go around so that somebody is going to have to die. But that is no longer true. . . . If you can go to the Moon and under the Arctic ice, you can make the world work."

- Cite RBF as quoted in Sister Mary Corita poster: "International Walk For Development" 8-9 May '71.

Design Science:

"rthat I am trying to do. As a conscious means of hopefully competent participation by humanity in its own evolutionary trending while employing only the unique advantages inhering exclusively to the individual who takes and maintains the economic initiative in the face of the formidable physical capital and credit advantages of the massive corporations and political states I seek through comprehensively anticipatory design science and its reduction to physical practice to reform the environment instead of trying to reform man also to intend thereby to accomplish prototyped capabilities of doing more with less whereby in turn the wealth-regenerating prospects of such design-science augmentations will induce their spontaneous and economically successful production by world-around industrialization's managers all of which chain- reaction-provoking events will both permit and

induce all humanity to realize full lasting economic and physical success plus enjoyment of all the Earth without one individual interfering with or being dvantaged at the expense of another."

- Cite I SW. TO BE A VERB, Bantam, 1970

KBF uEFIKlTIuhb

"how I would like to think about developing a grand strategy for swiftly multiplying humanity's effectiveness means staring his spaceship Earth's life regenerating principles."

- Cite KBF in EHVIRuNj-Ji.ir ANU CHANGh, Ed. N.H. twald, p. 361 (1968) Omitted from uPEKATl»*li i-ANUAL FOR bPAutbHIP EARTH, p* 5/

Design Science:

** . « The ability of man to use his highest faculties to cope with his environment is more favorably affected by design science reformation of the inanimate environment than by direct, legalistic, punitive, physiological, or psychological attempts to reform human beings, ninety percent of humanity's problems can be solved only by comprehensively anticipatory design science reformations

of the environment.**

- Cite ..'HAT QUALITY EKVIROKIxKT

22 Apr'67

R3F DcTIHITICKS

Design Science:

"Only a politically transcendental design science revolution can provide enough for all."

- Cite WHAT QUALITY ENVIROKi-XNT, 22 Apr 67

RBF DEFINITIONS

Design Science:

"How nay we org*niie our self-disciplining to deal comprehensively and capably with the maximum and minimum of limiting factors of the combined and complementary physical and metaphysical prime subdivisions of universe?"

- Citation at General Systems Theory Jun'66

RBF DEFINITIONS

Design Science:

"... If the local metaphysical/physical event patterns could be realistically conceived. , . then they can be brought under control by design science to an ever increasingly satisfactory extent" This would permit the new life growing and developing within a favorably organized environment to do so without having its faculties damaged, its drives frustrated, its information storage system overloaded with false information and its reflexes and subconscious coordination illogically coupled,"

(Adapted.)

- Citation 4 context at Environmental Events Hierarchy (6), Jun'66

RbF DcFIMTIGKi

Degiffi Spieng.e:

"What are the resources? 'What are the tasks necessary to make 100 per cent of humanity a success? How can we ever do so without ever advantaging one human at the expense of another? How may we render all the world and all its treasures enjoyably available to all men without having one interfering with or trespassing upon the other? How may we reform the environment so that the Integrity of all society is not violated by the free initiatives of the individual nor the integrity of the individual violated by the developing welfaring advantage and happiness of the many?

"Man is born a potentially complete success. The reason humanity loves its children is that they start off in such perfection of potential.

"Man, as designed, is obviously intended to be a success, just as the hydrogen atom is intended to be a success* It is obly the fabulous ignorance of man and his long and wrongly conditioned reflexes that has continually allowed the new life to be impaired, albeit lovingly and unwittingly."

- Cite NASA Speech, p. 18. Jun'66

Design Science:

"Because the forward transformation of the resources from their going functions into other functions of higher performance represents a continual revolution in design, it is a pattern that could be anticipatorily mastered by man as a designer, particularly mastered by a comprehension of the architect as the integrating designer in the era of great specialization. . .

". . . The ratio of world copper, mined or unmined, or of iron, mined or unmined, per capita, has been continually decreasing. Therefore the increase in numbers served has not been the result of the addition of more resources, but the consequences of the scientifically designed multiplication of the performance pmam per unit of invested resource. Transferring communication from wire to wireless is a typical means of doing more with less. At present we are engages in converting the two-ton American automobiles into twice as many one-ton automobiles."

- Cite ARCHITECT AS WORLD PLANNER. July *61

revolution in design,it is a pattern that could be mastered by man as a comprehensive anticipator* design scientist. p • 78

Depiff. SCl*nSC

"Because the forward transformation of the resources from their going low efficiency functions into other functions of higher performance represents a continual

/It is directed at/ "command of the total world resources investment and total world technical evolution, . • p.78

"It is an objective employment of general systems theory." p.70

"... all concerned with the concept of making the world work through competent design." p.80

Cite EDUCATION AUTOMATION 22 Apr*61

Design Science:

"The possibility of the good life for any man depends on the possibility of realising it for all men. And this is a function of society's ability to turn the energies of the Universe to human advantage. The problem of a comprehensive design science is to isolate specific instances of the behavior pattern of a general cosmic energy system, and to turn these to human use."

- Cite quotation on back flap of paper jacket of

Marks Book, 1960.

- See also Marks text in 2nd and 4th paras of p. t>3.

Design Science:

* The specialist in comprehensive design is an emerging synthesis of artist, inventor, mechanic, objective economist and evolutionary strategist. He bears the same relationship to society in the new interactive continuities of worldwide industrialization that the architect bore to the respective remote independencies of feudal society."

- Cite COMPREHENSIVE DESIGNER, p. 1

1 Jun »l.o

Dcalgn Sdencg: Mu cation For?

Q. Ia there an education system for design science?

RBF: "I don't know of one. That's why we're doing what

we've been doing. We can only add to the experience inventory of the little individual--- like teaching the skier the scientific definition of what he is doing: the angular valving of gravity. But Experience is the base."

- Cite RBF at videotaping session, Philadelphia, PA,, 1 Feb'75

D^e?Un Sgicncg: Grand Strategy;

"The grand strategy of design science consists of going from the whole to the particular: How de we treat all of the parameters while being sure of not leaving anything out? Conceptuality is geometrical independent of size. Size brings in frequency: Vector equilibrium: Radiation-gravitation: Unified field theory: The absolute interconnectedness of everything."

- Cite RBF at Penn Bell videotaping, Philadelphia, 31 Jan'75

Design Science Institute:

See Promote, 6 Oct*72

PwiKn science ^RQYQIMUQn-

World-Around Problems that Have to be Solved by Bloodless Design Science Revolution, 29 June'72

Palm Schwctf*^worlil fot: (A)

"Life--- number one--- is awareness; and I»ve discovered through the angles that an angle ia independent of also. A triangle is a triangle independent of aise. An angle ia cyclic, a fraction of a cycle. A tetrahedron is a tetrahedron independent of site: thus we have conceptuality independent of else and time.

"This is what, then, gave me the clue that I could really look, for instance at a nuclear arrangement independent of aise and that there would be data from experimental evidence that would give me a completely different way of looking at everything with experience as the base. And experience is always sensorial and so I can always get a sensorial base or model.

"And then I've gone on to get the best kind of miniature Earth model to show the resources as a function of the regeneration of life--- trying to see it that way... That's how I play my design science game: how do you employ the principles objectively to interexchange advantage so that you really can maintain all life? And how do you run the cosmic accounting in terms of the energies that have caused nature to have us on board of this planet, and at what rate does she replenish, and how can we stay"

- RBF to W. Wolf and B. Brooks, DSI Project, p.11, 28 Apr'74

"within our energy income? It seems to me to be a very clear kind of model there.

"It would follow that the same sort of interrelationships, the orderliness that we find in nature would apply to social values and social interrelationships, political groups and subsets, and things of that nature. Through my formula of frequency to the second power times 10 plus 2 I have come to really identifying this exponential interrelationship which I haven't

found in any of the data by itself. I feel this is very important because complete abstraction is a formidable force.

"Also here in relation to human behaviors, I did get to the precession, ecology, circulatory or orbital, and this might be one of the social behaviors we have to take into account. We noted that the social sciences and economics had not found any generalized principles, but this may be the way of really beginning to find some,

"So what we're really doing with World Game is going back to where people can see things holistically, synergetically,"

Design Science & World Game

"knowing what. it's all about as the behavior of the whole unpredicted by the behavior of the parts."

- Cite NBF to W.Wolf, DSI Project, p.13, 28 Apr'74

Peckham dentist:

"The design scientist must be a responsible participant in nature's own evolution.*

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan'75

See Fuller, R.B: What I Am Trying To Do Trespassing: Not Trespassing Inventions which Increase the Degrees of Freedom Environment Controls

See Telephone (1)

Design Science, 1 Jun'49

See Artifacts

Design Revolution

Dymaxion

Ephemeralization

Fuller. R.B: What I Aa Trying To Do

More With Less

Performance Per Pound

Regenerative Design: Law Of

Science-Technology-Industry-Econoaics-Politica-

Sequence

Service Industry

Universal Requirements for a Dwelling Advantage

See All-acceleration Universe, 20 Jun*66 Environment. Jun*66 Hier-
archy of Patterns, 1964 Radome Sequence (4) Responsible, Feb*73
Water, May*65 Science: Pure & Applied, 14 Sep*71□ Environmental
Events Hierarchy {6}» Air Delivery & Submarine Cities (2) Halfway-
round-the-WorldIng, 26 Jan*75 Distribution, 25 Jan*75 Economics, 1
Feb*75 Human Tolerance Limits, (2) Quantum Sequence, (f)(2)* Fail-
safe, 13 Sep*77

Deaim ve, Technology:

See Technology & Culture, 25 Oct'77

See Angle-frequency Design Control A Priori Great Design Biological
Design Checklist of Universal Design Requirements Eternal Designing
Capability Environmental Designing Fourth-dimensional Design Gen-
eralised Design Nan Designs Himself Model Industrial Design Inven-
tory of Designs Nature's Basic Designing Tools Prime Design Regen-
erative Design: Law Of Science: The Great Design Teleology Cosmic
Design

See Teleological Schedule of Universal Design Requirements Uni-
verse Designs Itself Group Design Redesign Cycle Human Design
Energy Design

See Athletic, 6 Jun*74 Congruence, 25 Jan*72* Cosmic Integrity, 13 May'73 Dome: Rational For (I)(II) Energy, 1960 Energy Slave (3)* Frequency Modulation, 1955* General System Theory, Jun'6b* Interaccommodative, 22 Jul'71* Logistics, 10 Dec'73 Metaphysical &, Physical, Kay*67*5 13 Nov*75 Phantom Captain, Sep*73* Quantum i/ave Phenomenon Sequence (1)* Rearrange the Scenery (2) Comprehensive Realizer, May*49 Periodic Experience, (6) Angle & Frequency Modulation, 7 Nov*75 God, 7 Nov*75 Psychiatry, (5) Greater Intellect, (1)

See Design: A Priori Design vs. Deliberate Design

Design Capability

Design vs. Chaos

Design Covariables: Principle Of

Design Cycle

Design Evolution

Design vs. Generalisation

Design vs. Happenstance

Design Initiative

Design Law

Design Programming

Design Reciprocity

Design Revolution

Design Revolution: Pulling the Bottom Up

Design Science

Design Science: Grand Strategy

Design Science Institute

Design Science & World Game

Design Scientist

Design vs. Technology

"Because our highest priority of all political systems is the preparation for Armageddon, the opposed major nations of the Earth together have been spending an average of \$200 billion each year for the last 20 years (a total of four trillion dollars) getting ready for the great showdown.

Highest priority of use of the highest performance material resources and highest performance tools and highest technology are all committed to preparation for war.

"Not only does every action have a reaction, as engineering recognizes, but so too does all priority have equal and opposite / antipriority. The great historical antipriority has

to be the home front. Science has never been asked to look at the home front. No scientist has ever looked scientifically at the plumbing.

"It was for this reason that I committed myself in 1927 to just such scientific consideration of the home problems and their scientifically arrived solutions and scientific industry production, distribution, and maintenance of the scientific results. I know now exactly what is needed and how to provide environment controls under all relevant conditions on our planet."

"I can state and prove that it is technically feasible to take care of all of humanity at higher standards of living than any have ever experienced and do so by 1985 while employing only proven methods and resources. Not only does this statement include all environment-controlling services for humanity but also the energies required to produce and maintain those life support, protection, travel, and communication accommodating services. Our World Game energy income studies make it perfectly clear that it is feasible to take care of all humanity with that higher standard of living than anybody has ever known, and do so by 1985 while concurrently phasing out all human use of

fossil fuels and atomic energy.' "Therefore I know the fundamental vital life support Inadequacy which is assumed by all the great political organizations on Earth is invalid and that there is indeed enough life support, protection, and freedom of communications accomodating to go around for all. That humanity has been committed for ages to a false premise is only because humanity had not as yet acquired enough experience to occasion its correction of its premises. "Now that I really know all this, I realize that it does not"

- Cite RBF in committee transcript, US Senate, 15 Kay*75

"have to be you-or-me and that Nature is quite clearly trying to make all humanity a success instead of a failure and that Nature is trying to integrate all humanity and integrate all its interests and thereby to provide universal recognition of the success for all that can only be realized by using all resources only for everyone.

"The whole of present socioeconomic direction which seeks to define even more sharply the separate interests of 150 sovereign nations in the United Nations, is a trend exactly opposing what evolution is trying to do. All the world's great corporations have found sovereign nations*' geographical confinement to be absolutely untenable; wherefore they have all become supranational operations. So, too, have all the great political ideologies become supranational. Only the people are left locked into 150 national pens. They are locked in by their passports. They are subject to conscription, taxation, and exploitation in an age of omnimobilization. Humans are experiencing exactly the opposite of political freedom.

pSFrSeefJ¹nJai¹⁰«A<ⁱmg^a?>ui^hflY^afeJuF8^afa^t6?yJf!Vw^tl!ard¹Jo^A''

- Cite RBF in committee transcript, US Senate, 15 Hay'75

"integrate humanity; (2) she has humanity here in Universe and aboard our Spaceship Earth for a very important purpose; (3) that humans are not here just to be pleased or displeased with the experience; we know of a billion galaxies of a hundred billion stars each; Universe is not just a decorative array of stars to please the eyes of little people aboard our planet; we are here for the Universe, not the other way; and (4) I am sure we are here to use our minds.

"Humans have an extraordinary capability which is able to discover so far that there are a billion galaxies of a hundred billion stars each, and to take inventory of the relative abundances of all the chemical elements within a radius of 11-billion-light- years distance of Earth. Only the minds of humans have such capabilities. Human muscle is cosmically negligible, yet human muscle is still as yet in the saddle of world affairs. Therefore, I say, humanity is now entered into its final cosmic examination.

"The great intellectual integrity and wisdom manifest in the omniteracomodative inventory of generalized scientific principles discovered thus far by human mind to be eternally operative and responsible for the integrity of eternally regenerative"

- Cite RBF in committee transcript, US Senate, 15 May*75 physical Universe, deliberately designed us to be born naked, helpless, and ignorant, yet hungry, thirsty, curious, and procreatively excitable; ergo, we were forced to find our way only by trial and error in order ultimately to discover the scientific principles; and thereafter to use those principles, such as 'leverage' or 'metallic alloys' in the development of artifacts which would so alter the environment of accomplished know-what and know-how as to permit us to graduate into functioning in the main affairs of regenerative Universe operating directly on cosmic principles.

"So I say we are here for problem-solving, for using our minds. But humans are not in the command saddle of human affairs. Kindless, exclusively brain-centered muscle is still in the saddle. Kind is trying to master muscle. That is why you are having such a hearing as this one. I think we have no more than the next 10 years within which to pass our final exam by mounting mind into the command saddle of human affairs. Only mind can accomplish integration of all human affairs--- which integration involves the dissolving of 150 sovereign nations and all their respective me-first-or-else attitudes,"

- Cite RBF in committee transcript, US Senate, 15 May*75

"No sovereignty relinquishment could be more difficult than that of the United States in which the President and all others are elected on the basis of supporting, above all, our national sovereignty. The President's oath of office commits him to looking out for his side above all others. In dictatorships, a dictator can agree with another dictator; that's up to them; or the controlling political party can commit its country to surrendering its sovereignty to others. But it is impossible for a whole democracy to agree unanimously on relinquishing any of its freedoms or its armaments. If any U.S. President said publicly that he advocated termination and renouncement of our sovereignty, he would soon be Impeached or precipitate a civil war waged with the opposing political party of the nation.

□ So the most difficult conditions for effecting desovereignization and world integration exist in the U.S.A. That is why this could not be a more important occasion for a senatorial foreign policy committee hearing. I think universal desovereignization is at the crux of whether humanity is going to continue on our planet. With desovereignization comes omnidisarmament, which must be accomplished if mind is to take the"

- Cite RBF in committee transcript, US Senate, 15 f'av'75

Desovereignization Sequence: (7)

"saddle from muscle and we are to operate on the basis that there is ample life support to sustain suooort of all humanity for all forseeable time. If we are to successfully pass our cosmic exam, all humanity must discover why we are here in Universe.

"All humanity is now coming out of the common womb of permitted ignorance, which gestation period was given an enormous cushion of resources to be squandered only while learning through trial and error. But now humanity has acquired all the knowledge of scientific principles and technical know-how to render all humanity continually successful. Humanity is now being born into a new relationship with Universe--- a relationship in which 99 percent of the information resources necessary to sustain all humanity are only available within the invisible-to-human frequency ranges of the electromagnetic spectrum; ergo, are available only through mind's organized exploration, discovery, and use of the abstract generalized principles governing eternally regenerative Universe.

"This comprehensive unitary birth of all humanity as a single organism into the new world of inherent physical success for"

- Cite RBF in committee transcript, US Senate, 15 May*75

"all individuals may well be a stillbirth. Birth is life's most critical moment. It will be a stillbirth if humanity does not emerge with mind in permanent control of physical power.

"I hope you realize how really critical I think your particular hearing is... this particular subject is. I wish there were more senators behind that bench."

- Cite RBF in committee transcript, US Senate, 15 May*75

Desovereigniations

See Sovereignty: Elimination Of

KbF DiffULTIUKS

Desperate:

** . • . Not 'desperate'.¹ but redundant to frequency integrity."

- Citation and context at Triangular Topology Integrity. 15 May'72

DaetInv nJ HuaanltT:

See Man as a Function of Universe

Prognostication About Future of Man Success

Suicide of Humanity

Destructural Associability:

"Only number can aelf-communicate as structural or destructural as-sociabilityea."

- Citation at Self~communicats, 1\$ May'72

DWgMIW

"...All the interpermutations of all atomic structuring (stable integration) or destructuring (unstable disintegration)

- Citation and context at Scheherazade Number, 18 Jul<72

Dfi-structuran - InMd.-<wv

"All the Universe's nonselfinterfering complexes... diffusing patterns resulting in... diseociabilityea as negative (inside-out) de-structures.*

- Citation & context at Badlatian, (p,126) 1959

See Degenerative Negative Limits De-structures - Inside-out

Unstructurings k Restructurings Decreation De-grown

See Gravity. (A)

Physical, circa 1970

Radiation, 1959

Scheherazade Number, 18 Jul'72* Science as a Tool, Sep'72 Self-coeununicate, 15 toy'72

(1)

S«« Antisynergetic

See Conditioning, 14 Feb*72

Education, o Mar*60

Detentq:

"John Paul Jonee continually engaged battleship of the US revolutionary times cost less than \$100, A modern aircraft carrier costs some 30,000 times that amount, i.e., \$3 billion; and it becomes obsolete before being used for anything except a lethal 'threat* in the world's poltlt cal-balance-of-power poker game known for the moment as 'detente.*"

- Citation k context at Building Industry, (4)(5); 20 Sep'76

Detente:

See Disarmament

Politicians 4 Defense Budgets

See Interdeterioration Regenerative

E&VrBlnabHUx: Qptlnw Pitttf °X;

See Social Sciences: Analogue to Physical Sciences, 1959

Determinigm:

"Very little that men do consciously of all their functions renders their lives successful in the Universe."

- Cite KO 2-XJliK bSCOKDHAKD GOD, preface, p. viii.9 May*62

Determinism;

"Since experience is finite it can be stored, studied, directed and turned, with conscious effort, to human advantage. This means that evolution pivots on the conscious selective use of cumulative human experience ... on inherent freedoms of action ... and not on Darwin's hypothesis of chance adaptation to survival and assumption of evolution independent of individual will and design."

(Adapted and rearranged)

- Cite MARKS, p. 10, 1960

See Automation of Metabolic & Regenerative Processes

Behaving

Cause

Darwin: Evolution May be Going the Other Way

Exempt: We Are not Exempt from Universe

Experiment: We Are Not the Only Experiment

Free Will

Free Will vs Darwin's Determinism

Happenability

Heisenberg-Eliot-Pound Sequence

Inadvertence

Impossible: Only the Impossible Happens

Inexorability

Irreversibility

Pan's Conscious Participation In Evolution

Man as a Function of Universe

Need: Necessity

Precession of Side Effects & Primary Effects

Precession: Analogy of Precession & Social Behavior Subconscious
Coordinate Functioning Voluntary <4 Involuntary

Dgterninlwu

(2)

See Adam & Eve, 2 Jun'74

Evolution, 23 Jan'72

Great Intellect, May*72

Rationalisation Sequence, (3)

Success, (1)(2)

Technology, Oct'69

Thought, 1971

Wealth, 1947

Evolution, 15 May'75

Technology: Enchantment vs. Disenchantment, (1)

P.-Ttuumllng th. Wat.:

Sec Least Effort, 1938

Development:

"Development is programable; Discovery is not programable. Since the behaviors to be sought Are unknown, Computers cannot be instructed To watch out for them."

- Citation and context at Computer. May '72

See Design Science

Prototype

Reduction to Practice Research i Development

See Inventability Sequence, (1)-iJ 1 Line, 28 Jan'69

See Artifacts

Inventory of Devices

Mechanism

Sensing, Storing & Intuiting Device Autonomous Living Technology
Packet Dwelling Device

See Invention, 9Feb*64 Man as an Invention, 1 Apr*49

PEW Lliia Hadar Ooaea:

See Air Delivery k Submarine Cities (3)

See Energy Magnitudes: Order Of, Jun'66

See Cube: Diagonal Of

Cube: Diagonal of as Wave Propagation Model Hypotenuse Daimond:
Geodesic Diaconds Square: Diagonal Of

See Cube 4 VE as Ware Propagation Model, 23 Feb*72 Omnitriangulation,
11 Jul'62 Square, 1967 Stabilised Vector Equilibrium, 23 Feb'72
Triacontrahedron ae Limit Regular Polyhedron, 13 Apr'77

DIAGRAMS IN THIS FILE

See Force Diagram

Diagrams in This File:

(B)

See Basic Raft, Feb'SO

PlMrAAA la Tbla filo:

(C)

See Cheese Polyhedra, Nov*71

Closest Racking of Rods, 27 Sep¹72

Cosmic Inherency, 11 Dec'74

Critical Convergence & Flying Huddle, Nor'71

Cube: Diagonal of Cube as Wave Propagation Model,

29 Jun»72

Curvature: Simple & Compound, 2 Nay'56

Cycle, 10 Feb'73

Diagrams in thio File

See Distaff, 22 Jul'71

Diagrams in This File:

(F)

See Fuller, R.B: Hie Hearing, 19 Feb*72

Diagrams in This File:

See Geometry of Thinking, 16 Dec¹73

(G)

Diagrams in Thia File:

(H)

See Hexagon, 6 May'48

Height, Length k Width, 19 Jul»76

Diagrams in Thin Fils:

(I)

See Indigo, Apr*72

Diagrams in This File:

(K)

See King's Sign, 22 Jul'71

SlagragA < " This *fig*:

(L)

See Lever, 10 Feb*73

Limit Structural Transformative Tendencies, 1 Apr'72

Diagrams in Tis

See Magic Numbers: Isotopal Magic Numbers, Apr'72 Module: A
Module, 1955; (2); 18 Nov'65 Modules: A k B Quanta Modules:
Eighth Octahedron Jun'51

Middle, 12 Nov'75

Diagrams in This File:

(0)

See Observer k Otherness: Tetrahedral Relationship
Between, 10 Jan'74

Octahedron: Eighth-octahedra, (2)

Plages Aft Thi» File:

(P)

See Point: Outbound PaEnt, <1) PriaitlTe, 19 Jul'76

Diagrams in This File:

See Rhombic Dodecahedron #1;

Rhombic Dodecahedron #2: 24 Feb*72

Rotate, 6 May'48

United Sphere, 24 Feb*72 Fractionated Sphere,

Diagrams in This File:

See Simplest Knot, 1 Jan'75

Spherical Triangly<4 May¹67 <fteguencj)

(Symetry F A Seven Axes OfZ* 25 Aug* 71

Synergy, *954

Sin: Angle of Error, 7 Nov*75

Seven Minimum Topological Aspects, 8 Feb*76

Diagrams in This File:

(T)

See Teleological Quanta Series, 8 May*72 Tetrahedron: Coordinate Synaetry, Nov*71 Tetrahedron: Transmitting Differential Tetrahedron Displacement, 2 Kay'56 Tetrahedron: Vertical Planes of Cleavage. 21 Feb'72 Tetraidecahedron, 18 Feb'72 Triangle as A Priori Two, Feb'72 Two, (2) Twinkle Angle, 1y55 Tetrahedron: Visible or Invisible Chordal Arcs. 1952

Diagrams in This File;

See Vectorial & Vertexial Geometry, (4); 27 Jan'75

(V)

Diagrama in Thia File:

(X)

See X Configuration with One Ball at the Center, (1)

Dia-logue:

"Dia-logue means two-way feedback, logos-communication as always referenced to an a priori complex integrity of abstract weightless, mathematically ordered equatability of generalised, and only scientifically discovered, eternal principles.*

- For context and citation see Genetic. 14 Feb *72

See Push Button & Dial Syst

BBF DEFINITIONS

Diameter;

•...The diameter of the little circle is always a small arc of a vastly greater circle passing through it."

- Citation and context at Acceleration. 14 Feb¹73

See nllipaft

See Integration & Differentiation, 10 Dec'64

See Ellipse

Multidimensional Omnidirectional

Orbits Are Elliptical

Diapetric: Diametric: Planate:

(2)

See Geometry of Reality, May'49 Line Between Two Sphere Centers,
22 Jun*75

See Geodesic Diamonds Tension Diamonds Domain of an Edge

See Chemical Bonds: Quadruple Bond, 19 Dec'73 Cork: Triangular
Corks in Spherical Barrels, 15 Feb'66

Discovery of Generalised Principles, 20 Dec»71 Domains of Lines. 18
Jun'71 Rhombic Dodecahedron, 22 Mar*73

Stabilized Vector Equilibrium, 23 Feb*72

See Process Relationships, 28 Jan'69

DI*phr*fiplng:

See Reciprocity, (1)

Dice; Die:

See Prime Number, 16 Oct¹71

Djchrtor Plchrtplng: (i)

See Biological Cell Dichotomy Generalised Dichotomy: Grand Strat-
egy Half Visible: Half Invisible Local Dichotomy Minimum Dichotomy
Otherness

Prime Dichotomy Self-dichotomizing Spin-halving Surface Dichotomy
Universe Considers Itself Universe Differentiator World Looks at Itself
System-halving Halving Fractionation Subdivision: Subdivisibility

See Compression, 9 Jul*62

Experience, 2 Jul'62

Infinity t Finlty, (1)

Macro-micro, 1960

Tetrahedron: Hierarchy of Pulsating Arrays, 16 Dec*73

Dictionary:

"Considering how hard it is for people to get together and agree on anything, and considering the fact that they have agreed in the dictionary to 200,000 descriptions of nuances of experience. . . is a kind of testimony that represents a very great victory for humanity."

- Cite RBF to luncheon of White House Fellows, Watergate Hotel, Washington, DC, 19 Jul'76

Dictionary: (1

"All the words of all the vocabularies could be eaid to represent all the forsaalised attempts of men to communicate all their experiences. So we could set out to examine all the dictionaries of the world. We can pick up any one dictionary and discover that it is a nice finite package. We can open one page, but we cannot look at all the words at once. If we cannot look at all the words even on one page, we certainly cannot look at all the words of a whole dictionary at once. It does not make the dictionary infinite because we cannot look at all the wordd at once or think about all the words at once. The inability to think about everything at once does not mean that experience or consideration of experience is Infinite.

"It is perp<Lexlng that one of the most persistent contemplations of human beings has been predicated on a static concept of Universe, the kind of Universe that went out with classic Newtonian mechanics. We cannot think of Universe as a fixed, static picture, which we try to do when people ask where the outwardness of Universe ends. Humans try to get a finite unit package. We have a monological propensity for the thing, the key, the bwuilding block of Universe. What we discover"

- Cite SYNERGETICS text at Sec. 530.02; galley rewrite 7 Nov'73

Dictionary;

"here is that it is not possible to think about all Universe at once. It is non-simultaneously conceptual. This in no way mitigates against its finiteness and thinkableness.**

- Cite SINERGETICS text at Sec* 530*02; 7 Nov'73

Dictionary:

"rhe words of the dictionary identify nuances of experiences*"

- cite RBF at Catholic University Address, /ashington JC, 24 Feb «?2

KBF

Dictionary:

"In the dictionary human beings have found 100,000 nuances of meaning--- an extraordinary memorial of agreements."

- Cite RBF at Corcoran Gallery Address, Washington DC, 23 Feb '72

Doqary:

"All word* in the dictionary do not make one sentence; all the words cannot be simultaneously considered, yet each of the words is valid as a tool of communication; and some of the words combine in a structure of meaning. All words are memoranda of all humanity's attempts to communicate to self or flBMB to others their understanding of the unique e vol Yemen t of their separately viewed experiences. The dictionary is the inventory of unique aspects of the totally composited experiences known as Universe."

- Cite STNERGCTICS text at Sec. 510.10, May'71

KBF DEFINITIONS

Dictionary:

"All the words are memoranda of humanity's attempts to comaun-icate to self or others their understanding of the unique evolvement of their separately viewed experiences. The dictionary is the Inventory of unique aspects of the totally composited experiences known as universe."

Cite BBF marginalia on SINEHCETICS Draft, 26 April 1971

^PA^CVX9MFY!!

"So long as nan is alive and has more days, he is going to be acquiring more information regarding those factors which are a priori existing. So the dictionary is going to continually increase in else. That is absolutely inexorable. *

- Cite WATTS TAPE, p. 42» '9 Oct'70

Dictionary:

"Words accumulate to form the dictionary as men discover shared aspects of their total experience that are unique and that require identification."

- Cite RBF Troface for J Francis at OtUER, , -cirw 19&&'

- Citation and context at Eternal Slowdown (1), 1970

Dictionary;

"All the words,

In all the dictionaries, as noted before, Represent all of humanity's attempts To express Universe.

And while the dictionaries are finite

All the words

In all the dictionaries

Cannot be read simultaneously

And there is not one simultaneous sentence Inherent and readable

In all the words."

- Cite HUA LITTLE I KNOW, Oct. *66, p. 60

Dictionary:

"Encyclopedias and dictionaries inventory man's progressively invented words for communicable identification of all his evolving experience cognitions. Dictionary is a collective concept, universe is the ultimate collective concept. ..."

"Universe, like the dictionary, though integral is ipso facto nonsimultaneously recollectable and, therefore as with the set of all the words of the dictionary, is nonsimultaneously considerable and therefore is also am nonsimultaneously reviewable, ergo is synergetically incomprehensible, yet progressively revealing."

Cite OWplICTiONLALG, pp. I31 + 132 , I960

PlgUgnary:

"We cannot read simultaneously all the words in the dictionary; yet the dictionary is a finite collection of finite word entities each in turn consisting of collections of finite letter symbol entries."

- Citation 4 context at Experience. I960

See Meaning Words Thinktiouary

See ConalderatIon, 196\$ Eternal Slowdown, (1)* Experience. 1960* Thinking, (a) Universe, 16 Jun'72 Words, 2 Jun¹74 Culture, 1 Feb'75 Words & Coping, 7 Nov¹75 Human Beings 1 Complex Universe, (fl)

Diegel Ship At Sea:

"In the event called 'diesel ship-at-sea' The action of the ship's propeller Has a thrust pattern

To which the ship reacts by moving forward, Which also results, secondarily, In the ship's bow elevated wave Which wave disturbances of the water

Are separate from the propeller's thrust wave Ships appear to be so solid

That they negate human perception

Of their minute longitudinal contraction, Which occurs initially as
4 consequence of the interaction of the ship's inertia With the
propeller's thrust* This contraction

And its subsequent expansion

Could be observed in yesterday's Loosely coupled railway trains, As
they jerkingly accelerated or stopped.*

- Cite INTUITION, pp. U-14, Fay »72

RBF DEFINITIONS

Diet:

"The word diet makes for great confusion. It's not undernourishment,
it's just getting the right deficiency chemistry into the brain which may
be lacking certain gears."

- Citation and context at Spinach. 11 Feb'73

See Spinach, 11 Feb*73 Undernourishment, 7 Aug'70

PIXfrtnUal inagrutabllltr

See Hedra, 10 Apr*75

"The entirety of the generalised principles brings about differential
lags, the aberrations in the rates of recall. Differential lags are inher-
ent in the mathematics of the twelve Universal degrees of freedom of
the vector equilibrist which characterises an event in pure principle."

- Citation and context at Twelve Universal Degrees of Freedom

HBF Dt.FIMTj.uh 8

MI PAffermial La*:

"Differential lags are generated by the inexorable interaction of the 12 fundamental degrees of freedom with both the specific frequency characteristics of the doming system's respective separate components and the system's synergistically integrated, mutual interference structured, triangular grid topology and the latter's great-circle interference event frequency resultants."

- Cite HBF 19 Feb re-write of Lag. 17 Feb »?2

Differential Pag:

"We generate the differential lags from the 12 fundamental degrees of freedom."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 17 Feb*72

Differential Ur:

(1)

See Omnidifferential Lag Rates

tog:

(2)

See Lag, 17 Feb *72* Twelve Universal Degrees of Freedom, 2y May*72*

8M Single Integer Differentials

Positional Differentials

Differentiation:

"Interval and differentiation are introduced with two

- Citation and context at Prine. 17 Feb¹73

Differentiation:

"Differentiation of functions is inherently eternal and implicit to the plurality of generalised principles which are everywhere nonredundant, redundancy being a temporal consequence of brain lagged dullness of comprehension and ignorance."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May'72, as rewritten
fine - *siq.Z'i)* ^{bT} Rflf

"Differentiation functions in eternity through the nonredundant plurality of generalised principles."

- Cite RBF to KJA, 3200 Idaho, Wash DC, 27 May*72

Differentiation:

"Differentiation function# in eternity through the nonredundant plurality of generalized principles."

- Citation and context at Eternal Instantaneity. 22 Jun'72

Differentiation;

"To perceive of and say 'truth' invokes the concept of non-truth, ergo differentiation."

- Cite RBF marginalia, 20 Dec. '71, at SYNERBETICS Draft Sec. 529.07.

nbf iFlHITlUhS

Mfferen t i a t i on:

"Physics has found the whole physical Universe to be uniquely differentiated and locally defined as 'waves'".

- Citation at Physical Universe, Nov*71

- Cite Hui¹ mi

Differentiation:

"Universe expands through progressively differentiating out or suitably discrete considerations."

- Cite uMil HALO, p. 1% as amplified by RBF in Synergetics draft Sec. 614.01 - 19 June 1971.

PlffirtnUmQn?

"Starting with Mta whole universe we quickly reach any local system within the totality by differentiating it out temporarily from the t&ole for Intimate consideration We do so by the process of ` reduction by bits,*

- Speech, p» ffB. Jniil66
- £XtA.tion & context at Bits (1), Jun'66

HBF DEFINITIONS

Differentiation:

"• . . The great intellectual capability of fffferentiatlng discernment probably originated in the same conceptual logic as did 'divide' out of 'di-vision' --- to see the whole as functionally differentiable pxft yet only locally and progressively conceptual. In the differential calculus this becomes the delta---A8 D of fundamental differentiation.**

***" 11V iftfo

- Citation fc context at Division. 1y60

Differentiation: Differentiability:

"The concept of being alive may be inherent only in the eternal principle of differentiability, and of a theoretical number system, and of complexes of different numbers. Seeming consciousness and life may well be inherent in only mind conceivable theories of differentiations

- erEilltUE: aayghx
 - Citation at Consciousness. 20 Dec¹⁷?
Pirferentlation i¹ Integration:
 See Everyday, May'49
Differentiable * Nondifferentleble
 See Truth & Love, 16 Feb*73
 PilfgrenllRlsd FrscllTitleg:
 See Proclivities: Differentiated vs. Synergetic
 See Bite: Bitting

Covariant Differentiations

Differaatable & Bondifferenttable

Division

General System Theory

Integration k differentiation

Multiplication by Division

Omnidifferentiated

Proclivities: Differentiated VB. Synergetic

Resolution

Subdivision

Undifferentiated

Withinness k Withoutness

Nuclear Geometrical Limit of Rational Differentiation

Subdifferentiable

Supradifferentiable

Separating Out

Time Differentiable

See Additive Twoness, 17 Feb*72 Artificial, (2) Awareness. 24 Apr'72 Bits, (1)* Conprehension, 10 Jan*74 Consciousness, 20 Dec'71* Division, 1960* Eternal Instantaneity, 22 Jun¹72* Experience, 12 Sep'71 Female. 19 Dec'71 Love, 29 Dec'73 Physical Universe, Nov'71* Point, 1 Apr'72 Prime, 17 Feb'73* Reality as Structural Interaction of Principles, 1963 Time, 23 Feb'72 Truth, 29 Dec'73 Vector Equilibrium, 10 Nov'74 System, 26 Dec'74 System: Equation Of, 27 Dec*74

See Virgin, 27 Dec*74

Fertilization, 27 Dec*74

Thinkable Set, 1 Feb'75

Visibility Invisibility of Systems, (1)

Events i Novents, Nov'71

General Systems Theory, (2)

See Mlnlnua Onnitriangulated Differentiator

Universe Differentiator

See Female, Eay'65

Plffffttlgn:

See Chemical Bonds: Ketals, Jun'66 Pauling, Linus, 1965

Mrfuaion:

ID

See Um Sy at er Propagatlone Bquldlffuelon

Diffusion: Diffusors:

(2)

See Radiation, (p,126) 1959

Trinity: Equation Of, 1938 Vertexial Spheres, 8 Apr*75

kUlki

See Indig

Integration of Digits

"The Earth crust-fault angles, steel plate fractionation angles, and ship's bow waves are all roughly the same, reading approximately 70-degree and 110-degree conplanation.

Dihedral angle of octahedron - $109^{\circ} 28'$ - $2 \times 54^{\circ} 44'$ Dihedral angle of tetrahedron - $78^{\circ} 12'$ $180^{\circ} 00'$

$54^{\circ} 44'$ $60^{\circ} 00'$ $5^{\circ} 16'$ $70^{\circ} 32'$

io

If $5^{\circ} 16' = 1$ unit; $54^{\circ} 44' \approx 60^{\circ} - 1$ quantum; and $70^{\circ} 32' = 60^{\circ} + 2$ quanta.

Obviously. the $70^{\circ} 32'$ and $109^{\circ} 28'$ relate to the 'twinkle angle' differential from 60° (cosmic neutral) and to the $109^{\circ} 28'$ central angle of the spherical tetrahedron."

- Cite SYNERGETICS text at Sec. 905.66; RBF galley insert of 16 Dec'73

Dimension;

"Dimension is unique frequency information."

- Citation * context at Energy & Information. 27 Dec'74

Dimension:

"All dimensions are simultaneously considerable."

- Cite SYNERGETICS draft at Sec. 527.06, 29 Nov'72

Dimension:

"All dimensions are definitively and intercoordinatably manifest in the isotropic vector matrix."

- Cite STNERGETICS draft at Sec. 527.07, 29 Nov'72

Dimension:

"The limit number of experimentally demonstrable powering involves an isotropic vector matrix whose omnisynmetrically interparalleled planes and electable omni-uniform frequency occurrences accomodate everywhere and anywhere regenerative rebirth of a unit angle and line structural system of convergent gravitation and divergent radiation resonatability whose frequencies are the dimensions."

- Cite SYNEREGTICS draft at Sec. 960.04, 16 Nov'72

RBF DrINITIUNS

Dimension:

"The only dimension is time; the time dimension being the radial dimension in respect to any regenerative center, which may always be anywhere, yet characterised by always being at the center of system regeneration. The time dimapion is frequency."

- Cite SINEHGETICS Draft at Sec. 960.07, 16 Nov*72

Dimension;

"Time and heat and longevity and weight are inherebt in every dimension. Ergo, time is no more the fourth dimension than it is the first, second, or third dimensions."

No time: no dimension.*

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. »71.

HBF DEFINITIONS

Dimension: Dimensioning:

"Time is in our dimensioning because our geometry is vectorial. Every vector `` mass x velocity, and time is a function of velocity."

—can anr in rIFR. Jinn~niiiiiri, wbiithri mi in, n urn □ 1/1 • Citation & context at Time. 21 Dec¹71

RriF DtFINITIUNS

Dljiension:

"There la no diaensioq without tine."

- Cite SYNERGETICS, "Corollaries," See 240. W by RBF at Haverford,
Penna., 1 Oct. 1971.

pIMfJJSieU- SEC

rtoF JiiFINITluKS

Dimension:

"/hat we call length is always measured in time

~~Cite RBF Lecture
From Hs 11 - New York
12 March 1974~~

- Citation at Length. 12 Mar* 71

- J e<. 5 2 7.*i7

Dimension:

"The word 'space* is conceptually meaningless and dimensions may
only be expressed in magnitudes of time, energy, frequency concen-
trations and angular

modulations.**

- Citation *k* context at Space. Jun*66

pJHfcUpoiT'- *Sec. Sil* 4)

Dimension:

"Doubling or halving dimension Increases or decreases respectively
The magnitude of volume or force By expansive or contractive Incre-
ments of Eight, fbt is, by octave values.

- Cite SYNERGETIC Corollaries

Collier's Ltr, Oct'59

HBf DkFINI-ULuNb

Dimenglgp;

"Dimension may be universally and infinitely altered without altering the absolute relationship of the system.

- Cite SThERGETICS, "Corollaries," Sec. 240.47.

From Collier's Ltr, Oct*59

DihttNMU - S fC ."SZ7? 0 5)

Dimension:

"No sphere is large enough to be flat.

- Citation A, context at Dvnamiq, 1950

Dimension:

"... In comprehensive Universe, dimension drops out and conceptual principle remains."

- Citation and context at Reciprocity (3), May'49

Dimension:

"/Synergetics originates/in the asBumption that dimension must be physical> It follows that, inasmuch as physical universe is entirely energetic, all jmenpp must be energetic. Vectors and tensors constitute all elementary dimension."

, 4 Apr' 49

- Citation *k* context at Synergetics, 1 Apr'49

B«ht»i5«ow S'lUll fec.VIMO]

Dimension:

"Throughout the universe, compression and tension are energetically juxtaposed. Their juxtaposition provides dimension--- the basis of awareness of life itself."

—nta p. Anr%9

- Citation & context at Tension & Compression, 1 Apr'W

' PJRpuii I - \$ F S VI. 0 hI

PlrngnalonabilltY •

See Generalised Topological Definability, (1)

DlpgngAonaX Growth=

"Dimensional growth Is not occasioned by an Increase In exponential powers. It Is brought about by Increasing subdivision of the constant whole of Universe to isolate a locally considerable increment. For instance, E - Mc^2 says that the amount of energy involved in the isolated 'mass' as a local event complex of Universe under consideration in this particular instance is to be determined by reference to the constant amount of cosmic energy involved in the constant rate of growth of a spherical, electromagnetic, wave surface, which constant is c^7 . Because the potential energy is in vector equilibrium packages, the centers of energy rebirth are accomodated by the isotropic vector matrix. The constant power is the frequency, $10F^2 + 2$, which accomodates all the exportive- importive, entropic-syntropic, regeneration patterning of Universe.

"The only dimension is time, the time dimension being the radial dimension outward from or inward toward any regenerative center, which may always be anywhere, yet characterised by always being at the center of system regeneration.

"The time dimension is frequency.^{1*}

20 Dec'7J - Cite HdF rewrite of SYNERGETICS galley at Secs. 960.05-07,

BIMUlfXBIUi: (1)

"In a radiational (eccentric) or gravitational (concentric) wave array:
""

"Arithmetical three-dimensionality is identified with volumetric space growth rate*.

"Arithmetical four-dimensionality is unidentifiable geometrically.

"Synergetical second-powering is identified with the point population of the progressively embracing, closest-packed point arrays at any given radius stated in terms of frequency of modular subdivisions of the circumferential array's radially-read concentricity layering.

"Synergetical third-powering is identified with the cumulative total point population of all the successive wave layer embracements of the system.

"Synergetical fourth-covering is identified with the interpointal domain volumes.

"Synergetical fifth- and sixth-powerings are identified as products of multiplication by frequency doublings and treblings,"

- Cite RBF at SYNERGETICS galley Sec. 340.44, 28 Oct'73
Dilpensiopalifry;
"and are geometrically identifiable.

"Synergetical six-dimensionality is identified geometrically with vectorial system modular frequency relationship.

"Synergetical else dimensionality is identified geometrically with relative frequency modulation."

- Cite RBF correction to SYNERGETICS galley at Secs. 240.44,
240.45, and 240.46, 2* Oct'73

Dimensionality:

"Arithmetic one dimensionality is identified geometrically with \leq point frequency.
Arithmetical two dimensionality is identified with areal point frequency.

Arithmetical Mawdimensionality is identified geometrically with vectorial system modular frequency relationship.

Arithmetical size dimensionality is identified geometrically with relative frequency modulation."

- Cite COLLIER'S, p. 1U, Oct*59

Dimensionality - fadlal Depth - Frequency:

See Radial Depth, 20 Dec*74

•'Synergetics* six positive and six negative dimensional reference frames are reinitiated and regenerated in respect to specific local developments and interrelationships

of Universe."

- Context at Powering: Six Dimensions. Jan*72

-Cite COLLIER'S as written in SIBKRGETICS "Corollaries," Sec. 240.41 and "Modelability, " Sec. 770.04. 1972

Dimensional Supremacy:

"Dimensional supremacy is not an increase in powers but the reduction of powers. For instance, E - Me* is significant not for the fourth dimension but for the increasing simplicity of c` 4s the radiational. Because the energy is in packages and the packages are always spherical the centers of energy rebirth are polyhedral and accommodated by the isotropic vector matrix. The real power is the frequency: $10 F^4 + 2$, which accommodates all the exportive-importive. entropic-syntropic regeneration patterning of Universe.*

- Cite SYNERGETICS draft at Sec. 960.05, 16 Nov'72
See Two-dimensionality

Three-dimensional

Fourth Dimension

Multidimensional: Multidimensionality

Multidimensional Connectivity

Nondimensionality

Powering

Size Dimensionality

Time-size

Time-size Dimensioning

Two-way Rectilinear Grid

Dimensionality » Radial Depth `` Frequency

Dimensionless

One-dimensional

Tetramension

Eight-dimensional

Multidimensional Accommodation

Primitive Dimensionality

Fifth Dimension

Orientability

Dimensionality:

"I explained to Charles Panati /of Newsweek last Friday that we do not arrive at dimensionality by virtue of perpendicular or jallel assembly. In synergetics dimensionality provides for assembly by convergence and divergence.

"I showed him the convergence and divergence of the 2 J tetra of four frequency like the quarter-octahedra,. (See Figs. 415.55 and 417.01--- EJA.)

(For later version of above see Convergence k Divergence. 9 Apr*75.)

- Cite RBF to EJA by telephone from lithographing studios, West Islip, L.I., Easter Day, 30 Fiar'75

See Conceptuality. May'49

Dynamic, 1950*

Length, 12 Mar•71 *

Reciprocity (3)*

Site (1)(2)

Space, Jun ` 66*

Tension Sc. Compression, 1 Apr'49*

Time, 16 Nov ` 72

Science: Pure & Applied, 14 Sep¹71

Synergetics, 1 Apr¹49*

Energy t Information, 27 Dec*74*

Energy Sc Number, Oct*71

Fix, 25 Mar'71

Convergence St. Divergence, 9 Apr*75

Six Motion Freedoms <x Degrees of Freedom, 11 Aug'77

Djwenglonleas:

See Twilight Zone, 22 Jun*75

PllnlffhlRK °h°9B« Uw Of:

See Conservation of Finite Universe: Principle Of. 20 Jun'66

SlSlaUiUcc: Diminution:

Seo Truth as Progreessivo Diminution of Besidual Error

Dimpling:

"Any and all of the icosahedron's vertex*s pulsate individually and independently from the convex to eoneave state only in the form of local dimpling, because each only-from-outward-motlon restrained vertex--- being free to articulate inwardly toward its system center, and having done so--- becomes abruptly five-vector restrained by its Immediate neighboring vertexial event convergences; and the abrupt halting of its inward travel occurs before it reaches the system center. This means that one vertex cannot puls* inwardly more deeply than a local dimple similar to the popping in of a derby hat*^w

7

- Cite SYNERGETICS text at Sec. 9ft5TWh_r 16 Dec*73

Dimpling Effect:

(*)

"When a concentrated load is applied (toward the center) of any vertex of any triangulated system, it tends to cause a dimpling effect. As the frequency or complexity of successive structures increase, the dimpling becomes progressively more localised and proportionately less force is required to bring it about.

"To illustrate dimpling in various structures, we can visualise the tetrahedron, octahedron, and Icosahedron made out of steel rods with rubber joints. Being thin and flexible, they will bend and yield under pressure.

"Tetra: Beginning with the tetrahedron as the minimum system, it~clearly will require proportionately greater forces to create a 'dent.' In order to dimple, the tetrahedron will have to turn itself completely inside out with no localized effect in evidence. Thus the dimpling forces a complete change in the entire structure. The tetrahedron has the greatest resistance of any structure to externally applied concentrated load. It is the only system that can turn itself inside out. Other systems can have very large dimples, but they are still local. Even a hemispherical dimple is still a dimple and still local."

- Cite SYKhkGETICS text at Sec. 618.01 ; .02 10; Aug'7

Dimpling Effect:

(B)

"Octa: If we apply pressure to any one of the six vertexes of the octahedron, we will find that one half will fit into the other half of the octahedron, each being the shape of a square-based Egyptian pyramid. It will nest inside like a football being deflated, with one half nested in the other. Although the octahedron dimples locally, it reduces its volume considerably in doing so, implying that it still has a good resistance to concentrated load.

"Icosa: "When we press on the vertex of an icosahedron, five legs out of the 30 yield in dimpling locally. There remains a major part of the space in the icosahedron that is not pushed in. If we go into higher and higher triangulation---into geodesics----the dimpling becomes more local; there will be a pentagon or hexagon of five or six vectors that will refuse to yield in tension and will pop inwardly in compression, and not necessarily at the point where the pressure is applied."

- Cite SYNERGETICS text at Sec.s 618.20-.3Q; Aug'71

"When a concentrated load is applied to any vertex (towards the center) of any triangulated system it tends to cause a dimpling effect. Beginning with the tetrahedron as the minimum system, as the complexity (frequency) of successive structures increases, the dimpling becomes progressively more localized. As the dimpling becomes more localized proportionately less force is required to bring it about, i.e., in successively higher frequency systems it takes progressively less and less effort to create a 'dent.' The tetrahedron would have to turn itself completely inside out, and as this constitutes a complete change in the entire structure (with no localized effect in evidence) the tetrahedron clearly has the greatest resistance of any structure to externally applied concentrated load. The octahedron dimples in on itself, and the icosahedron, although dimpling locally, does reduce its volume considerably when doing so, implying that it still has a good resistance to concentrated load. The geodesic spheres exhibit 'very local' dimpling as the frequency increases, suggesting much less resistance to concentrated loads but a very high resistance to distributed loads."

- Cite SYNERGETICS Illustration f97 "Dimpling Effect: Distribution of Load Increases with Frequency." 1967

"Now I am going to press for the first time on the tetrahedron's vertex. It turns inside out. The dimple turns it inside out. Now it is the only one that turns inside out. The tetrahedron has two things: it can be asymmetrically altered and it is the only system that can turn itself inside out. The others have to be still positive with a local dimple. It can be a hemispherical dimple, but it is still a dimple.

"The ability to turn inside out in physics is really what is misidentified with something called annihilation. . . . Suddenly in the Universe it has appeared as another thing, then the physicist has annihilation, he doesn't really look for it--- he wants to see the direct connection. This

makes it really become temporarily invisible. Now we have something that suddenly becomes visible and so he says, well I just found something that I didn't know existed before. He doesn't find necessarily the connection--- it's just suddenly there is something over here. The point is, it didn't leave the Universe. It wasn't annihilated, It simply was literally inside out. Now what we kail"

- Cite RBF tape transcript to BO'R, Carbondale, pp.9-11, 1 May'71

Dimpling Effect; Tetrahedron:

(2)

"thinkable is always inside out. What we call space is just exactly as real, but it is inside out. There is no such thing--- right and left!"

- Cite RBF tape transcript to BO'R, Carbondale Dome, pp.9-11, 1

(3>

Dimpling: Dimpling Effect: Octahedron:

*I am going to make a tetrahedron, octahedron and an icosahedron. You can visualize those you know. I am going to make them out of steel rods with rubber Joints. Steel rods have some flexibility in them. They are thin and if you press them hard they will bend, yield.

"I am going to press on the vertex, any one vertex of an octahedron--- it has six vertexes. And its legs being of steel are springy and will yield and the rubber joints will permit it, so it dimples. So if I dimple the octahedron, one-half the octahedron. If you look at the octahedron with a point we might call elevated, and a point lower, then we have four points around its equator. So I press in on this top one, the North Pole, and it now turns in, dimples in, and one-half of the octahedron fits into the other half of the octahedron, each being the shape of an Egyptian pyramid, a square-based pyramid. But it nests inside itself like a football being deflated, with one-half nested in the other half."

- Cite RBF tape transcript to B'OR, Carbondale Dome 1 May 1971 Pp. 6-7.

tV

Dimpling: Dimpling Effect: ® Icosahedron:

"An icosahedron, it now has. a North and South Pole ... and we have the two equinpcial limits of what we call the Tropic of Cancer and the Tropic of Capricorn. So I press on one of its vertexes, five legs out of thirty locally dimple. So it literally is dimpled then and there is a lot of space inside the icosahedron not filled in.

As I get higher and highentrianguiation. . . as I get into the geodesics, the higher the frequency of the geodesic- modular subdivision of the icosahedron--- and the more local the dimpling. The legs are spread out. There is a hexagon or a pentagon that refuses to yield in tension, so that the legs have to yield in compression, bending, and she pops inwardly. So the higher the frequency, the more local the dimple."

- Cite RBF tape transcript t© BO'R. Carbondale Dome, 1 May 1971 Pp. 7-8.

Diaplingi

See Rigidly Resilience, 20 Dec*74

Dinosaur:

See Artificial. (2) Berry Picking, (D)(E) Generalised Principle, (4)

 Diplomats:

"So I find the larger the undertaking to accommodate the specialization, the lower level of mental capability comes to bear, I don't have anything against anybody I assure you. We don't have good and bad people. We don't really have brights and dulls, because I think everybody is really born with extraordinary capabilities but we get them

shut off. The valves get closed off by the older peoples' fear that the children are going to get into trouble doing this or that. . . Here then is the pattern of specialization really not working; and how it happens that as we get into the larger responsibilities, really the lower the order of capability being brought to bear. And when we get to international affairs you can see where we are. We could really just not have any lower kind of capability."

- Cite Univ, of Chicago Address, pp.10-11, 5 May'72

See Whitehead's Dilemma: The Larger the Task the Duller The Brain
Ambassador

See Politics, 10 Jun*71

Dirac. P.A.M:

See Fuller, R.B: Meeting with Fernandes-Moran, (1)

See Acceleration: Direct re. Indirect

See Precession (b)

Dirgctlon-

"In, out and around are all the directions there are.**

- Citation and context at Jft, Out_r and Around_f 10 Dec¹73

PUKUWP

"IT there were only one entity in Universee there would be no direction.*

- Cite RBF ineert at Synergetics Seo-WeJ Bear Island, 23 lug. f?1

Direction:

"A line is a leading, the description of man's continual discovery of the directional sequences of events."

~~file nar-I~~ Til , "SUarerxwL eiUb-,Wii»»*ir

- Citation at Line. 22 Apr'71

RBF DEFINITIONS

Direction?

"All lines, except when abstractly considered as Mireetion,• are somewhat curved...!"

- Citation 4 context at 1938

KBF DEFlnrriON

"By controlling direction it becomes possible, scientifically, to increase the probability that specific events will 'happen.'¹"

- Citation and context at Society: Control uf 1938

DlrettiwQ SWIM*

See In, Out & Around. 1966

Relativity, May®49

DJrTftiWl BxPfTlflMtti

See Line, 7 Nov¹72

Diractional Flaid Pulla:

See Orbiting, 6 Mar*73

See Anydirectional

In

In, Out, fc Around Least Resistance)4il bidirectional Unidirectional
Out Preferred Directions Radial-circumferential Supradirectional Up
&. Down Sequence Perfect - Direction Unidirectional Unique Direction
Itt ii. Out: Go In to Go Out Polnt-toable No Up fc Down

See Inflection, Mar'71 Least Resistance, 1938 Line, 7 Nov'72; 6
Not»73: 22 Apr'71*1 1938* Orbiting, 6 Mar*73 Otherness. 28
May'72 Perfect, 1938; Jun'66 Society: Control Of, 1938* Tetrahe-
dron: Coordinate Syme try. 10 Jul *62 Time, 16 Dec'73 Truth, 1967
Vector, 26 Hay'72 Left A Right, 7 Not'75 Out-lining, 22 Mar'76

'Out' is directionless and timeless,

• • • Instead of 'omnidirectional, • sav dlrectionleas."

- Cite HBF to EJA, Beverly Hotel, New Tork, 19 June 1971

Disagreement:

See Angle of Disagreement

Disappearance:

"• • . the disappearance, or isolating aspect of our Universe « . . is
always present. .

and context at TttrflhftdrgnUnYlfiblg IgtrfihedrQa

- Citation c.

1 May«71

See Meaningless: Inventory of Meaningless Concepts

Obsolete: Inventory of Obsolete Concepts

See Culture

Fundamental, 1 Feb'75» 1y Feb'76 Infinite (See Endless, 22 Apr'6fl)

Nan or Mankind Psychological (See Psychology. 15 Jun'73)

World, 24 Jan*75 Package. 1 Feb'75 House, 1 Feb'75

Disciple, (See Average Hunan Being, 5 Mar*74)

Negative, 2 Mar*68

English, 28 Jan*75

Peace. 19 0_ct` 71

Create: Creativity Pressure

Three-dimensional, 19 Feb'76

Di&arparcngt: (1)

"Eventual and probably imminent world-a round disarmament will release the vast weapons industries to production of air-deliverable dwelling machines. This disarmament will occur as the major world enterprise corporations who have become supranational, find that they do not need armaments to protect their know-how selling and the latter's service industries; and the Russian leaders, long exasperated by the USA-paced armaments race, and now attaining military supremacy over the US. and realizing that further delay in world disarmament could easily permit the integration and acceleration of an Arab armament s-bi/ti ng program that might well challenge Russia's supremacy, ergo, Russia will hasten to impose disarmament In order also to fulfill their long- overdue promise to their people to turn the industrial advantage to the improvement of their citizens' living standards and in direct support of communism's long-pronounced claims of inherent overall superiority as a social economic system."

"with the general world disarmament and the release to life-promoting account of the fabulous production capacity of"

- Citation 4 context at Building Industry (9)(10); 20 Sep*76

Disarmament:

(2)

"the world's industrial complexes will come the one-day air-delivery of whole cities similar to the Old Man River Project wherein the operating efficiencies will be significantly multiplied and the social conditions...• omnivisible

- Citation 4. context at Building Industry. (10); 20 Sep'76

Pl. parpywnv

"Disarmament la inevitable because the Russian* will soon impose it. They will never cave in under pressure in any negotiating; they've always told se that. But they have now too long deferred the benefits of coHmunism, and though they won't go so far as giving every man a car, they are going to start to reinvest their energies in a more logical way. Ind there is nothing more illogical than nuclear arms.

"The capitalists, the west, the selfish profit-makers----they* 11 never do it first."

- Cite RBF to RJA, 3200 Idaho, Wash, DC; 11 Aug'76

uiefttrmanient:

(D

See Detente

Politicians de Defense Budgets

Disarmament:

(2)

See Building Business, (5)

Computer, (1)

Walls vs. Airspace Technology, (1) Building Industry, (9)(10)*

£UUA££l£hUl£x:

See Assoclability & Disassoclability

See Association A Disassociation

Entropy Gravity Radiation

Set Death, 22 Jul'71

flAbHEUaua: PlgbUTBlIMW:

U)

See Collecting Dispersing

See Weather, Feb'73

Di eel pl * i

See Average Hunan Being, 5 Mar*74

MB See Academic Disciplines Cross-discipline Inventory of Disciplines Inventory of Proclivities, Phases & Disciplines Nondisciplining Self-discipline Slave Profession: Slave Discipline Teleologic Design Discipline

Saw Xduaatlont Evolutionary Touchdowna, May'65 Water, May'65 Abaoluta Network, 10 Nov'74 Conaunleatlons Hierarchy, (2)

KBF DEFINITIONS

PlsgQnnegfr:

Scientists have been forced to disconnect from our senses due to the errors of our senses which we are now able to rectify. As we reconnect our senses with the reality of Universe, we begin to regain competent thinking by humans."

- Citation and context at Spherical Triangle (1), 13 Nov'69

See Break

Icosahedral Dieconnect Metaphysical Disconnect Sense Disconnection Zero-disconnectedness

Dieconnect;

(2)

See Law, May'65

Spherical Triangle, (1)*

Thinking, (3)

Vectg/Equilibrium as Empty Set Tetrahedron, 2 Nov'73

Repetition, 11)(2)

Plsgmiiwttty'

"Physics finds only waves. Sone MI are of exquisitely high frequency, but inherently discontinuous because consisting of separate event packages. They are oscillating to and from negative universe, that is to say, in pulsation."

- tn MI-

- Citation & context at Wave_f 22 Apr*71

Discontinuity:

"There are no experimentally demonstrated continuums.

All that has been found is discontinuity as in star constellations or atomic nuclear arrays. 'Areas' are discontinuous by constructional definition.*'

- Citation &. context at Area. Jun'66

Discontinuous;

'•...The^y may fly wavelinear patterns but the atoms are found to be as discontinuous as the wavelinear sky trails of the jet airplane."

- Cite SYNERGETICS draft at Sec. 1009.37, 10 Feb*73

Discontinuity Accomodation Model:

"The octahedron as the conservation and annihilation model also provides for the accommodation of discontinuity. It is not a discontinuity model but rather a model of the accommodation of discontinuity."

- Cite RBF to EJA enroute Union Station, <fash.f DC., 9 Apr'75

RBF ulklThuJi

MM Djgc<mtlnHltY & cgntippiiy:

"We find that nature employs discontinuity compressions and continuous tension, for this reason compressions are plural and tension is singular."

- Cite JO-JL1SES, fat. Review 2 '-ar 68

- Citation at tension & Compression. 2 Mar'68

See Cosmic Discontinuity k Local Continuity Tension k Compression
Fixes, Discontinuities & Continuities

See Continuous Man, (1) Corpuscular, 9 Jul*62 In & Out, 13 Nor'69
Male i Female, 20 Apr'72 Tensegrity, 1967; 14 Oct*72 Necklace,
(1)(2) Coherence. 10 Feb*73 Quantum, 17 Feb*73 uonan is Continuous,
11 Aug'77

Discontinuous Map:

See Local Reality,163

Dlacontlnuoue Wave Pat.tarn of Indira: See Synergetics Illue.
1012.14B

S4fS22*12!lilZ:

<1)

See Death: Apparent Discontinuity Of Discontinuity & Continuity
Earth Fault: Society Is Living In a Sort of Earth Fault
Energy Flow & Discontinuity
Interval Integrity
Islanded
Package
Periodic Experience
Physical Discontinuity
Quantum
Tensegrity: Vertexial Connections Wave vs. Particle Subvisible Discontinuity

See Area, Jun*66*

Evolution: Man as Evolution Modifier. May*49
Experience, 1960
Interference: You Really Can't Get There froa Here.
19 Dec•73
Man, 19 Dec*71
Otherness Point, 24 Sep'73
Packaged, 1969
Pattern Integrity, (B)
Radiation Speed Of, (C)
Solide, Nov'71
Tension Strcutures, 1 Apr*49
Tenuous. 10 Feb*73

Wave, 22 Apr'71*

Vector Equilibrium as Empty Set Tetrahedron,

2 Nov'73

Scenario, 1 Feb'75

Progressions, 1949

Annihilation, 22 Jun'75

Radiation, 11 Feb'76

Discount inx:

See Anticipatory Discountinf

Discovery:

"Development is programable Discovery is not programable. Since the behaviors to be sought are unknown, Computers cannot be instructed To watch out for them."

- Citation and context at Computer. May '72

Dagfifvens

* "Certain it is on my own part That I have made several mathematical discoveries Of fundamentally unexpected and unpublished nature. As I realized my discovery

I always have had

The same strange sensation

That this newly realized conception, Previously unknown to terrestrial humans, Had been known

To the human mind

Sometime vastly long ago."

- Cite BRAIN 4c MIND, p.170 May »72

Discovery:

"Discoveries are inherently unpredictable."*

- Cite Dreyfuss Preface, "Decease of Meaning 28 April 1971, p. 7 PXf-fCPTfin: "rfe cannot design aetaphysical; we can only discover meta-physical, it is a priori.*

- Citation at Meta physical. May'67

- jr-B—mwytrrr-nFTT

Discovery:

□True, men have been endowed with very extraordinary faculties• The Universe is endowed with vary extraordinary principles.

The principles are discoverable. When man fulfills his extraordinary abilities and does discover, or really un-cover the mysteries of the ordered Univers, some very strong interactions become available to society. Humanity is constantly being surprised by thae interactions. But, as for the discovery It was always there, waiting to be uncovered."

- Citation and context at Creativity (1} + (2) Sprang'6b

Discovery:

"In respect to the words 'Science: A creative Discipline I am convinced that the word*creation'belongs to God and nobody else. We are all endowed with extraordinary faculties The universe is endowed with extraordinary generalised principles. The principles are progressively discoverable only by man's faculties. Man may interrelate them

to produce unique results. The individual at times fulfills high potentials with which he is endowed. When he does seem to be creative, however, the men who are spoken of as creative always refer to what they have done as discovery. They do not claim creativity. Through exploration and experiment they acquire sublime conviction of the a priori eternality of the verities. I cannot accredit 'disciplined creativity.' **

- Citation at Creation, May '65

Discovery:

"I have to recognise something much bigger than my capabilities in creativity. The orderliness of the universe and all the potential $N^2 - N$ relationships are by experience

2

a priori to man's exploration and discovery of them. Often two remote persons discover their existence independently.*

- Cite AAUW JOURNAL, May 1965, P. 173

RBF DfDiTIUKS

PjKOTffr

"Thanks for the data-- I may be wrong about By checkingcheck m back! I'm intuitively confident that some such rationalitjioes exist and have a lot of calculations tucked away ayaelf. So let us pay attention to experience which shews us that even though we way have made errors and were not entitled to entry into a big discovery by virtue of our erroneous sortie that it is often a fact that the next--- or the next sortie after that--- in the same area will come up with protf that we have been Intuitively right all the time."

- Cite 1BF Letter to Mr. Alfred to Forbes, Auklnad, 18 Nov '65
discovery:

"I have always been confident as I explored synergetics looking for nature's own coordinate system, that inasmuch as I was not inventing a coordinate system, but was trying to find one that nature had, nature \square had this all the time, and it seemed to me very logical that men long before us might really have discovered some of nature's coordinating, might have run into the same kind of phenomena. There it was, and it was not going to change through the ages at all because we are dealing with fundamental principles of Universe that are utterly timeless and independent of site, shape and time. I have often felt a strange curious feeling as I made a discovery that some one has known this before. Going around the world I watched for some kind of manifestation in the design of some object that would tell me that people in that part of the world had at some time known the things that I was discovering. You can see that I have a very definite kind of a pattern of world which I could recognize and I did begin to find some of the pattern in Burma and Thailand and I have been able to trace the relationship of these patterns into the world of navigation and building ships."

- Cite Oregon Lecture #7, pp. 250-251. 11 Jul'62

Discovery of Generalized Principles:

"Once in very rare moments

Individuals amongst using their minds Progressively discover keta-physical and mathematically equatable Generalized principles

Which are constantly operative

Amongst the behaviors

Of comprehensive special-case experience-aggregates While being utterly unpredicted by the characteristics Of any of the individual parts."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH,
Jan *72, p. 9.

WHMBB Discovery of Generalised Principles:

"Discoveries are regenerative stimulation of the explorer. They occur whenever he discovers a generalized principle. When his mind discovers a generalized principle permeating whole fields of special-case experiences, the discovery of such a new relationship is not only excitingly new to him as an explorer, but to the best of his knowledge it is heretofore unknown by any others. The stimulation is not that of the discoverer of a diamond--- a physical entity which may be monopolized or exploited to the individual's advantage--- rather it is an elation over the realization that the newly discovered principle will increase the understandings of humanity and provide spontaneous logic for cooperation where confusion and controversy had hitherto prevailed."

- Cite RBF to EJA, 3200 Idaho Washin: ton DC.. 20 Dec. »71.

Incorporated at SYNERGETICS text, Sec. 250.CX.

Discovery of Generalized Principles:

"Men have been endowed with very extraordinary faculties. The universe is endowed with very extraordinary principles. These principles are discoverable. When man fulfills his extraordinary abilities and does discover or really uncover the mysteries of the ordered universe, some very strong interactions become available to society. Humanity is constantly being surprised by these interactions. But as for the 'discover,' it was always there, waiting to be uncovered."

- Cite MERGERS 4. ACQUISITIONS, Vol.1., No. 3. Pp. 43 Spring 1966.

0HMBW Discovery of Serialized Principles:

"I would say that there is going to be a general discovery of the general orderliness and the significance of the general orderliness which is a complex of abstract principles. It is a concept of intellectual conceptions. Everyone of them are intellectual conceptions. They are what the scientist calls elegant as he begins to discover it. As any one of these principles are discovered, the men discovering it are moved I am sure as no other human beings are moved. There is a very extraordinary sensation as you discover that Universe is operating on this principle and it has been there all the time. It is much more than discovering a brook when you are a child, and that is pretty exciting when you are a child to discover a brook, or to see the dew on the grass for the first time, but it is much more still when a scientist discovers an operating principle of Universe. They are complex and of very enormous intellectual conceptions. What we are discovering also is that these principles are anticipatory. There is nothing we can do which nature is not ready for us,"

- Cite Oregon Lecture #4, P. 128, 6 Jul*62

PUCQYWY gf QoMnUliff Prlnclploo:

"... The metaphysical might continually improve the scenario by conceptual discoveries of new generalised principles•*

- Citation and concept at FarvUUwi KrfU TBi Sffgnflrlfl fcdoli 23 Dec'68

Djegoyery of Generalised Principles:

See Human Beings AL Complex Universe, (5)

Discovery:

Sea Creation vs. Discovery

Cui de Sac*. Intuitively Inadvertent

Fisherman Theme

Formulations

Glimpse-discovery

Invention

Invention va. Discovery

Intuition: Eye-beamed Thoughts

Intuition: Second Intuition

Loss: Discovery Through Loss

Ninety-two Elements: Chart of Hate of Acquisition

Self-discovery

Tetrahedron Discovers Itself

Smell-discover

No n-emp i r i c a l l y- d i s c o v e r s b l e

Disdoiverv: Discoverability:

(2)

See Computer, f'Jiy'72*

Creation, Fay'65*; 29 liar*77 Dymaxion Airocean World Map, (1) Error,
5 Feb'77

Eternal Orderliness, 15 May'72 Generalization Sequence, (2)(3) God,
7 Nov'75

Human Event, Feb'71

Individual System Formation, 15 May'72 Irreversible, 6 Nov'73 Meta-
physical, Kay*67* Overlapping, 5 Jul* 62 Words 4. Coping, 7 Nov'75
Cosmic Fishing, (A)-(C) Subconscious, 20 Feb'77

Discrete:

"Physics haa found no infinity. Physics has found discrete packages.
That's all she has over experienced--- discrete packages. . . . It is an
entirely new system. We don't have to teach Infinity in mathematics."

- Cite Tape transcript RBF to BO'®, Carbondale Dome, 1 May 1971

Diecrete TH. Probability;

See Scheherazade Numbers: Declining Powers Of

17 Mar*75

See Indiscrete

**Package Quantua Wave Phenomena Time-somethingness Discrete
vs. Probability Periodic Experience**

Differentiation. 19 Jun *71

**See Environment: Altering The. 1970 Frequency, i960; Jun*71
Genetic, 14 Feb'72 Geometry of Vectors, 15 Jun'74 Omnifinite, 11
Feb'?1 Onniradial, 23 Sep*73 Otherness Point, 24 Sep'73 Packaged,
1969 Powering: Second Powering, 21 Dec*71 Precession (a) Prime
Otherness, 24 Sep'73 Rhombic Dodecahedron, 24 Feb'72 Rope,
Dec'?1 Tensegrity, 20 Oct*72 Vector, 15 Oct'64; May'67 Industrial-
ization, (A) Geometry of Vectors, 2? Jan'75 Mites Make All Regular
Polyhedra, 27 May'72**

Options Voluntary

See Electable: Elective

Lifetime: Personal Lifetime Experience for Elective Investment

See Earning A Living, 10 Apr'73

See Doorknobs as Diaeaae Carriere

Pathology: Preventive va. Curative

(2)

See Conformity, 10 Oct'6j Reverse Optimism, Aug'64

See Technology: Enchantment re. Disenchantment

Stows* W>rtwp Piaoquilllbriottfl:

See Basic Triangle: Basle Dis-equilibrium 120 LCD Triangle

Equilibrium & Dis-equilibrium

See Spheres & Spaces, 14 Oct'72

Spherical Interstices, 18 Oct*72

HBK UKFDilTOHS

Plaintegration; "Cooperation are disintegratable because they are not solid and can permit energy penetration between their invisibly associated separate energy entities. The entrance brings about processional dispersal at 90 degrees.*

- Citation at CgfrsBipn, 19 Jun*71

• , 1Q Jtma 1QTL,
.famrUdJl, fynoigotiluo Cot, 015.071
01si.ntezrat.lvo 'Hara'a':

See Here k Tharea, 4 Jun' 72

Plaintegration: Disintegration

See Entropy: Entropic

Integration & Disintegration Unstable Disintegration

See Cooperation, 19 Jun'71

Linear Programming. 5 Jun* 73

Specialised Boat, (p.21) May*72

Syntropy, (p.143) Kay*72

Universal Integrity: Principle Of, Dec*72; 8 May'72

See Trap of Disney

01881 Mali

See Inward vs. Outward Dialoissal of Error Irrelevancies: Dismissal Of

Disorder:

"We cannot have disorder

Because Universe is not nonological.

- Citation and context at Universe, pp.156-157 May '72

DAggrtfer;

"Primordial does not exist. There could not be anything prior to order.
Man is disorderly only in his ignorance."

- n—1 imi, W, UH i-Auharafr.

- Citation at | 22 Jul¹?!

Disorder:

"Disorder attains and passes through maxi mum asymmetry.

- Dae *6S
- Citation at MmriMi* Asymmetry _T 23 Dec *68

See Chaos

Entropic Disorder

Entropy

Entropy as Lack of Information Hell Order 4 Disorder Point of No Re-
turn Primordial Randomness

Relative Asyunetry No Absolute Disorder

See Equilibrium, 25 Feb*69

Gears, Hay'72

Maximum Asymmetry, 23 Dec*68* Modules: A & B Quanta, 18
Oct*72 Primordial, 22 Jul'71* Universe, May*72* Wave System
Propagations, May'72

DA g gamp?

"The basic complementarity of our octahedron and tetrahedron, which always share the disparate numbers 1 and 4 in our topological analysis (despite its being double or 4 in relation to tetra - 1), is explained by the uniquely asymmetrical octahedron which is always constituted by the many different admixtures of AAB Quanta Modules..."

- Citation and context at Coupler (1), 22 Mar'73

Disparity:

"The complementary of parity is disparity and not a reflective image."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 507.06, 6 Nov'73

Disparity:

"When we missed the noon in our first attempt to shoot a rocket to it, the tetrahedral tuck in Universe may have represented that discrete error. It was directly related to our lack of awareness of the disparity of the calculus. This disparity is corollary to the same mathematical disparity that was physically discovered in atomic behavior* which brought its discoverers' the 1957 Nobel prize and which discovery physics* long-held law of conservation of parity which held the observe and reverse to be identical, ergo, redundant. A further corollary to the tetrahedrons! disparity of systems invalidates the functioning significance of the transcendental irrational constant Pi."

- Cite UNIDIRECTIONAL HALO, 1960, Pp. 153-156.

SlgrUy: Coupling of Bieuarate Action.:

See Universal Joint: Tetrahedron, 9 Nov'73

Sae Parity k Disparity

See Multiplicative Twoneee, Jun'71

Octant Zone, 27 May'72 Operational Procedure, 22 Nov*73 Vector
Equilibrium: Eight-pointed Star System, 16 Dec'73

(1)

See Dioburcement

(2)

See Black Hole. (1) Rain, 11 Feb*76

Displacements of Ships and Buildings:

"Building technology on the dry land was never predicated upon a total weight limitation. Buildings did not seem to sink into the Earth to *displacement' depths. • . In recent years engineers have observed that the amount of rock displaced to get firm foundations often approximates the ratios of ships' displacements as demonstrated between skyscraper weights and weight of excavation removals for those skyscrapers."

- Cite MEXICO '63, p.6, 10 Oct '63

Displacements of Ships & Buildings;

"You will find that a cruise ship weighs 1/15th as much Ml per passenger as does the hotel Bellevue Stratford. You find you really get a much more charming life on board the cruise ship than you do at the hotel, and it only takes 1/15th as much material... when you Jwst get down to thinking about the materials per person and developing a proper shelter."

- Tape transcript, p.11; RBF toB. Brooks, 30 Apr*74

Displacement:

See Weight of Buildings

See Archimedes, (p.21) May*72 Generalised Boat, 26 Jan*69 Meta-physical Wave Patterns, 6 Nov*73

Daplsagad:

See Pleased or Displeased

SM Odd Ball, 27 S«p'72| 10 kov'74

See Nonidentical

Prime Otherness

Similar & Dissimilar

Tetrahedron: Dissimilar Rate of Change Accommodation

See Non-mirror Image, 22 May*73

Thinkability, 26 May«72

Male & Female, 21 Jan*75

See Aesociability t Disassoclability

De-structures: De-structuring

See Radiation, (p.126) 1959

DUumghronoug:

See Synchronous & Dissynchronous

Distaff:

"This was the sign displayed in the womens*
quarters of

the Palace at Knossos, Crete. It signified 90° degree

accounting - which was deemed adequate for domestic purposes

- Cite RNF to SXKS Seminar, U.Mass., Amherst, 22 July 1971.

*••. With the invasion of Knossos we have our enemy sailors coming there and sacking the place and finding the distaff geometry. With the distaff geometry they opened up the Ionian Greek Geometry which follows immediately afterwards with the ninety-degree angle study ... introduced into the public domain, including quadratic equations and mathematics of a very high order."

- Cite tape transcript RBF to EJA, Chez Wolf, 18 June 1971. P. 35
Blwrf fiasmfltrr

In the palace at Knossos "over in the area where the goods are stored, where the women were, this *as called the distaff sign. The distaff sign you will find on the walls is always a ninety-degree cross* You have a ninety degree and a forty-five; it begins to look like the British flag: the cross of St. Andrew and the cross of St. George. And this is called distaff."

— Cite tape transcript BBF to EJA, Chez */olf, 18 June 1971* P* 34
See King^Bs Sign

See Three-way Wearing va. Two-way Crisacroaa, (2)(3)

Distance:

"Distance is time. Distance is only frequency-accountable.

- Cite SYNERGETICS draft at Sec. 960.11, 16 Nov»?2

Distance:

"You need two othernesses with an interval between them in order to have a sense of distance: otherwise you might just be looking at yourself in the mirror.*

- Citation and context at Magnitude Awareness. 20 Feb¹⁷³

RBF DEFINITIONS

Distance;

"Length is distance. Distance is measured in time. Time increments are calculated in respect to a variety of cyclic regularities manifest in our eavironmental experiences."

- Citation at Time. Jun*66

See Slower 4 Closer vs. Faster & Far Apart

See Magnitude Awareness, 20 Feb*73* Time. Jun*66* Vector, 26 May•72 Tiae & Site, Not'71

DiatarXien:

See Internal Control of Distortion

Distribution:

"Distribution is an integral part of design science. It involves all the unconscious aesthetics or maintenance and attractiveness. The Bell telephone system is the best industrial example of selling the service instead of the instrument .*

- Cite RBF at Penn Bell studios videotaping. Philadelphia. PA 25 Jan*75

DlrtrXbutIYB!

"Radiation is omni-outwardly and oanidianetrically distributive its fractionally packaged radiations are angularly ana pulsatively precessed by the universal otherness frequency effects, ergo, in wavilinearly-edged tetrahedral packages. Radiation is wavilinearly aaplifying and radially distributive and is defined by the central-angle-partitioning into discontinuous, not-everywhere entities."

- Cite SYNERGETICS draft at Sec. 541.02, 23 Sep'73

Force Lines

See Force Distribution

Inifrit vs• Distribute Load Distribution

See Central Angle, 23 Sep*73

Octave Wave, 5 Ear*73

Radiation, 23 Sep*73 5 11 Feb*76

Halfway-round-the-Worlding, 26 Jan¹75

PIBtwbance Initiating Point:

See Synergetics Calculation, 1970

PIOWteQCg:

See Equilibrium Disturbing Resultant as Disturbance Diminishing

Diurnal Cyclic Biwrl.nc.;

See Motion, (2) Time Vector, 24 Sep*73 Sleeping 4 Thinking, (1)

PIWKfiRSff!

•rfhereas none of the geodesic lines, •trajectories," of Universe touch one another the lines, 'trajectories,' approach one another, passing successively through regions of most critical proximity, and diverge from one another, passing succesively through regions of most innocuous remoteness."

Cite SYNERGETICS Corollaries, Sec. 240. 1971

See Avoidance

Convergence & Divergence Fourth Dimenoion Starting with Divergence Omnidivergent

See Radiation, 23 Jun*75

Divide and Conquer:

The Principle of Univereal Integrity i® "an inverse corollary of the age-old Instinct to Divide and Conquer."

- Citation and context at Universal Integrity; Principle Of.

"By getting out from under the world of special!sation, which I feel was very clearly imposed on man due to the fact that every child manifests spontaneous interest in totality, and wants to be comprehensive. • despite our scientific information in biology that all the biological species that have become extinct have become extinct as a consequence of overspecialisation. Because specialization, biologically, means you can inbreed; but you inbreed at the cost of general adaptability. And with the general adaptability loss you can get along for a while, but it happens that the energy investment of nature on a wave quantum basis, that we have large waves with very large amounts of energy investments, but at low frequency, and very small amounts of energy, but at high frequency. So the big energy events, such as an earthquake, for instance, do not take place with a frequency of waves or ripples in the water... or mosquitoes. So in developing special capability you may get on very nicely for a period, but then suddenly along comes one of the big ones, with the result that, having lost the general adaptability: out goes the species!

"I'd say then that man. having quite clearly been designed to be a comprehensivist, to coordinate, and to understand,"

- Cite RBF at DSI Press Conference, ILYC, p.i., 28 Jun'72

"How did it happen that he became a specialist?"

"It becomes perfectly clear that in the early phases of man discovering himself, to be sure that he would regenerate himself, he's given the instinct to be hungry. If he says to breed, these are all built into him, so that there will be children., keep on regenerating himself, so that he has a functioning, and in doing that, he discovers quite early that the biggest guy can knock down the little guy. And that there's only enough for one to eat. And maybe the big man isn't too selfish, but he's got these kids over here and they're going to have to eat.. To look out for Ky People.

So the Big Ilan began to answer who was going to eat. And it's still that way. That's still the basis of our power structure. We think about the simple matter of a big man, like a big stallion in a herd of wild horses. There's a big young stallion born. He didn't have to be. but hes bigger than any of the others. And there's an older, gret big stallion, and he immediately challenges this young big stallion to battle, and the one that wins then disseminates the herd.

And that's the way that nature arranged to keep the most powerful of the breed going. "

- Cite RBF at DSI Press Conference, NYC, p.5, 28 Jun*72

Divide and Conquer Sequence; (3)

"I'm sure that with early physical man there was a young human born and the old king said... Young man, you're getting too big for yourself. And then they'd have it out. But the big young man learns instinctively; I can beat these other people, but don't let two of them come at me at once. Now this is what we call Divide and Conquer. Nothing could be more obvious.

And so the big powerful nan wanted some of these big men around to fight with him; so he said, I'll make you the Duke of this, and I'll make you the Duke of that. Now you Dukes stay good and far apart, and I'm going to watch to make sure that you really do stay good and far apart.

"And then there were the intellectuals, who really bothered them. They wouldn't fight him with their muscle and they were always sneaking around and stealing his things. So he'd catch hold of one and say. I'm going to cut off your head off!. And the man would say, Er. King, you'd make a great mistake to cut my head off. And the king would say, why? "I understand the language of your enemy over the hill and you don't. Well, you've got a pretty good idea, you know you report to me every day what my enemy is saying over the hill, and you can stay on. Furthermore, you're going to do something you never did before. You're going to eat; you don't have to steal

- Cite RBF at DSI Press Conference, NYC, 28 Jun'72 "any more. And then the king said to someone else, I'm going to cut your head off! Mr. King, big mistake. And the king said what. I know how to make— I know metallurgy and I know how to make better swords than anybody in the world. Can you prove it?... And you make me a beautiful sword, absolutely lovely. Then the king says, You just make swords, you understand? So this man: you just keep the accounts, you know how the mathematics goes. But you mind your business. You mind your business. And you mind your business. Is that good and clear? I'm the only one who minds everybody's business. This is simply how it went to divide and conquer the intellectuals. And it really became such a powerful matter, with the control of the big powerful men who would go and hunt with him, and then the intellectuals giving him all this information and producing beautiful tools.

"And then his kingdom got bigger and bigger. And he wanted to project that and let his son carry on. So he said, I see you're getting very old. Now I want you to teach something about that metallurgy; and I want you to teach something about that language.... And this is the foundation of Oxford University

- Cite RBF at DSI Press Conference, NYC, p.5> 28 Jun'72

"(I was made an honorary fellow of Oxford University about three years ago. And I had to give my first lecture there. And I said that, and I got a very large applause, 1*11 tell you. The students were in agreement.)

"Now I think this is all fairly evident.... We could have a man who was really a very bright professor, but he was really not sticking enough and the king was bothered about him.

So he said, Mister, you're getting off base a little over there. I'm going to really tie you up. I want to really tie you up: I'm going to give you tenure. Now, how do you like that! Don't do anything for anybody else. You're set for life! Nobody can ever take it away from you. But I want you to be an absolutely pure scientist. None of that nonsense about applied science. Pure scientist. You just lay eggs and I'll take them away from you... Today, this is just the way our University is...

"But now we have for the first time in history a condition where everybody is literate. Yesterday was just the king, who was mildly literate. And he had a literate Gu, and Vizier, and nobody else had to do anything but just be a librarian or use"

- Cite RBF at DSI Press Conference, p.6, 28 Jun'72

"their muscle machine. And now it's not that way any more. And this great transition that is going on here, with all of humanity literate and aware of total Earth and aware of one another. And all of these young people are just in, and they're not going to be put out..."

- Cite RBF at DSI Press Conference, p.6, 28 Jun'72

"Long ago we have the big man being born* He didn't ask to be bigger. And he becomes the king. And for obvious reasons, too, because he has the longest reach. As you know, many people are dying of starvation* The one who has the best reach can live* It is a very tough survival game.

"We have a number of other big young men saying, 'I think though I'm not quite as big as that young man, I think I'm brighter and I think I can lick him.'

"And they'd like to lick him because being king means you are going to eat. But they don't come at him two at a time, because then they wouldn't know which one is going to be king. They come at him one at a time. And he licks each one of them. Finally they are all fairly well convinced that he is the best fighter.

"So now he says, 'We all are pretty hungry after all this fighting. And one thing for certain I know is that I don't want two of you to come at me at once.'¹

"And they say, 'Well we aren't going to, because each one of us wants to be the king.'

"Everyone was very frank about it.

"So instinctively, this man who is the big one, finds himself being challenged by other big ones. He didn't invent

- Cite Univ, of Chicago Lecture, pp.1-2, 5 Fay'72

"that either. Instinctively the he said: Divide and Conquer. Very fundamental.

"now he says, 'We would like to go hunting and these animals are big and ferocious and I can't handle that animal all by myself. But what we can do is reverse divide-and- conquer and we'll gang up on the animal. See, the animal does not know how to divide us.'

"And that's what hunting was. So they all gang up on the animal and were able to kill him and then they had a great feast. They said, 'There is just enough for us big guys here. You other people eat roots.'

"This is history and you will find that the king and all the great nobles were always hunting and fighting. They claimed all the animals belonged to the king and the nobles. Other people were not allowed to touch them. Even up to 1810 in England, we find a man could still be hung without trial for killing a rabbit because it belonged to the king. This is true up until very recently. The animals belong to the strong.

"So we have this big man, and now they have had some good hunting, and he is a young king, and they say to him, 'Very frequently we have invaders trying to chisel in on our animals and our food here.'

- Cite Univ, of Chicago Lecture, pp.1-2, 5 May'72

"He says, 'I would like to have you around to help fight with me, and I would like to have you around to go hunting with me, and you are a pretty good guy so I am going to make you Duke of Hill 'A,* and you Duke of Hill 'B.' But I'm going to watch you two to make sure that you don't get together and gang up on me. And you have to pay me tribute because, naturally, there'll be a lot of stuff coming in here.'

"They found he had a pretty good system going but then he found that there were a lot of little people around who were not fighters at all, who began to steal his animals and make a lot -of trouble for him. They began telling Duke A about Duke B and plotting against the king.

"So the king brings in these characters and tells one of them, 'You're making a lot of trouble around here. You are much too bright. I am going to cut your head off.'

"The man says. 'You had better not cut my head off,' and the king said 'V«hy?'

""Because I happen to understand the language your enemy is talking over the hill, and you don't.'

"you have a pretty good idea there. You report to me everyday what my enemy is saying over the hill and your head is going to stay on and you are going to do something J ou never did before--- you are going to eat every day, How o you like that?'

- :(BF Univ, of Chicago, etc.

"That's great,* he tells the king.

"So you report to me pretty regularly.'

"Then the king says, I'm going to cut this other man's head off because he has been a troublemaker. But the man answered, 'You'd better not do that, Mister, because I know how to make swords better than anyone else. I understand metallurgy.*

"The king says, 'All right, prove it to me.'

"He does and it's a beautiful sword. So the king says, 'All right, you just make swords.'

"And then he says to another one, 'I'm going to cut your head off because I understand you have been stealing all my stuff. So this little guy says, 'I understand numbers and know how to do calculations and you don't and I could keep track of all the things you own and I could keep people from stealing your things.'

"Well,' says the king, 'That's a great idea. You just do that now. But you mind your business. But you mind your business, and you mind your business, and you mind your business. I'm the only one who minds everybody's business. Is that clear?'

"This, then, is how specialization began. The king"

- Cite Univ of Chicago Lecture, pp.4-5, 5 Kay'72

"now has all the strong, hunting, fighting men around him. and he has the information about his enemies over the hill, and he's got the best swords, and he has a good accounting system, and he has good logistics. So he overcomes the people on the other side of the hill and he has a big kingdom and he feels very great about his kingdom because he has everybody specialized. So he says, 'I have a beautiful son coming along here, I'm getting a little old and I see you all are getting a little old, and I want you to teach somebody about that language, and I want you to teach somebody about that metallurgy, and I want you to teach somebody about that mathematics of accounting.'

"I am now giving you the foundations of Oxford University.

"I am simply saying to you that specialization is the divide and conquer of the intellectuals by the muscle men. That's all. This is really very important for us to discover.

"So then the king said, 'I'm not really sure whether you are all really going to stick. I am going to give you something I've given nobody else in the kingdom. I am going to give you tenure. How do you like that? And I want you to be really great scientists. I don't want any of that cheap applied science. I want you to be pure scientists. You just'

- Cite Univ, of Chicago Lecture, pp.5-6, etc/

"lay eggs and then give them to me and never mind what I'm going to do with them.

"So this is where we are today. So the question is: Is there any other way to carry on. Because I think society really thinks that specialization has such fantastic virtues."

- Cite Univ, of Chicago Lecture, p.6, 5 Lay'72

"Specialization is the Divide and Conquer of Intellectuals by Kuscletten," Chicago address, 5 1 lay'72 (Student Lawyer)

Operating Manual for Spaceship Earth, pp. 27-28

Oregon Lecture #1, pp. 26-27

"Mood Design in a Dynamic Technology," p.9

See Nation, Oct'70

Universal Integrity: Principle Of, 5 Jan¹72*

See Cyclic Dividend

**SSRCS: Scheheraaade Sublimely Renemberable Comprehensive Div-
idend**

Plridera

See Tools of Geometry Universe Dividers

See God

Eternal Designing Capability

See Kaivete, 23 Jan'72

Old Words, 1960

Division:

"There are metaphysical yet cogent early words emergent from the limbo of prehistory's quasi-logical accounting continuities which show that intellect has long been aware of the DEfunction. For instance DI-vine, D1-, DE, of(Di-chotomy --- cell division--- regenerate through bi-multiplication), The concept of a Devining DEity, i.e. τ the defining deity, the great intellectual capability of differentiating discernment, probably originated in the same conceptual logic as did Divide out of Division--- to see the whole as functionally differentiable yet only locally and progressively conceptual. In the differential calculus this becomes the delta--- $2k \text{ } \mathbb{E}^D$ --- of fundamental differentiation...

"Multiplication accomplished only by division. Universe expanding through progressively differentiating considerations.

See Multiplication by Division Subdivision

Two: Universe Divisible by Two Omni-equi-divisible Nondivisive Self-divisioning

RBF DEFINITIONS

DNA-RNA:

"These cosmically originated, electromagnetic-photosynthetic programmings are exactly the same morphological control codings as those of the complexedly and uniquely intervariable sequences of the guanine-cytosine, thymine-adenine of the DNA-RNA tetrahelix assemblage programming codes and their subsequent operational proclivities, which structural and behavioral programmings... were recently discovered to be governing the unique design not only of all the biological species, but of all individuals within the species--- all the requisite chemical constituents for exactly complying with the coded design instructions are or were present on planet Earth at the time of the original electromagnetic wave reception at the terrestrial loci of species' inceptions, which are predetermined by the unique electromagnetic environment's complex tunability existing only at those loci."

- CIELoy context at Man: Interstellar Transmission of Man.

KBF DEFINITIONS

DNA:

"One of the main characteristics of DNA is that we have in its helix a structural patterning instruction, all four-dimensional patterning being controlled only by frequency and angle modulatability."

- Cite RBF rewrite of STNEKGKTICS galley at Sec. 932.02, Dec'73

DN'A-RNA:

"DNA-RNA genetics programming is precessionally helical with only a net axial linear resultant. The atoms and molecules are always polarized and their total interprecessional effects often produce overall linear resultants such as the stem of a plant. All the genetic drives of all the creatures on our Earth all interact through chemistry which, as with DNA-RNA, is linearly programable as a code, all of which is characterized by sequence and intervals which altogether are realized at various levels of intercomplexity. On the scale of complexity of ecology, for instance, we observe spherically orbiting relay systems of local discontinuities as one takes the pattern of regenerativity from the other to produce an omni-embracing, symmetrically interfunctioning, synergetic order. The basic nuclear symmetries and intertransformabilities of synergetics omni-accommodates the omni-directional, omni-frequencied, precessional integrity."

- Cite SYNERGETICS drafts at Sec. 1005.CT, 16 Feb'73

Lfd

DNA-RNA:

"j/addington identified this external modification
Of living morphology as synergetics--
In contradistinction to the corporeal morphology
Of all living organism growth
Whose angle and frequency designing
Is governed by the internal DNA-RNA genetic codes."

- -chee

- Citation at Epigenetics_t May¹72

DNA-HNA:

"DKA-RKA angle and frequency modulated designs are composed exclusively of four unique chemical etaeswvt constituents which operate as guanadine and cytosine;

and as thiamine and adenine: inseparable but reversible tandem pairs. The first pair occur as GC or as CG.

TA or as AT. The DNA-RNA codes may be read in any sequence of those constituents, for instance, as: CG - CG - CG - GC - TA - AT - GC - TA - TA - TA -

AT - CG - CG - CG - GC - , etc."

- Cite Synergetics draft, Sec. 822-, August 19

DNA;

*The DNA and RNA tell the spontaneous crystallographic process controlling how to build a flower's petal. It programs the angle and frequency modulating to build the different biological parts. It doesn't necessarily tell you how to build the whole that is accomplished synergetically as a behavior beyond that of the sum of its parts. Codes do not necessarily read out into linguistic messages. The synergetic complementarities are not in the code at all."

- Cite RBF re-write 7 det. »71 of Tape Transcript, Chicago, 31 Fay 1971.

"Th* DNA and RNA tell you how to build a petal. It shows you how to build the different parts. It doesn't tell you how to build the whole, necessarily. The code doesn't really tell you what the sassage is, or how you do the totality: the synergetics are not there. The complementarities are not there at all... the raison d'etre..."

- Cite tape transcript of RBF to EJA and BO'R, Chicago, 31 May'71
DNA-RNA;

"If a DNA-RNA genetic code programs the design of roses, elephants and bees, we will have to ask what intellect design the DNA-RNA code, as well as the atoms and molecules which implement the coded programs."

- Citation and context iat Design (1), 9 Apr*71
DNA:

"In recent years chemistry and physics together have been able to run down the variables in the design of nature down into as far as biology goes, life down into a very important area, DNA, what we call deoxyribonucleic acids inside the protein shell. Whatever goes on within there apparently controls all the design of nature and all the life formulations. It is the area where the chemistry could be called crystallography, it could be called metals or it could be called animate. It is the complete threshold of the two. Because it is the threshold, people who like to be prosaic and like to make man feel so small can say everything is just going to turn out to be inanimate chemistry and you are all the consequence of probabilities and you might as well jump in the river.

This area then of the threshold is where the DNA is found and the controls of the patterning of life are down to four compounds of chemistry which, somehow or other, develop a code and out of this code these four letters and all the designs occur."

- Cite Oregon Lecture #4, p. 135.6 Jul*62
DNA-KJU: Twenty-five Models of DNA-RNA Compounds:

"Furthermore the 2 O-o ph ere (atom). closest-pa eked, non- nucle-
 ared tetrahedron consists of five basic (because minimum limit), four-
 ball tetrahedra which, unlike their planar-faceted polyhearonal coun-
 terpart tetrahedra, can be closest-packmgly assembled without octa-
 hedronal complementation and because the octahedra are internal to
 the four- ball basic tetrahedra. it is further relevant to these consid-
 erations that the JNA-nNA code consists always and only of the four
 chemical compounds: guanidine, cytosine, adenine, and tniamine;
 and that the helix which they generate consists entirely of tetrahedra
 whose four constituents in all vast variety of combinations will always
 □ be the same tetrahelices."

- Cite bYK&KGEl'lCS draft at Sec. 1055.0s, 2 oct'72

See Amino Acids

Animate & Inanimate

Enzymes

Genetic

Tetrahelix

Unzipping Angle

Viral Steerability

Virus

Biogenetic Experimentation

See Design (1)*

Epigenetics. May'72*

Heredity, 1\$ May*72

Twenty Questions (2)

Human Tolerance Limits. (1)

Angle k Frequency Modulation, 7 Nov*75

Tensegrity Masts: Pentagonal Polarity, 27 Dec'76

Hunan Beings k Complex Universe, (12)

See Ears: No Country Doctor on Mars Medical tan Pink Stuff

PjcitfKnury fiscal! Playbacks:

See brain*5 TV Studio, (2)

Dodecahedron:

"The dodecahedron is not a structure; It la only a docain: Platonic."

- Cite MF at Penn Bell Studios videotaping narathon Question period, Philadelphia, PA., 1 F_eb'75

"In short, structurally stabilised (and otherwise unstable) cubes are always and only the most simply compact aggregation of one symmetrical and M four asymmetrical tetrahedra. Likew&'e considered, a dodecahedron may not be a cognizable entity-integrity, or may be rememberable or recognizable as a regenerative MNMB entity, unless it is omni stabilized by omnitriangulation of its systematic subdivision of all Universe into either and both insideness and outside-ness, with a small remainder of Universe to be discretely invested into the system-entity's structural integrity. No energy action in Universe would bring about a blackboard-suggested pentagonal necklace, let alone 12 pentagons collected edge to edge to superficially outline a dodecahedron. The dodecahedron is a demonstrable entity only hwen its 12 MB pentagonal faces are subdivided into five triangles, each of which is formed by introducing into each pentagon five struts radiating unitedly from the pentagons' centers into their five corner vertexes, of which vertexes the dodecahedron has 20 in all, to whose numbeer when structurally stabilized must be added the 12

new pentagonal corner vertexes. This gives the minimally, nonredundantly structural dodecahedron 32 vertexes, 60 faces, and 90 strut lines. In the same way a structural cube has 12 triangular vertexes, 8 faces, and 18 linear struts."

- Cite SYNERGETICS text at Sec. 615.05; 23 Feb'72

Dodecahedron:

"If a dodecahedron is an entity, it has 32 vertexes, 60 faces, and 90 structural lines." *

- Citation & context at Cube (1), 22 Feb*72

KhF btr'LEITIOKS

Dodecahedron:

"The vector equilibrium displays omnidirectional closest packing. The icosahedron and the dodecahedron display only circumferential closest packing."

- Cite RBF to EJA, Fairfield, Conn.. Ches Wolf. 1\$ Jun*71: Rewritten by RF, 3200 Idaho, Wash DC, 29 Flay'72

Dodecahedron:

"The icosahedron and dodecahedron are inherently non-nuclear at all frequencies."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 28 toy'72

Dodecahedron:

"The dodecahedron defines the domains of the vertexes of the icosahedron— in fact, that is the only function of the dodecahedron."

- Cite RBF to EJA Beverly Hotel, New York 13 March 1971

See Rhombic Dodecahedron Pentagonal Dodecahedron

See Cube, <!) •

Dp-IPQdftTfl

See Population Explosion, (1)

Coe Hat drains but not Hind:

See Generalisation Sequence, Jun'6y Dreans, May* 72

"Kow we can take off our belt and dangle it in front of a little dog and the little dog will seize the belt m his mouth and will start pulling and you play a game with him. He plays beautifully. He'll play tension and compression with you. And his teeth with convex and concave surfaces get into play, his action and his reaction are going on without his Knowing it. And his protons ana his neutrons are all coordinating without his Knowing it. There's nothing m our experience with the little dog that suggests he would ever develop the theory of functions. ..hat we are able to say is that brain is always and only dealing with special case experiences."

»- Cite KBF at btudents international Meditation beminar, u. Pass., Amherst, 22 July ¹71, p. 11

Dogg. ^P1AX ^wmch It*”:

See Nature Peraita It Sequence (1)

See Belief, Oct*71

Religion: Related to 'Reglio* Feb*72

Word Trendera, May'44

See More with Lees

•I felt then... that it could be that instead of trying to think about: How do I earn a living?... how do I survive? ...that we ought to be looking around saying, 'what is It that my experience teaches me that needs to be attended to, which, if properly attended to, could bring advantage to ail humanity, and which, if not attended to properly, could find humanity at a great disadvantage?*

"If you have had anything in your experience say that to you insistently, you ought to do something about it... and pay no attention to the earning of a living. But people would say: How are you possibly going to earn a living? And I would say that it seems to me also then that the little individual, using his own mind and doing his own thinking can observe that the honey bee cross-pollenizes *the flowers and other vegetation inadvertently bumbling with his tail knocking off the pollen... that the flowers don't pay the bumble bee and the bumble bee doesn't refuse to pollenate for not being paid! In fact, I couldn't see any money being exchanged by all the great ecological interactions."

- Cite RBF talk at Am. Mus. of Natural History, NYC, 1 May'77;
EJA transcript pp. 1-2.
Doing 'ftiat Needs to be Done: (B)

"So It seemed to me that if nature then seemed to be quite clearly trying to make human beings a success...That's why we've been given the mind to discover those principles, to develop advantage...and we have increased our advantage enormously... therefore, if I committed myself to trying to abet what evolution is trying to do---using the experience I had and the equipment I have been given---it could be that if I was doing what nature wanted to be done, I'd find myself and my wife and my little child, getting on."

- Cite RBF talk at A. Mus. of Natural History. NYC: 1 May'77:
EJA transcript, p.2. ' 7
Doing What Needs to Be Done; (1)

Q. How is it that so little can be done to reverse many of the major problems of the day? Housing or the cities, for example.

A. "Well, everything that goes on is done either by government or money making businesses. Both the money-makers and the politicians have to shew something for a profit, either the political profit or the money profit in a short run of a couple of years or they lose their jobs. So all the things that need to be done don't get done. Politicians are merchants of woe, they get elected to do something about all the things that are bothering people and so the more woe they have the more issues. So they take up housing as an issue rather than as a probleip."

Q. The situation is not being met with problem-solving techniques?

A. "The building arts are 5,000 years behind the engineering and technology of the aerospace sciences. If you go to the island of Crete you will find water still running through the plumbing and we have the same system 3,400 years later. Mo improvements have been made with the exception of a few"

- Cite RbF to Kathryn Elliott, Wash. Star; 9 Nov'75

"terminals. No scientist has ever been engaged to look at plumbing, to see how you take the human wastes which are full of energy and turn it to the energy account. Absolutely nothing's been done about it."

Q. But couldn't the government do something on this, in the face of the energy situation and all?

A. "No congressman knows anything about it. I think someone new is just going to have to go out and invent the apparatus and go ahead and do it. None of the people in the horse and buggy industry could ever possibly have invented the automobile.

Q. But why is there not more action?

A. "It remains so because of society's world-around conviction that there's not nearly enough life support for everyone, therefore it has to be for you and me. Therefore we have politics and ideologies which say, 'You might not like my system but I have the fairest, most logical way of dealing with fundamental inadequacies.' Politically, we have the last resort thinking of the survival of the fittest. And the last"

- Cite RBF to Kathryn Elliott, . /ash. Star; 9 Nov'75

"recourse of that is that we have to have guns so that the fittest will survive. We have the major nations of the Earth spending on an average a total of \$200 billion a year on weapons and means of destruction. Under those conditions we also have the working assumption that because there's not enough for everyone therefore it's never said, 'What can we do to make life successful for people through technology just as we can make war more successful through technology.' There's a priority for access to the best resources, the best tools, the best people, the best brains. The antipriority has always been the home front, it had to make do with the materials that nobody else wanted for a battleship or an airplane or everything

- Cite RBF to Kathryn Elliott, Washintin Star-News; 9 Nov'75

When I decided, in 1927, to make my precessional peel-off. with only nature to support you*, and nobody to pay you or mark your paper, my theory was that if you were doing what nature want* i you to do, nature would support you. But you had to be very sensitive to follow nature, and not Just to this particular job for that particular return.*

Cite RBF at Bell etudlos videotaping, Phila. PA, 26 Jan*75

Doing 'hat Needs to be Done:

"I don't see myself as other than a fortunate, healthy human being. I saw a lot of things that had to be done.

I committed myself to doing what nature was trying to do, being less wasteful of resources--- using less to do more.

"You have to be on the oul vive to spot the things that need to be done. I have survived, although many times I was not doing very well financially, large amounts of money do flow back to me, but I put them back immediately into new projects.

"All children are full of ideas. It's a terribly exciting life for a child. I've retained that approach. Life is still exciting. When I gave up earning a living formally I found I could regain my childhood sensitivity. I started absolutely penniless and I have been able to get a whole lot done."

- Cite RBF to Australian journalist, Jane Ram; Hongkong, 17 Dec'74

"When I think of all the things I have experienced, the fact that all of my contemporaries— and at that time it was really absolutely universal to my contemporaries-- everybody had as the highest priority, absolutely number one: You have to earn a living! And they all seemed to think that this was absolutely logical and nobody even seemed to question the idea. And I said I think this is preposterous!

"I think we all ought to be looking around saying: What does my experience teach me to see that needs attention... that nobody's attending to... which my experience tells me that, if attended to, could be turned to everybody's advantage and which, if not attended to, would leave society at a very great disadvantage?

"Also, what more would you need to know from the kind of experience you have had to be able to be effective, to do something effective about that problem."

/Forum

. Cite HBF to Harvard Law School' 10 Dec'73

"Work: the greatest privilege is work. Labor is Just pure muscle. The difference between doing what a custom-- or other people--- tell you to do, is the difference between labor and doing what needs to be done, which is logical and gratifying--- work.

"We need an Interdependence Hall here in Philadelphia as well as an Independence Hall. And the two are not even mildly in conflict.

"There are the things that you can only do as an individual. Like the two kinds of tools: (1) all the tools that can be produced by one man and then, (2) all the industrial tools which cannot be produced by one man--- these are the tasks that need to be done that cannot be done by one individual."

- Cite HBF to EJA holograph, 200 Locust, Phila., 22 Jan'73

See Capability

City I-Janagement Concept of World Government

Earning A Living

Improve the Scenario

Individual Economic Initiative

i-'aking the World Work

Nature; What Nature Needs to be Done

World Design Science Decade

Success

Everybody* s Business

Design Revolution

Coping

Resource & Principle

See Change. 2 Nov*73

Competition: Elimination Of, 2 Jun*74 Design, 3 Nov*64

Fuller, R.B: Crisis of 1927, 26 Sep'65 Man as a Function of Universe,
22 Jul'71 Pollution, Feb'73

Rearrange the Scenery, (1) Self-debiasing, Kay*65 Television, Feb'73

Electronic Referendum, 9 Jan*75 Invention, (a)(b)

New fork, 30 Jul*75; 31 Jul*75 Technology & Culture, 25 Oct*77

Doing Rizht Things for Wrong Reaaong:

(1)

See Bee: Honey-seeking Bee Inadvertence

Sa® Inadvertence, 22 Jun'75

KBF DLFIBITIUhS

"Human beings' faulty number sense is being further confused ' by meaningless money magnitudes--- for instance, the combined war budgets of the United States, NATO, China, and Russia, which annually average about \$200 billion. People talk about these cost magnitudes without any sensorial identity of relative significances. Dollar bills are approximately seven inches long by three inches wide. If we stack them and glue their edges together as with a pad of paper, we get approximately \$200 in each one inch of stacking. If we keep adding to the pile it forms a column whose cross section is approximately three inches by seven inches. As we keep on adding to it, it gets too high to be stable, so we rotate it from the vertical to horizontal. It will begin to look like a beam: a seven-inch-by-three-inch beam. The lumber business has beam framings called four-by-eights.

Finished by planing, this prime lumber size dresses out at three inches by seven inches, but it is still called four-by-eight, So our structural four- by-eight of laminated dollar bills, when extended to ten feet in length has the shape of a beam, such as you nay see in"

- Cite Heartbeats and Ill ions, World, lag., 1J Far'73

Dollar Bills: \$2flO Billion One-Dollar Bills. Circling Around Eayth
 "short ceiling spans of any wood-framed house. So we have now a floor beam of solidly laminated dollar bills. We keep adding more bills to both ends of this four-by-eight until it consists of 200 billion one-dollar bills. Such a four-by-eight of 200 billion one-dollar bills will circle right around the Earth at approximately 40 degrees north latitude running due east and west through New York, Pittsburgh, St. Louis, Kansas City, San Francisco, Tokyo, Peking, Istanbul, Kadrid, the Azores, and back to New York.

"That we are spending \$200 billion annually to get ready to destroy one another gives you an idea of how 'magnitude ignorant' and 'sense-disconnected' humanity is when it says 'we cannot afford to take proper care of the majority of the world people,' while plowing food back to raise prices to make money, and simultaneously raising tariffs to discourage production by other peoples around the Earth. We humans need to find a means of cerebrating a little more realistically about number significance and about * what we have learned about the principles governing the eternally regenerative Universe--- and our tiny planet and its ecologically regenerative system, which has no"

- Cite Heartbeats and Illions, World bag., 13 bar'73

Dollar Bills; \$200 Billion One-Dollar Bills Circling Around Earth (3)

"sovereign boundaries nor rent bills due to our planetary landlord, the Sun, who might shut off our life support because we say we can't afford to pay that cosmic bill."

- Cite Heartbeats and Illione, World Mag., 13 Mar*73

Dollars:

See Money Metaphors

RdF DEFINITIONS

Dona in:

"The edge has a domain that goes up to the center of area of the two faces it divides.

"The domains of vertexes connect the centers of area of the three, four, or five surrounding faces.

"The done in of the face is the face Itself."

- Cite RdF at Penn Bell videotaping, Philadelphia, 29 Jan*75

Domain:

"The domain of a nucleus is an ineffable point; it is only a zone,

"The domain of a line is the axis of a system; everything around it.

"There are no domains of areas because the areas are the domains. Maybe there is area and nonarea.

"A convergence has its domain in; and a divergence has its domain out."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb'73

Domain:

"Domains go beyond the vertexes. The vertexes have to have a little space film, or space shoulder--- a boundary layer--- around the topologically identifiable vertex."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb*73
RBF DiFiftlTIlmS

Domain:

"Considering vector equilibrium as initial unity, twenty in respect to tetrahedral unity of one, it constitutes the total volumetric domain unique to any universal focus or point."

- Cite RBF rewrite at SYNERGETICS Sec. 445.04- 22 Jun*72

./wains:

"cne difference between a domain and a volume is that a volume cannot have an interior point, because if it did it would be subject to more economical subdivisions* . . . The vector equilibrium breaks down into eight tetrahedra and six half octahedral those being the volumes which are really involved."

- Cite Synergetics draft, beeAugust 1971.

Dp pains:

"Domains are the flMB minimum volumes topologically enclosable by the fewest points. (Minimum: four.)"

- Cite HBF to EJA, Fairfield, Conn., Ches Wolf, 1« June -1971.

KBF DEFINITIONS

Doming:

"Systema are doming of volume."

- Cite RBF to EJA, Fairfield, Conn., Ches Wolf, 18 June, 1971

TertF£«f»CG oAiwP ?ec. **56-6\$**/ 4 00-51")

Donaln:

"The tetrahedron as a domain appears only as the volume defined by the interconnection of the centers of gravity of all the volumes surrounding it."

- Cite KBF to EJA, Fairfield, Conn, Ches Wolf, Id June 1971

DOZMMtf- \$FC-S36-07

HBf DiFIKITIOhS

Domains;

"Domains are systems but not structures."

Cite RBF tape. Blackstone Hotel, Chicago, JI J-iy 1971, p. 39. *mnUftKCuct*
ocHjnui - sec. J'sA.os)

Domains;

"The domains of vertexes are spheres. This is all the symmetries around the exquisite point. . • Ares do not have omnidirectional domains at all. An area's domain is the area itself: it is a superficial one that man has looked at all these years."

- Cite RBF tape Blackstone Hotel, Chicago, 31 Kay 1971, p. 37.

|«T0<FEfEafce''w{AlN\$~ 536-M I * •

Domains:

"Critical proximity interference domains are defined by interconnecting the centers of gravity of all the separate 'external areas' or 'facets' or 'openings' of the polyhedral system, . . . , "The domains of the vector edges are defined by interconnecting the two centers of gravity--- of the two surface areas divided by the line--- with the ends of the line."

- Cite SYNERGETICS Draft - "Conceptuality: Interference Domains"
kBF marginalia - 25 April 1971

RBF OtFINITICKS

Domain:

"In distinction from all other mathematics synergetics provides domains of interferences and domains of crossings."

- Cite RBF Marginalia on SYNERGETys Draft, "Interference Domains " Boston. Somerset 25 April 1971.

= - CluT
WTeKfBUxce DOHA,xs- Jrc. Ssl.oi)
Domain;

"Where every vertex le the domain of a sphere we have closest packing."

- Cite Oregon Lecture #8, p. 289. 12 Jul»62
ritfrtKFERftfc* Doi**w*e 53Mr|

Domains:

"There are domains of the tetrahedron alongside of the octahedron. There is a center of gravity of the tetrahedron and a center of gravity of the octahedron and the volumetric relationship around that center of gravity came out a s a neat integer whole number. I can then speak of these domains even though the cork is not in the bottle.

I can talk about the content of the bottle so each of them are domains even though the edges are open so we don't have any trouble now thinking about our mensuration in terms of tensegrity."

"There really is a difference because the icosahedron is in a magnitude of 20 volumes and the tetrahedron of one volume so you really are amplifying a dona in with this transformation but the numbers are still coming out whole numbers and even though you went through transformations the domains at any one time seem to be identifiable in whole numbers."

__ Cite Oregon Lecture *fr*6, pp. 280-281. 12 Jul*62
'~'fffTekFEKfFcf DoefA/vS - \$F c. 5 3tJ0)
Domains:

"The domain of a face is the face itself....

"The domain of an edge is a diamond....

"The domain of a vertex is a hexagon or a pentagon

and the domain of a face is a triangle in the simplest possible statement."

- Cite OREGON Lecture #7 - p. 273, 11 Jul*62

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Domain;

. The coordinate system employed by nature uses cf*

00 degrees instead 90 degrees and also the lines don't go through a point. But they are 60-degree convergences, even though the lines don't ever get together. They get into critical proximities and there are domains of the convergences ... even though they are open as you get to the non-closed convergences."

- Cite Oregon Lecture p. 133. Jul'62

"There are critical proximities tensionally and critical proximities compressionally---that is, there are attractive fields and repelling fields, as we learn from gravity and electromagnetics. There are domains or fields of actions. In gases under pressure, the individual molecules have unique atomic component behaviors that, when compressed, do not allow enough room for the accelerated speeds of their behavior; the crowded and accelerating force impinges upon the containing membrane to stretch that membrane into maximum volume commensurate with the restraints of its patterned dimensions."

- Cite SINEftGETICS text at Sec.536.51 ; □□□ 21 Dec'71

"There are critical proximities tensionally and critical proximities compress ionally, that is, there are

repellings, as we would find out in electromagnetics so there are domains of actions and these molecules want certain sizes and when you pressure too many of these patterns into the same area there is not enough room so they develop a very high speed and speed makes up for the crowding."

- Cite OREGON Lecture #5 - p. HL, 9 Jul'62

Urteltf&trvtf OiHMui - sec.)

"Areas do not have omnidirectional domains* The domain of an area is the area itself: it is the superficial one that man has looked at all these centuries. The domain of a face is a triangle in the simplest possible statement. Thus the domain of each face of the icosahedron is the triangular face itself."

- Cite SYNERGETICS text at Sec. 536.21; Dec«7l

See No Domain of a Face

See Domain, 11 Feb'73; 31 May* 71; 11 Jul'62

Domains of Lines, ly Dec'73

Domains of Convergencea: "The coordinate system employed by nature uses 60 degrees instead of 90 degrees, and no lines go through points. There are 60-degree convergences even though the lines do not go through a point. The lines get into critical proximities, then twist-paa8 one another and there are domains of the convergences."

- Cite SYNERGETICS text at Sec. 536.02; galley rewrite 7 Nov*73

Domains of Convergences;

See Domain, 11 Feb173; 6 Jul'62

See Domains of Interferences, 7 Nov*73
Domain, 25 Apr'71

Pwlu-fff

"The domain of each edge of the icosahedron is a diamond formed by connecting the vertexes of two adjacent icosahedron face triangles with their centers of area."

- Cite SYNERGETICS taxi at Sac. 536.33; Dec*71

Domain of an Edge:

"The edge affects an area on either side of it up to the centers of gravity of the areas it divides. Therefore they become diamonds.**

(Adapted.)

- Cite Oregon Lecture #7, p. 273. 11 Jul'62
TN TEF NCE 5FC.5 To')

Domain of an Edge:

See Domain, 29 Jan'75; 25 Apr'71; 11 Jul'62
KBF DEFINITIONS

Domain 9f

"The dodecahedron defines the domains of the vertexes of the icosahedron--- in fact, that is the only function of the dodecahedron,•

- Cite RBF to EJA, Beverly Hotel, Hew fork, 13 March 1971

"The icosahedron's twelve vertexes control a domain up to the center of gravity the faces which surround it
- Cite Oregon Lecture, p. 273. 11 Jul'62

"As distinct from other mathematics, synergetics provides domains of interferences and domains of crossings. In the isotropic vector matrix, the domains of vertexes are spheres, and the domains of spheres are rhombic dodecahedra. These are all the symmetries around points. Where every vertex is the domain of a sphere we have closest-rhombic-dodecahedral- packing."

- Cite SYNERGETICS text at Sec. 536.01; galley rewrite 7 Nov'73

Domains of Interference:

See Domains of Polyhedra, 7 Nov'73

See Concentric Hierarchy Limita, 30 Dec'73

"The respective volumetric domains of all the lines--- internal or external--- of all polyhedra are defined by the most economical interconnectings of all adjacent centers of volume and centers of area with both ends of all their respectively adjacent lines."

- Cite gBFjwrite of SYNERGETICS galley at Sec. 1006.27,

"The respective areal domains of external polyhedral lines are defined as all the area on either surface side of the lines lying within perimeters formed by most economically interconnecting the centers of area of the polyhedron's facets and the ends of all the lines dividing those facets from one another. Surface domains of external lines of polyhedra are inherently four-sided."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1006.26.

19 Dec'73

"The domains of the rector edges are defined by interconnecting the two centers of area of the two surface areas divided by the line with the ends of the line. The edge dominates an area on either side of it up to the centers of area of the areas it divides. Therefore, they become diamonds, or, omnidirectionally octahedra. The domains of lines are two tetrahedra, not one octahedron.

"The domains of lines must be two triple-bonded (face-bonded) tetrahedra or one octahedron. There could be two tetrahedra base-to-base, but they would no longer be omni symmetrical. You can get two large spheres like Earth and Moon tangent to one another and they would seem superficially to yield to their mass attractiveness dimpling inward of themselves locally to have two cones base to base. But since spheres are really geodesics, and the simplest sphere is a tetrahedron, we would have two triangles base to base---ergo, two tetrahedra face-bonded and defined by their respective central angles around their two gravity centers."

- Cite SYNERGETICS text at Secs. 536.31-.32: galley rewrite 7 Nov'73

fHMB domains of Lines:

"I've given you the domains of the lines must be tetrahedral or octahedral. No, they could be two tetrahedra, base-to-base, but they would no longer be omnisymmetrical. You can get two spheres tangent to one another, and it would seem to have two cones base-to-base. But since spheres are really geodesics we would have two triangles base-to-base."

- Cite RBF to EJA Fairfield, Conn.. Chez rfol.

18 June 1971.

MHBI Dfllaing gf Uncc-

"The domains of lines are diamonds, or, omnidirectionally, octahedra,"

- Cite RBF to EJA, Fairfield Conn., Ches Wolf.

18 June 1971.

i*re/?FE*r»RF DoHtitts \$cc. 5 3£».3 o|
KBF JcJIHITluNS

Domains of Lines;

"The domains of lines are two tetrahedra, not one octahedron.*

- Cite KBF to &Jk. Fairfield. Conn., Ches Volf. 18 June 1971.

lUirR F CftetKf b»HSiu5 - PU3\$)

KBF DEFHITluNS

"I've given you the domains of the lines must be tetrahedral or octahedral; no, there could be two tetrahedra base to base, but they would no longer be omnisymmetrical, would they? You can get two spheres tangent to one another, and it would seem to have two cones base-to-base . . . but since spheres are really geodesics, we would have two triangles base-to-base

- Cite RBF to EJA Fairfield, Conn., Ches Wolf. 18 June 1971. __

See Nuclear Domain

Spheric Domain va. Nuclear Domain

Domain of Octahedron:

"The cube defines the doming of the vertexes of the

octahedron. The octahedron is the structural system, the cube exists only as the total pattern of the domains of the vertexes of the octahedron."

- Cite SYNERGETICS Draft - "Conceptuality: Interference Domains"
RBF Marginalia - 25 April 1971

"The domains of points as vertexes of systems are tetrahedra, octahedra, or triangulated cubes. Or they could be the A and B Modules formed around the respective polyhedra.

"The most complete description of the domain of a point is not a vector equilibrium but a rhombic dodecahedron, because it would have to be allspace filling and because it has the most omnidirectional symmetry. The nearest thing you can get to a sphere in relation to a point, and which would fill all space, is the rhombic dodecahedron.

*A bubble is only a spherical bubble by itself. The minute you get two bubbles together, they develop a plane between them."

* Cite SYNERGETICS text at Secs. 536.42.44; galley rewrite, 7 Nov'73

Domains of a Point:

"The domains of points are tetrahedra, octahedra, or triangulated cubes. Or they could be the A and B Modules formed around the respective polyhedra."

- Cite RBF cailnalla at SYNERGETICS draft, Sec. 536.41, 20 Dec, »71 (Actually dictated to EJA.)

"The domain of a point in a plane is a hexagon or a pentagon. The domain of a point at a vertex is a sphere."

- Cite RBF to hJA. 3200 Idaho, Washington DC, in clarification of bYac.RGE.TICS Sec. 519.50. May'72

*Look!ng at a vector equilibrium ae unity, it is all the domain of a point with a volume of 4S0.^w

- Cite Synergetics text at Sec. 536.41; Dac'71

a PQInt:

They are the center

"Th® domain of a point la a tetrakaidecahedron. omnidirectional and allBspace filling. •• could be of a cube, i.e., a system but not a structure."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May*71

por/A.iJs -

ttBF DEFINITIONS

Domain of a Point:

"So looking at vector equilibrium as unity, as all the domain of a point ... we find that it has a volume of 460.

- Citation & context at Vector Equilibrium_T 12 Jul¹62

~BOM ~SEC..SiW\\

See Tetrakaidecahedron, 31 May*71

Domains of Polyhedra:

"In a polyhedral system. critical-proximity-interference domains are defined by interconnecting the adjacent centers of area of all the separate superficial faces, i.e,

'external areas' or 'openings.' surrounding the vertex, or •crossing,'
The surface domain of a surface vertex is a complex of its surrounding triangles: a hexaxon, pentagon, or other triangulated polygon."

- Cite SYNERGETICS text at Sec. 536.03; galley rewrite 7 Nov*73

Domain *tt* Quantum: (1)

"The unique insideness domain of a prime system is, in turn, a prime volumetric domain, which is always conceptually defined by the system's topological vertex-interconnecting lines and the areas finitely enclosed by those lines ($V + F * 1+2$.) Prime volumetric domain provides space definition independent of size.

"Prime volumetric domain and prime areal domain together provide space conceptuality independent of size, just as the tetrahedron provides prime structural system conceptuality Independent of size.

"Complex bubble aggregates are partitioned into prime volumetric domains by interiorly subdividing prime areal domains as flat drawn membranes.

"A prime volumetric domain has no volumetric nucleus. A prime areal domain has no planar nucleus. So we have prime system volumetric domains and prime system areal domains and linear interconnections of all vertexes--- all with complete topological conceptual film inter-patterning integrity utterly independent of size."

- Cite SYNERGETICS text at Sec.s 1010.10, 11, 12 13, 17 Feb'73

Domainic Quantum: (2}

"This frees conceptual-integrity comprehending and all the prime constituents of prime-pattern integrity, such as 'volume,' 'area,' and 'line,' from any special-case quantation. All the prime conceptuality of omnitopology is manifest as being a priori and eternally generalized phenomena. Thus quantum as prime-structural-system volume is eternally generalized, ergo, transcends any particulate, special-case, physical-energy quantation. Generalized quanta are finitely independent because their prime volumetric-domain-defining lines do not intertouch,"

- Cite SYNERGETICS text at Sec. 1*10.U, 17 Feb'73

See Spheric

Domains of Tetrahedron. Octahedron. and Icosahedron:

"The domain of the tetrahedron is the tetrahedron as defined by four spheres in tetrahedronal. omni-embracing, closest-packed tangency network. The domain of an octahedron is an octahedron as defined by six spheres closest packed octahedronally. The domain of

an icosahedron is an icosahedron as defined by 12 spheres closest packed without a nucleus. All of the three foregoing non-nuclear-containing domains of the tetrahedron, octahedron, and icosahedron are defined by superficially omnitriangulated closest packing of the four spheres, six spheres, and 12 spheres, respectively, which we have defined elsewhere as omnitriangulated systems or as prime structural systems."

- Cite HHF marginalia at Synergetics draft "Omnitopology," July *71

"The tetrahedron, octahedron, and icosahedron are prime structural systems: there are no other symmetrical nonnuclear domains in closest packed agglomerations. Their domains are defined by superficial omni triangulation of 4, 6, and 12. The domain of the tetrahedron is the tetrahedron. The domain of the octahedron is six spheres closest packed octahedrally. The domain of an icosahedron is an icosahedron and is defined by the closest packing of 12 spheres without a nucleus,"

- Cite RBF to EJA, Fairfield, Conn., Ches Wolf, 18 Jun¹?!
Domain of Vector Equilibrium;

See VE Involved Domain

Domains of Vertexes:

See Coupler as Domain of IVM Vertexes Spheric Domains

See Domains of Interferences, 7 Nov*73

Domain, 2y Jan*75

PreXaa tf volwwr

"Systems are domains of volumes. One difference between a domain and a volume is that a domain cannot have an interior point, because if it did, it would be subject to more economical subdivision."

- Citation & context at Vector Equilibrium. 26 Dec*73

HMI Domains of Volumes:

"There are domains of the tetrahedron interfaced (triple bonded) with domains of the octahedron. The domains of both are rationally subdivided into either A or B Modules. There is the center of volume (or gravity) of the tetrahedron and the center of volume (or gravity) of the octahedron and the volumetric relationship around these centers of gravity is subdivisible rationally by A and R Modules in neat integer whole numbers. I can then speak of these domains quantitatively without consideration of now obsolete (superficial) face surfaces, i.e., polyhedra. Even though the cork is not in the bottle I can speak quantitatively about the content of the bottle as it is a domain even though the edge opening is uncorked. So we have no trouble considering tensegrity mensuration. It is all open work but its topological domains are clearly defined in terms of the centers of the systems involved having unique centrally angled insideness and surface angle defined outsideness."

- Cite RBF re-write of SYNERGETICS Sec. 356.10, 20 Dec. '71.

P-Q gains Of Volumes:

"111 omni topology the domains of volumes are the minimum.

volumes topologically enclosable by the fewest points."

Cite Synergetics draft, Sec. eoO.2, August 1971,

IMHA/WS- 5fc. 53(,o S?

REF DEFINITIONS

Domains of Volumes •

"We didn't talk about the domains of volumes, just surfaces This is the difference between synergetics and Euler,"

- Cite RBF to EJA, Ches Wolf, Fairfield, Conn., 18 Jun'71

MMI DgpnInc gf Vfilweg: "Syatejwj are dona ins of volumes.*

- Cite RBF to EJA, Fairfield, Conn., Ches Volf, 18 June -1971 •

"There are domains of the tetrahedron interfaced (triplet- bonded) with domains of the octahedron. The domains of both are rationally subdivided into either A or B Modules. There is the center of volume (or gravity) of the tetrahedron and the center of volume (or gravity) of the octahedron, and the volumetric relationship around those centers of gravity is subdivisible rationally by the A and B Quanta Modules in neat integer whole numbers. I can then speak of these domains quantitatively without consideration of now obsolete (superficial) face surfaces, i.e., polyhedra. Even though the cork is not in the bottle, I can speak quantitatively about the contents of the bottle. This is because it is a domain even though the edge-surrounded opening is uncorked. So we have no trouble topologically considering tensegrlty mensuration. It is all open work, but its topological domains are clearly defined in terms of the centers of the systems involved having unique, centrally angled insideness and surface-angle- defined outsideness."

- Cite SYNERGETICS text at Sec.

536.11; galley rewrite 7 Nov*73

Domains of Volumes;

See Prime Rational Integers, 28 Bay*72

See Center Coupler as Domain of IVM Vertexes Prime Domains
Spheric Domains Spherics Topological Aspects: Inventory Of Om-
nitopological Domains Bottle as Domain Concave-in-between-ness
Domains Interpointal Domain Volumes Nuclear Domain Spheric
Domain vs. Nuclear Domain No Domain of a Face Isotropic-vector-
matrix Domain Involvement Domain Volumetric Domain Unity

Dosaiiii

(2)

See Area, 11 Feb'73

Dodecahedron, 13 Mar* 71; 1 Feb*75

Invisible Circuitry, (1J Prime Structural Systems, (1) Vector Equilibrium, 12 Jul'62*; 26 D«c*73*

**See Domains of Actions Domain of an Edge Domain of Icosahedron
Domain Limits Domains of Lines Domain of Octahedron Domain of a
Point Dorains of Tetra, Octa A Icosa Domain & Quantum Domains of
Volumes Domains of Interferences Domains of Vertexes Domains of
Convergences Domains of Polyhedra Domain of an Area Dona in of
Cube**

Domain of a Nucleus

Domain of Sphere

Domain of Tetrahedron

Domain of Vector Equilibrium

Domes-

Q. "You say that we are in a stage of architectural transition from the cube to the dome. . . Well, what's the next evolutionary stage after the dome?"

RBF: "Nothing. ... an electromagnetic field."

- Cite RBF to Dep. Director, Foreign Bisaster Assistance State Dept, Wash. DC;
12 Kay'77

k.jE DEFINITIONS

Domes:

"You say people with rising social aspirations prefer the square architecture of conventional houses. Certainly the people who lived through the depression wanted to do just that but now I think the young people don't feel that way at all.

"And remember that throughout history we didn't use domes for houses because we couldn't afford them—we saved them for our temples, churches, and state capitols."

- Cite RBF to USAID conference, Foreign Disaster Assistance Conference Room, State Dept, Wash. DC; 12 May'77

Dome;

"Domes leak: boats leak."

" Cit[®] EJA, Boar's Head Inn. Charlottesville. Va.

while drafting letter to Hugh Kenner. 3 Jun'72

Dome:

"Environment controlling through domea affords the enormous advantages of the extraversion of privacy and the Introversion of community."

- Cite RBF to EJA on telephone from Los Angeles, 3 Jan *71. Re: 'Old Man Rivei* Project.

Done:

"Domea,, combine both horizontal and vertical behavior# progressively translated into mutual synergetical aid and integrated success."

- Citation *k* context at Horizontal ra. Vertical, 1y6J

RBF DEFINITIONS

Dome: Aerodynamic Stress of Dome:

"The worst stresses you get In a dome are the aerodynamic stresses. That is because a dome is an airplane. The worst stress is the lift-off tendency-- like a tumbleweed, it's a question of how you put the skin on and of how you anchor it."

- RBF to Dome East People, Royal Scots Grill, N.Y., 27 Jan *72

CjUta:

"Domed cities can be illuminated by daylight without direct Sun. That part of the dome through which the Sun doesn't shine directly would be transparent. In stunner the dome would be protected by polarised glass; during the sunny hours it would not hold heat. In winter the Sun would penetrate the dome.

"The domed city will be not only practicable, but pretty. Covered streets— like the delightful arcaded Italian variety— will have outdoor restaurants and exhibits. Windows may be open year- round. There'll be a dust-free atmosphere. The domed city will indeed be nothing to sneeze at."

- Cite I SEEM TO BE A VERB, Queen, May '78 (Not in Bantam edition)

See Dome Over Manhattan

Old Man River Project

Pane Haute Grand strattsr: 1937-1927:

(D

"As seen in the... Harvard Society of Contemporary Arts catalogue and the Harvard Crimson editorial of 1929, the structural mast of the 1928 Dymaxion House contained all its service mechanics---as did also the first full-scale prototype produced at Beech Aircraft, Wichita, Kansas, in 1944-45* Following general news publication of the latter... over 37,000 orders for the house were received by mail, many with checks, all of which had to be returned because there was as yet no industry to manufacture and install these air-deliverable dwelling machines.

"Many distributors applied for sales franchises, but the electricians and plumbers who are everywhere exclusively licensed to connect houses to the water and electricity mains, said that in order to survive they would have to take apart all the Dymaxion Houses' preassembled plumbing and electricity manifolds, which work would triple the cost of the mass-produced units and would be as illogical as would local electricians and plumbers being able to impose their taking each purchased automobile apart in the owner's front yard and reassembling it before finally permitting its use by the owner."

- Cite ACCOT::OJATIKG HUIxN UKSETTLUxhT, p.14; 20 Sep'76

Dome House Grand Strategy: 1927-1977: <2)

"For this reason, in 1947, my 50-year grand strategy adjusted itself to that which had been learned by altogether dividing all further research, development, production, and distribution activities governing the interior livingry mechanics from all further research, development, production, and distribution governing the environment-controlling shell structures.

"I found that the electricians and plumbers were willing to bring their services to metered, outdoor, concrete box receptacles as already used to implement and power vegetable fanning sprayers. Over these service terminal installations the domes could be subsequently installed. Into these electricity-and-water-supplied domes, platform mounted and factory interconnected assemblies of livingry equipment could be rolled with no objections from organized labor.

"It was evident that air, sea, and mobile home industries were going to swiftly advance the livingry mechanics packages. Therefor in 1947 I focussed on the swift improvement of the"

- Cite ACCOI:O-»ATIN(i HUIIAK UKSETTIXI i-ET, p.14; 20 Sep»76

Dome House Grand Strategy: 1927-1977: (3)

"shell structures themselves. This produced the geodesic domes.

"The 30-years' interim development in mechanics and electronics since that 1947 decision has been vast.

"The /. 2 Now House will be ready for exhibit by 28 August 1977, and will soon thereafter become publicly available as the air-deliverable, only-rentable, world-around dwelling machine service right on its own scheduled 50th birthday."

- Cite ACCOI::ODATING HUMAN INSETTLEMLNT, p.14; 20 Sep*76

Dome House: Separation of Mechanical Service Core **i**. Structural Shell

See Dome House Grand Strategy: 1927-1977, (2)

Dome Over Manhattan*

**A geodesic dome extended over Manhattan would drastically cut the city's energy bill*... But I knew New York landowners wouldn't ever take it. Think of the kicking on air rights alone, and on helicopter hooning. It was sociologically infeasible."

Cite RBF to Susan Watters in W (Women's Wear Daily); 13 May'77

Dome O_Ye_r

‘ ‘ Is it really feasible to put up that geodesic dome over Manhattan?"

R.B.F: "Well. . . it would be technically feasible, but it is certainly sociologically unfeasible. . . just think of everyone insisting on their property rights, and air rights, and all that sort of thing. . .we might just as well forget it."

Cite RBF to Susan Waters of Women¹s Wear Dally, 3200 Idaho Ave.
NW, Wash. DC: 26Apr '77

RBF DEFINITIONS

Dgmc Over Manhattan?

"When the artist made an airbrush picture of the big dome over Manhattan I saw that the Queen Mary was clearly visible at her dock in the North River but the masts of the Queen i-ary were not visible at that distance. So I figured that if each compression rmemwber in the big dome spanning the island at 42nd street were just the site of the Queen Mary's mast, then all the struts would be approximately invisible from the ground and there would be enough steel in the Queen Mary to provide all the steel needed for the big dome."

- Cite RBF at Penn Bell Videotaping, Philadelphia, 2g -'an'75

Jome: Rationale for the Big none;

"in many of our cities and big centers--- the way cue consumption curves are going--- we are running out of energy. Therefore it is important for our government to Know if there are better ways of enclosing space in terms of materials, time ana energy, if there are better ways, society needs to Know it. . .

"The behavior of the geodesic dome was simply not predicted by engineering. The beam ana column formulas could not possibly anticipate it. . .

"...we are still making geodesic domes on compression formula* and thus they are ten times as strong as they need to be."

- Letter to the Editor, Bauhaus, U.S. News & World Report, 10 Feb '72.

2SWP» Nationals for the Dome:

(III)

"Getting to the Moon without losing a single human being--- there's never been anything like that. And all by really getting first things first with really the highest intelligence operating from the beginning. Never a compromise about money.

"Let's get to how people get killed in tornadoes. We are making houses square because the Earth seems to be flat. When we're making houses square and cubical, it's easy then to take a log that is straight and just lay it down that way... All these squares and cubicals are the criteria. When we have a tornado the atmosphere drops incredibly down. This means that the atmosphere trapped inside is much higher due to the vacuum on the outside; so much so that it explodes the buildings. What happens is that the walls are literally thrown into the sky; it really acts as though something has hit it like an OBB explosion.

"So I find that all you have to do is to have the right shape, which is spherical, such as my Wichita House which had a safety valve on the boiler so the pressure can blow off. I had an 18-foot-diameter ventilator in the top--- the whole thing lifted like a safety valve and came right back on."

- Cite tape transcript, p.29; RBF to W. Wolf, 28 Apr'74

P.Oflg? Nationals for the Dome: (IV)

"But as an omnitriangulated tensegrity geodesic dome, earthquakes don't bother it. Earthquakes shake buildings apart if they have no tensile strength. And they're now in cubical shapes that are not most comfortable. Once you use geodesic lines you have the shape that it most wants to be in: just like a bell buoy it floats and an earthquake can't bother it.

(These things Forrester didn't know.)

"I'll give you 300 buildings for one with omnitriangulated spheres as against all the other engineering strategies. Not only in terms of material but the other costs would come down the same. The time comes way down. I can deliver it by air instead of having people put things up in rain and snow and dust."

- Cite tape transcript, p.30; HBF to W. Wolf, 28 Apr'44

Dgffl.g: Rationale for the Big Dome; (A)

"I do not talk about innovations until I have reduced them to practice and am certain that the principles involved are eternal and reliable* If I have proved a structural principle to be safe and effectively realisable, I can consider larger and as yet unrealised ones because I and MSB also have experimentally proven my comprehension of the principles governing structural magnitudes. For instance, I know that the bigger geodesic domes become, the more efficient they are.

"There are several principles that integrate synergetically to produce the increasing efficiency with size-growth. When we double the size of a geometric object symmetrically, a cube for instance, we increase the edge measurement from one to two, this means that the surface area increases as two to the second power, which equals eight. This means that every time we double the size of a geodesic dome, the volume of atmosphere inside increases by eight, while the surface increases

by only four. This means that with each else doubling we have eight times the number of molecules inside but only four time the amount of enclosing surface or roof and side walls through which any given molecules of air, Inside or outside, can gain or lose heat."

- Cite RBF in Michael Ben-Eli Interview, AD, Dec'72

"This is why an iceberg melts so slowly. Its surface is so negligible in relation to its enormous volumetric mass and it can melt only as fast as it can get heat Inside the iceberg, through its surface from the outside Universe, to do the interior melting. But as the iceberg melts its volume gets smaller at a velocity of the second power. Therefore as it gets ever smaller by melting, it melts faster and faster, Tou can see the little ice cube accelerating its rate of site diminution and finally disappearing--- sip I

"While there are other chemical phenomena involved, this surface-volume ratio also explains why it is that the Sun, being of such extraordinary size that, despite its giving off radiation at a fantastic rate, its volumetric mass is so great and its surface, through which it loses its heat, is so negligible, that it, the Sun. has already lasted ten billions of years and will go on lasting for hundreds of millions of years more.

"This Is, then, one of the generalised principles of Universe entering Into 'my statement that the bigger the geodesic dome the more efficiently it conserves energy. This principle Ms?

- Cite RBF in Michael Ben-Eli Interview, AD, Dec'72

OfiHS: Rationale for the Big Doae:

(C)

"leads us to passively in of times the apart."

appreciate why Universe stores its energy so the great stars, some of which are ten millions sixe of the Sun and all of which are light years

- Cite RBF in Michael Ben»Eli Interview, AD, Dec*72

OgBft: Batlwglg for tilff Pgag: (I)

"When we got to World War II everyone knew alloys were very important. All the aircraft plants had incredible vertical bins of different kinds of alloys of different metals, of different sizes, all extruded of different sections. Just forests of them and designers then designed in terms of what was in the book. Really more than 50 percent of the metals shipped to the aircraft companies went into scrap. They cut out the heart of the sheet; they said it was weak along the edges.

"This is the theory of Donald Douglas. I met him right after World War II and he was thinking about going into producing my Wichita house. Just as he had said of the DC-3: *I'm never again going to have a design engineer design anything if he hasn't also been a production engineer because the production engineer had to understand how to design airplanes. He would dare to change the design so it could be made with the most appropriate tools.

"Setting up the new critical paths for the space program... all the things that had to be done before a blast-off! We actually* got into designing alloys. We began to design a part with such a unique function in relation to others that it had to have"

- Cite tape transcript, pp.27a-28; Rbf to W. Wolf, 28 Apr'74

"its own alloy. We began designing the alloys with our final part and making just enough of that metal in the shape of the part as the end product. No machining was necessary.

(These are the kinds of things I know and I know Forrester doesn't know.)

"And so we have been make thousands and thousands of different kinds of alloys with absolutely unique functions: you couldn't get man into space if you didn't. The program at Cape Kennedy--- one of the worst problems they had there for months and months was very conscientious scientists and engineers saying, 'I'm not going to leave this; I'm going to do this myself.' They were so excited about it, the risk to the human beings out there. And they found those men could not do it as well as the instruments. So what they should do is to make the instruments themselves approximately infallible--- and have a number of standbys to check those instruments. They finally got to make the instruments so well that they were able to control the process all the way through."

- Cite tape transcript p. 28; RBF to W. Wolf, 28 Apr'74

See Sky-ialand City

Sky Dwelling Floating City

See Aesthetics. 24 Apr¹67 Invisible Architecture (2) Iceberg, 26 Sep*65

See Bubble

Butler Grain Bin

DEW Line Radar Domes

Ford Motor Company Rotunda Geodesic Dome

Gonads Grow-a-dome North Face Domes Montreal Expo*6? Dome Omnidirectional Shutterable Sieve Prestressed Conceete Sequence Radome Scaffolding Shell Ratio Skybreak Bubble Sphere Tooling of Domes Triacon Turtle Dome Vessel Wichita House Zeiss Dome Now House

Ghana Dome: Self-chilling Machine

See Fly»s-eye Domes

See Horiaontal Vertical, 1963 Plaetica, 10 Aug'70 Pneumatic Structures) (3) Safety Factor, 25 Sep'72 Public Relatione, 28 Jan'75 Turtle Hex-pent, 12 May*75

(3)

Dope;

See Dome: lerodynamic Streea of Dome Domed Cities

Dome Over Manhattan

Dome: Rationale for the Done

Dome: Rationale for the Big Dome

See Circuitry: Thermionic & Political Analogy, 23 Jan'72

Door)qn>t>» «a PiiiMBj Can-lore:

See Dynaxion House, 29 Jan*75

Door:

Sea Science Opened the Wrong Door

RBF DEFINITIONS

"Thor* Is a phenomenon known as the Doppler effect, of which humans took much note in the early days of the locomotive. The high tone of the locomotive*e whistle as it approached changed to an increasingly low pitch as the locomotive went by. This is because the sound waves of the air coming toward us from the approaching locomotive at about 700 miles per hour are crowded together by the cocomotive's approaching speed of 60 miles per hour. Similarly, the waves are thinned by the locomotive's speeding away. □□ The Doppler effect may ba operating in our history so that the relative frequency

and wavelengths of approaching events are compacted, and receding ones thinned. It could be that by travelling mentally backward in history® as far as we have, any information about humans could--- like drawing a bowstring--- impel our thoughts effectively into the future."

- Cite GODDESSES, Sat Review 2 Mar68

fttHUTics - 5rc. 5>V..|

Doppler:

See Halo Concept

See Binary

Pulee Pattern

Dot-daah-dot-daah:

(2)

See Reaolvablllty Linlta, 30 Apr*77

PguVlg A«:

See King*s Sign

Double Take:

"Asymmetry is a consequence of the phenomenon time and time a consequence of the phenomenon we call afterimage, or 'double take,' or reconsideration, with Inherent lags of recallability rates in respect to various types of special-case experiences."

- Citation & context at Time. 27 Dec*73

See Octahedron Model of Doublenees of Unity Unity as Two

See Congruence of Vectors Omnicongruence Congruent Unity Bivalent Quadrivalent Octavalent

See Geometry of Vectors, 11 Jul'62; 15 Oct*64 Sphere: Volume-surface Ratios, 10 Dec'75

Doubleness: Doubling:

See Bivalent

See Potential vB. Primitive₉ 12 Jfey*77

Pwriinuti

tn

See Coring Fountain Pattern Ring Torus

See Macro-Micro, 12 Nov*75

Down:

"There are no specific directions or localities in Universe which may be opposingly designated as UP or DG'.Ji:. In their place we must use the words OUT and II."

- Cite Nehru Speech, p. 11. 13 Nov*69

Down;

"If there is no inherent down in Universe, man cannot sink,"

- Context and citation at Dynamic Frame of Reference (2), May'49

Down:

Sea Dynamic Reference frame Earth: Let's Get Down to Earth Up-and-down

Language Up-and-sown Sequence No Up it Down

See Vacuumising Wind Sucking

See Wind Power Sequence, (5)

KBF DcPItUTIUb

"Having set out to discover... whether human have an essential function--- despite misassumption of exclusively self-eminent roles only as audiences or actors in the Earthian drama □Life³⁴."

34 Citation and context at fanifestm: First Five. 1973

Drapability:

See Necklace

Drawing:

"Drawing or scribing is an operational term. It is impossible to draw without an object upon which to draw. The drawing may be by depositing on, or by carving away, that is by creating a trajectory or tracery of the operational event. All the objects upon which drawing may be operationally accomplished are structural systems having insideness and outsideness. The drawn upon object may be symmetrical or asymmetrical. A piece of paper or blackboard are systems having insideness and outsideness."

- Cite SYhaKGLTICS, "Operational mathematics, One Spherical Triangle Considered as Four." 1971

Dreams;

"For the written record of two milleniums Discloses human minds forever rediscovering The great dream concept *

While the brains of the dog and cat
Sleeping at my feet
Have never given evidence
Of being concerned with such thoughts.
Either the brain tells them to go hunting
Because their bellies are hungry

Or they bark in reflex to a strange noise Or they wag their tails in response

To brain-recalled propitious circumstances.

- Cite BHAIN & MIND, pp.97-98 May '72

Dreams?

"One of the dreams I have is that while asleep I dream that I'm awake. And I have to wake up to find out that I was asleep. ... I do know that when you have problems you can't solve, you wake up in the morning with the solution. That's happened to me very frequently, to such an extent that I state my problems to myself before I go to sleep.**

- Cite RBF tape transcript to Barry Farrell, Tape #2, p.2;
Bear Island, 10 Aug'70

Dream:

"As they last awaken none can prove that they are the same beings that they seemed to think they were before they went to sleep. There may be thousands of ourselves, each awakening to different experiences. None can prove that life is not a dream. To support that provoking thought, it is also to be remembered that the physicists have discovered that every fundamental component of the Universe has its opposite. Negative weights and positive weights altogether cancel each other, and the average weight of all physical phenomena of the Universe is zero--- as is also the weight of thought 'zero',¹

"Furthermore, because Heisenberg's indeterminism makes it impossible for us to be exact, we can at best give only a sketchy tracery of the dream called reality."

HBF uEFILITIU.S

Dr earns i

"My definition of universe ... includes the fact that we dream, our dreams are certainly included. This doesn't have to be strictly reality. The furniture of the dreams are the realities of your experience. .
."

Cite OREGON Lecture <2 - p. 58 , 2 Jul *62

KbF D-FliirflOliS

Dream;

` ` F.y definition Z~of Unlverse_7 became important because I included the dreaming and not just the other good disciplines but some of the nondisciplining."

- Citation and context at IietaDhY8ic8_T 2 Jul*62

See Awakeness & Asleepness Awakening Sleep Subconscious Sorting

See Comedy & Tragedy of Errors, May'72 Experience. 2 Jul'62 Identity, <959; May'70 Individual Universes, (1) Ufa, Fay'72 Metaphysics. 2 Jul*62* Perfect, 1yj8 Universe, 16 Jun*72 Planetary Democracy, (6) Womb Population, (1)

(2)

fiESai:

See Clothee Invisible Man

arl^{ak}lnir: McohoHn

See Poe: Edgar Allen, 30 Jan'75

Drink:

S«a Fluidity Hibit Indrinking

°rooo«t:

See Ego Dropout

Drowning;

See Piano Top

Rich Man Drowning in Shipwreck Sink: Man Cannot Sink

See Sensorial Identification of Reality, (1)

Duallw at Sh.M|-

See Magnetic Field, May'tV

See Multiplicative Twoneaa Spin Twonese k Duality Twoneea

See Coaele Inherency, (2)

"The cyclic wave accretions— unique to parents and parent's parent— make overlapping internal impressions of the periodic and cyclic interferences-structuring-by-accretion, pxjirring thereby internal angles of the original turblning tendency of unfoldment, upon the gestating seed of periodic secretion of outside-in then inside-out pulsation-inversion which we call regenerative birth. This is, of course, a union of the infinite inwardness with the infinite outwardness to fulfill the comprehensive duality principle of uni-verse. Human egos are multiconcentric frequency 'halo' systems."

- Citation & context at Periodic Experience_t (11), May'49

See A Priori Environment, May*72

SM Split Peraonallty

See Range Finder. 1938

Self-now, 1938

See Jet Stilts: Jet Stilting, 2y Jan*75

Duck Shooting:

See Geodesic, 5 Jul*62

See Bulla Coeslng Together, (1)

Tln-y»ag, (1)

Sea Decimal & Duodaciml

See Quantum Jump, 26 Aug*76

KBF jhFIMTluKS

Duration;

"Overlapping because every event has duration and their Initiating and terminating are most often of different duration.

- Cite HBF marginalia Universe draft 28 Feb *71

- Citation at Overlapping. 28 Feb'71

Duration:

**See Frame of Reference, 4 Oct*72 Generalized Boat, Flay'72 Herea 4
Therea, 4 Jun'72 Inflection, Mar*71 Overlapping, 28 Feb*71* Time,
circa 1970**

Dm DfatiP

See Statistice, 1933

See Stardust Stone vs. Dust

AarX ^starB =

See Qnniequilibrium, (2)

Dwelling Ad_Yi_{DtW}:

See Universal Requirementa of a Dwelling Advantage

Dwelling Device:

See North Face Dooes, 20 Sep*76

Dwelling Machines;

"You have heard about the possibility oi using the aircraft plants. Last year the president of your company delivered an excellent address to the national convention of the International Association of Machinists... It covers the subject of the aircraft industry*s inclusion of the manufacture of airframe dwellings, the name we have given to that portion of dwelling machines to be manufactured by the airframe industry. Wright Field calls our dwelling machines •stationary airplanes.' The power plant and electrical manufacturing and many other areas of the older industry's components parts manufacturers will provide the organic apparatus of our dwelling service."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, n.214), 1946

See Airframe Dwelling

Autonomous Living Technology Packet

Dytnaxion House

Energy Environment-harvesting Machines

Environment Controls

Environment-modifying Machines

House

Semi-autonomous Dwelling Facilities

Energy-harvesting Dwelling-machine Devices

See Space Technology, (2)

Wind Stress & Houses, (11)

Dome House Grand Strategy: 1927-1977, (1)

Human Rentability vs. Immobile Purchasing, 20 Sep'76

Old Man River Project, 20 Sep*76

Bar DEFINITIONS

"Science, having been employed almost exclusively in weapons development. will find itself progressively unemployed. The weapons-producing companies and the weapons-support industries, having high capabilities but dwindling contracts, are going to struggle ruthlessly to find other profitable enterprises. They will move overnight into the living as opposed to the killing arts. We have already noted their probably move into education. Another probable move is onto the arts and services usually mistakenly spoken of housing.

"All you have to do is have a meeting with advanced industrial technology management to realise their inherent ineptitude in respect to the art and science governing the living service industry. Talk about a 'house*' and the industrialists immediately think about stamping out an aluminum or plastic replica of a Cotswold cottage, or they think about stamping out curtain walls or partitions: 'You have to stamp out something.* That is as far as their brains, conditioned by advertisements and traditions, permit them to go in the byways of categoryitis."

• The scientists* 'house*-catalyzed concepts are even less imaginative and useful. The carriage, railway, and steamship"

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 19 Sep'64

Dwelling Service Industry

(2)

"industries of 1904, and their financial backers, directors, and top industrial managements, did not invent the airplane; nor did the university professors or the scientific societies* There is nothing in the present pattern of building that gives a clue to the ramifications of the upcoming world-habitat service industry.

□ Just as prototype inventions were the keys to the establishment of the aeronautical industry, so will prototype inventions be the key to this vast new industry* Many of the prototype inventions are already on hand. Others are developing in the U.S. and Russian man-in-space programs. What is most needed now is a clear definition of the functions of the world service industry that must be established to accommodate the forthcoming world citizen, requiring, at some times, living facilities in culture centers around the world and, at others, rest in remote places all the way from the tropics to the poles, which permit man to be intimate with nature's every phase without being punished by the intimacy.

"If the professional architects of the world are too slow to support their architectural students' initiative in undertaking*

- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 19 Sep'64

"scientific redesign, then both industry and science will begin to stumble into the living field and it will become a fiasco. That could easily happen within the next five years.

"The world architectural profession has Just about five years to start the architectural students and design-science students developing the capabilities to take, hold, and develop the world's design science initiative. Architects are going to have to give themselves powerful mathematical abilities. Fortunately, our research discovery of the omnirational arithmetic of the tetrahedrally coordinate mathematical system employed by nature in all her transformative

interaccommodations, has now become confirmed by many scientific events. It provides a mathematical means adequate to the historical design-science task of redesigning the world's tools and services.

"... We must now consider other powerfully favorable historical factors affecting establishment of the world-around living service. Between Russia and the United States, "\$6 billion has been appropriated to develop the little scientific house in which man will dwell in space or upon the Moon. But we note"

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 19 Sep'64

"that, though architects profess to be raster solvers of space problems, thus far they have not been called into any part of the U.S. space program. The professionals who have been called in are space medicine specialists, physicists, mathematicians, geologists, psychologists, chemists, engineers, biologists;

but there are no architects.

"I am confident, from my experiments, that architects can be trained quickly enough and in such a way as to be much more effective in the space program than are those scientists and businessmen who are now handling the program. The architectural scientists will be especially effective in defining the ecological problem and its solution, thus forestalling the fiasco implicit in the scientists,* technologists*, and industrialists* esthetically-weighted, market-analysis misconceptions.

"I have familiarity with the space program in the United States and I have found that the big contracts given out so far have gone only to large corporations that have dressed themselves up with large staffs of scientists in order to substantiate their lobbying BBOKDIMB competitiveness with the universities.

- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 19 Sep*64

"The space scientists, of the successful bidders for space contracts, are given the problem of how to develop the space dwelling. They are not design scientists--- they are subjective scientists. Design science must be objective.

"Scientists are inherently subjective operators. They are trained to make faithful observations and to theorise about the schemes of nature into which their data may fit, but not to consider the significance of their findings as objectively employable. They are too specialised to comprehend complex integration potentials and industrial realizations.. Alone among scientists, the medical man is objective. Chemical engineers but not chemists are objective. I have been amazed when I have been called in by the big corporations as a consultant to discover how little they understand of what seems to me to be proper statement of the scientific, structural, chemical, and mechanical, aspects of the scientific sky-dwellers problem and its implications for man on Earth. The problem is to reduce the dimensions of the ecological pattern from a vast tree-air-Earth-worm-bird-bee-rain-wind relay system to a three-foot diameter, closed-circuit system by which man is able*

- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 19 Sep'64 • to sustain high health for 12 months without solar disposal or further input supply beside Sun radiation* . . .”

*. . • Industrial corporations are too nearsighted while scientists are usually infinitely too farsighted. Industrial corporations tend toward a plastic-flowered heaven with sexy- scented, plastic, call-girl angels. The scientists tend toward test-tube babies and the deflation of the reproductive urge on the psychiatrist's couch. On the other hand, architecture students are realistically idealistic and

have well-coordinated vision and a running start on what is needed. Industrial corporations are preoccupied with immediate profits and not with man's total success. They are interested in making money while architectural students are primarily interested in making man a total physical, cultural, and moral success.

"Architectural-science students will in due course realise that they are designing an entire family of complementary instruments of livingry--- similar in comprehensive functioning to the whole family of musical instruments. They will be willing to allow man the privilege of playing his own instruments and of composing not only one-instrument music but of composing

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 19 Sep'64

"symphonies for the whole family of livingry instruments. The new architect will be wise enough to confine his design science to augmentation of the integral organic functioning of man so well that the external organics may be coordinated to operate as unselfconsciously as do healthy men's internal organisms. The design-science artists will leave man free to articulate the promptings of his soul in such a manner that each individual may enjoy his newly won and ever increasing degrees of exploratory and creative freedoms without trespassing on one another and thus frustrating one another."

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 19 Sep'64

*It is a general dymaxion-concept-trend-history observation that in 1927, at dymaxion outset, the industrial logistics tool-up for realization of the inception of the mass production of industrially-reproducible, scientifically-prototyped, intermittently-autonomous, ever-higher-standards-of-performance- and-satisfaction-regenerating,

evolution-augmenting, individual's- integrity-safeguarding, understanding-promoting, intellectserving, sensorially-adjustable, harmonically-controlliable, and universally-economically-feasible, structure and mechanics of a dwelling service industry at the 1927 level of (a) integrated industrial technology and (b) state of advance of the general dymaxion art and experience in comprehensive designing, was indicated by painstaking estimate to be in the billion-dollar magnitude for the development of the then nonexistent, standard, new, tooling network coordination, et. al.

"By 1932 this figure had been reduced to 100-million dollars.

"By 1946 rforld-War-II- technological-standards-upping had been so great and general and the whole reproducible-scientific- dwelling-facility concept had also so advanced that both (a) and**

- Cite NOAH'S ARK, p.16, Summer'50

"(b) factors had integrated into the social complex to the extent that the firm industrial quotation for tooling up for inauguration of the new industrial preoccupation in advancement of the packaged advance of worldwide living standards inherent in the Dymaxion concept had reduce to TO million dollars; this was not because the overall cost was less but because so large a part of the originally estimated technological requirements and public education had been paid for in the interim at costs running a hundredfold what it would have cost to arrive at the same potential proximity to full realization had the project been originally undertaken at the date of conception.,.,

"And in 1946, after the standoff in inauguration of the new industry at Wichita (and the host of runaway tangential attempts to expolit the now clearly looming, but little understood and *«y underestimated, new major industrial preoccupation had spent the interim powerhead

momentum in ineffective but highly educational experiments, and had left an expectant and needful world dismayed and frustrating revertible to political contriving in negatives) it was deemed wise to assume that no further trial balances should or need be taken of the restating"

— Cite NOAH'S ARK, pp.16-17, Summer'50

"new industry and that its arrival would be marked by a set of events and fulfillments of conditions which would obviate any tool-up expense whatsoever; and that while conditions grouped under (a) above would be advancing to the new integration inherent in the general accelerated aeronautical and energy industry evolution; that the advancement of the conditions to be met under group (b) must be individually initiated with renewed vigor and that they must be far in advance of the *44- `46 trial-balance-taking in Wichita and must be taken in the light of all the vast accrued experience and processing of the general concept.

"It was clear that the conditions would only be met when the design calculations and realisations would make it possible for the individual to go spontaneously to the five-and-ten-cents- stores-purchase-for-himself components which going industry could now be readily convinced to turn the going facilities to the production of, and which components would provide such untutored ease of employment as to allow overnight establishment of individual man-generated mushrooming of the industry, its mechanical service standards being mass purchased, assembled- packaged-unfoldingly by the already mass-producing industry of auto manufacturers who had come to the necessary components of"

— Cite NOAH'S ARK, p.17, Summer*50

"the new package. Generally speaking these conditions have now all been met in the designer's complex and need the most thoughtful introduction into going connerce, industry, and government."

- Cite NOAH'S ARK, p. 17_t Simmer'50

See Dyroaxion Artifacts, (1) Dome Bouse Grand Strategy, 1927-1977, (1)-(3)

See Dymaxion House

Housing

Shelter

Service Industry

Repro-shelter Industry

Dome House Grand Strategy

Mobile Rentability vs. Immobile Purchasing

.QyglInfi SMXIES Indyiry:

(2)

See Dome: Rationale For (IV)

House, 1971

Private Property, undated

Teleology, (3)

Now House, (5)

Energy Environment-harvesting Machines, 27 Jan'77

Dwelling Sieve:

See Coral Reef, May¹65

See Dwelling Advantage

Dwelling Device

Dwelling Machines

Dwelling Service Industry

Dwelling Sieve

Dymaxlon: (1)

"The word 'dymaxion*' was invented at a time when Chicago was very much caught up in the dilemma of its commercial and artistic rivalry with New York. It was made up by the public relations and advertising people at Marshall Field & Co. Once in a while Marshall Field did some cultural projects: Putting an old Chinese Urn on display, or whatever it might be. Anyway they had arranged to display a model of my first house on a mast and they asked me what the name of it was. I said it doesn't have a name.

"Marshall Field had some very talented 'wordsmiths' as consultants--- they were the men who invented the word 'radio'. We had lunch and they asked me the philosophy of the house. After the lunch they compiled the main things they remembered. They took no notes while I was talking; it was mainly an exercise in what they could recall. They tried to remember the most prominent sentence; and then what were the most prominent words; and then what were the most prominent syllables. They kept at this for a week or so. What they were seeking was the most harmonic and graphic ways of bringing the pertinent syllables together. They explained that syllables were the pepper and salt of my speech."

- Cite R3F videotaping session Philadelphia, Pa., 1 Feb'75

aur **DuFB.ITIONS**

"They said I was a four-syllable nan. The name for the house had to have four syllables. They had a list of many words and syllables as sort of a portrait of Fuller. They confronted me with different ones: a pair at a time; I could reject the one I liked least from each of many pairs but the alternate had to survive. (This was at the time I was meeting --- Gurdieff?--- Korybski?--- in Chicago). </hen the exercise was completed 'dymaxion was the word that survived.

'Marshall Field copyrighted 'dymaxion' and presented the copyright to me as a present, but, of course, I had been giving a little talk beside that model I guess five or six times a day."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb*75

Dymaxion:

"That's what Dymaxion means: the most effective service per units of invested resource."

- Cite RBF to graduating class, U. Va. School of Architecture, Boar's Head Inn, Charlottesville, 3 Jun'72

Py»*&12.o- "Dymaxion: The comprehensively anticipatory Design Science of producing humanity advantaging rearrangement of the constituents the physical environment to obtain optimum overall performance of the economically available and deliberately invested pounds of material, watts of energy and hours of time as undertaken at any given stage of evolutionary events while avoiding negative contingencies."

- Cite THE WIND IN THE WILLOWS 7 Oct *69

HBF JFlia riOKf

Dymaxion:

"dynamic,' 'maximum,' 'tension,' embraces the

concept that rational action in a rational world, in every social and industrial operation, demands the most efficient overall performance per units of input."

•» Cite RBF Glossary of Terms bound in "The Live Book Squad" 1967

Jywixion:

•Tour rods and hub*, though they are certainly unpatentable, are beautifully made. The hubs are what I call the vector equilibrium. In 1927 I called the twelve vector interaction 'The Dymaxion.' This seemed to me, in due course, to be presumptuous as it is nature's mftst fundamental of all energy interactions, i.e., the vector equilibrium."

- Cite May ^{to} RBF letter to Steve Baer

Dymaxjon:

• • the term "Dynaxion" is a synthesis of dynamic and naximua, and may be defined as maximum output with minimum input, in terms of technology available."

- Cite TWO URBANISTS Dec*64

Dymaxion:

□The dynaxion concept la that rational action in a rational world, in every social and industrial operation, demands the most efficient overall performance per units of input. A dynaxion structure, thus, would be one whose performance yielded the greatest possible efficiency in terns of the available technology."

- Cite Marks, DIMAXION WORLD OF RBF, p.9, I960

ROBERT MARKS BEFIHITION

Dymaxion: (Used as terns for Vector Equilibrium.)

"Fuller once called this equilibrium-pattern figure the ' Dymaxion.» He later concluded that it was a gesture of conceit to apply 'Dymaxion,' a term that for him had become a kind of personal brand name, to a recognised figure in non-vectorial & sic__7 geometry and sometimes listed in crystallographic geometry as the 'cubo-octahedron.' He then substituted the descriptive term based on the figure's force properties."

- Cite MARKS, p. 41, 1960

Dymaxion;

"The term dymaxion that he applies to many of his ventures is simply a personal trade-name for a philosophy which •aims to harness on a non-profit basis the maximum technological resources for the greatest number of people.'**

- Cite Elaine de Kooning, in Art News, Sept. *52

Dymaxlon Airocean World:

"You notice there is the cold pole of the Northern Hemisphere. The colors here are the mean low temperatures of the Earth. The mean highs are about all the same everywhere. It is the mean lows that are different. This is the cold pole of the Northern Hemisphere: you see those dark greens, lighter r***" yellows, and finally the reds. We see that is actually a bull's eye and we get into the Sothem Hemisphere temperate zone... Ninety-eight percent of humanity are in the northern temperate zones. It is quite extraordinary; these really very, very odd, out-of-the-way conditions.... I have seven percent of the world's population in North America. I can go from any place in North America and reach 86 percent of humanity without going near the Atlantic or Pacific. These are the shortest great-circle routes. This is the great stip map of the new air age and the frld Mercator projection is practically meaningless."

- Cite Ledgemont Laboratory Address, pp.41-42, 15 Oct'64

Dymaxion Airocean World:

"I made a chart using the vector equilibrium. I found

it possible to see our world, all the data of the Earth's surface at once, only a quarter of the Earth's surface being dry land. This is simply a point set transformation from the spherical to the planar. It does a very nice job You cannot detect any visual distortion in the relative shape or size of these components. We were able to do it in such a way that the sinuses all occur in the ocean, so you have one world island and one world ocean."

Dymaxion Airocean World; (I)

"... The industrial revolution's railroads and trucks were the beginning of the disappearance of the age-long dominance of the water borne traffic. Railroads and trucks represented shiploads 'sailing' over a new Landocean. With man's penetration to the North Pole, discovery of wireless communication and invention of trackless, omnidirectional, heavier-than-air air flights at the beginning of the twentieth century, the swift obsolescence of World One's Waterocean was certified. World War I and World War II and their 22-year interim represent the transitional period from a predominantly Waterocean World to an Airocean World. All the pain of this historic transition is inherent in the momentum of ignorance of man in general concerning the inexorableness of the fundamental reorientation of his life's experience. The operational principles of physical Universe persist throughout man's approximately ignorant endurance of the transition. But as man learns more of the persistent verities and integrities of Universe, they discover the fundamental necessity of reorientation of knowledge in respect to those verities. . . "

- Cite RBF, June 1956, Caption J25, to R.W. Parks book on RBF.
Pynaxlon AXraccan World (n)

"Einstein's relativity, born at twentieth century's opening, and its security in comprehended dynamic equilibrium becomes the newly acquired norm of the Airocean World. replacing the no longer tenable static norm of 'at rest' and 'death' and its invalidated securities of mass and inertia. Lincoln's industrially catalyzed awareness that 'right' had come to ascendancy over 'might' is of the essence despite all ignorantly detoured chaos of transition. There are no invisible masters of World Two. Visible masters are anathema in World Two. World Two is inherently governable only by the complementary integrities of initiative of the individuals of democracy.'"

- Cite RBF, June 1956, Caption J25, to R.W. larks book on RBF.

Dymaxion Airocean World:

"The much simplified spherical trigonometry, plus a permeative topology, plus quanta and wave mechanics, plus thermodynamics, plus chemical structure, integrate as synergetic geometry, which sumtotally is no more difficult than is the visible reading of the Dymaxion Airocean Map, which is visible synergetics,"

- ed -gtTEEE—Tttt. II>IUXIIJIDLIRUCWrn<eftLD FULLER
- Citation at Synergetiqg, undated

"The Dymaxion Equator is a great circle running approximately due e««t and west through a point on the Pacific coast of the U.S.A, about 200 miles north of San Francisco. The dymaxion great circle through this point has * 50-50' as it North Pole, i.e., 50 degrees East longitude by 50 degrees North latitude, and 130 degrees West longitude by 50 degrees South latitude as its South Pole. This Dymaxion Equator runs from Cape Canaveral, Florida, through the U.S.A, to Cape Mendocina, California, then due west through a point 130 degrees West longitude by 46 degrees North latitude, north of Midway Island (far north of

Hawaii, north of Wake Island, passing over the 75-mile northern neck of the island of New Guinea, thence through the Malay Straits north of Australia, thence across the Indian Ocean running due west through a point 50 degrees East longitude by 40 degrees South latitude, and thence just south of Cape of Good Hope, South Africa, and thence through the South Atlantic just north of Brazil and thence returning to U.S.A, at Cape Canaveral, Florida, having gone completely around the world on one great circle course without touching any other continent than North America and having passed over 21,000 statute miles of open ocean waters. In the Southern

Hemisphere of the Dymaxion Equator lie only 'Greater Texas, Central and South America, Australia and Antarctica In the Northern Dymaxion Hemisphere dwell 93 per cent of the human family.

- Cite undated sheet: THE DTMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

Th<ct

Pvmaxlon Alrocoan World: Uiasssuj: (World tW:

"There is a great circle through America that doesn't touch any other continent. This must have been how they picked Cape Canaveral. The circle takes off from Cape Canaveral and just misses South Africa and Australia; it just touches the neck of New Guinea and then re-enters the United States at Cape Mendocino in California.

"Only South America, Australia and Antarctica are south of that great circle line: four percent of humanity. Therefore there is a population northwardly that would be nearest to all the population centers of the northern hemisphere, which just happens to be Volgograd, which is where the Russians launch all their space tests from."

- Cite RBFat Penn Bell videotaping session, Philadelphia,
Dynaxion Airocean World: AirQCMJi:

"When we look at the airocean world map with the continents oriented around the North Pole we realise that the Atlantic, Pacific, and Indian Oceans are new obsolete."

TMsre) (World -W:

- Cite HBF at Penn Bell videotaping session Philadelphia, PA., 20 Jan'75

Thae«?

Dymaxion Airocean .forld; Airocten: (World 'Stfr):

"In the east-west sailing and steamship days of man when the frozen Arctic seemed an absolute barrier, the North American continent and the North Asian, as seen on the lie r cat or map seemed to be 5,000 miles apart. Now the sky ocean traffic over the Arctic as seen on the Dymaxion projection will bring them into intimacy and ultimate integration of all peoples' interests.

- Cite BEAR ISLAND STORY, galley p.7, 1968

Dymaxion Airocean World: Airocean: (World SS):

"World arrangement of Dymaxion map showing the "Airocean,¹ Thia is the fundamental arrangement of inherently Integrated lands and their respective people's energies, economics, mores, dreams and volitions. This pattern dominates all post-World Warm II history. It centers about the North Pole, around which, counterclockwise, west-to-eastward races the Northern Hemisphere's jet stream at 200 to 400 miles per hour. Eight-eight percent of the world's people dwell in the Asia-Europe-Africa quadrahgle on one side of the pole. The remaining 12 percent dwell in the Americas on the other side of the pole.

"Approximately all shortest routes between the people in North America to the 88 percent on the other side of the pole lie over the Arctic. The Atlantic and Pacific Oceans on either side of North America are routes to nowhere. Shortest distances from North America to South America is over Central America and the West Indies--- not over the Atlantic or Pacific."

-Caption to Figure 182. Synergetics chapter, Dymaxion Airocean 1967 World

Jrtfte/

Dymaxion Airocean World: Airocean: (World :

"The Airocean World map. . . contains within its continentally un-sinused surface all the major, shortest air routes between the most people. . . It is the least distorted means of studying at one glance the total synergetic significance of Airocean economics and the alternate strategies for integrating all phases and states of energy behavior resources toward the highest operative advantage of all world people."

- Cite Undated sheet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

PyatLiion Airocean World: Waterocean: (World Two):

See Wary Sequence, (3)

	Tuffs*)
<u>Dymaxion Airocean World:</u>	AAr.se s»n=. (2)

See Canada, 15 Jun¹⁷⁴ City, undated Democracy, Jun'56 Invisible Masters, Jun'56

Dymaxion Airocean World Mao? (1)

*1 developed the map so that I could see the whole world at once without any visible distortion of the relative shape or size of any of the data; and also as a method of being able to see the whole world at once without any break in the continental contours.

*1 first tried to do this in the early 30s by employing the Mercator projection, by using the 90th meridian instead of the equator as the base line. This provided the One-world Island and the one-world ocean, as hoped for. This is the iMMMM basis for the projection I made in the end pages of NINE CHAINS TO THE MOON, published in 1938--- and as modeled for me by the puppeteer Bil Baird in 1936.

"When Life magazine decided to go with my map, their art editor insisted on orienting it around the north-south polar axis. My friend Ricky Harrison was given the task of producing the cartographic work and he did not understand that I had discovered a new mathematical method of projecting from a sphere to a planar surface. He used a conventional projection which produced a non-uniform boundary scale around the square and triangular components of which the Life Magazine edition of my map consists.

- Cite RBF Ltr. to Martin Gardner, 26 Aug'75

Dymaxion Airocean World Map: (2)

"In my projection method I hold uniform boundary scale, and all variation is internally symmetrical within the uniformly-edged- bound pieces,...Alteration consists of identical and symmetrical angular contraction in respect to each of the corners of the pieces as the spherical excess subsides. My topological transformation method can use any symmetrical geometry, whether it is tetrahedral, cubical, octahedral, icosahedral, et.al. What you speak about as the cubo-octahedron I speak of as the vector equilibrium, its radial and chordal vectors being of equal magnitude and abundance.... The

vector equilibrium has the virtue of having a boundary scale of 60 degrees for each of the pieces, and its spherical excess is slightly less than that of the icosahedron; ergo, the distortion is mildly less than that of the icosahedron ($72^{\circ}-60^{\circ}-12^{\circ}$ spherical excess).

"It took me two years after the Life Magazine presentation to find a way in which all the 12 sinuses involved in unpeeling a sphere and laying it flat would occur in one ocean. If you will look at what I call the Dymaxion Airocean World Edition you will find that I have one triangle spanning between the unitary Europe-Asia-Africa land mass, the triangle's three edges reaching between the Atlantic Ocean (off Norway), the Indian - Ocean and the Pacific Ocean. This required a greater than 60- - Cite RBF Ltr. to Martin Gardner, 26 Aug'75

Dymaxion Airocean World Map;

(3)

"degree-arc reach. The icosahedron¹ a edge is $63^{\circ} 26' 09.5''$ » which is just enough to provide water-to-water reach between the three great oceans. The icosahedron and its 12 vertices represents the denuded phase of the nucleated vector equilibrium with its 12 vertices....

"Having found the frame which permitted showing the one-world ocean and the one-world island without -any distortions or breaks in the continental contours, I settled upon this as being the most satisfactory means of humanity's seeing the whole Airocean World at once. The Waterocean World was an east-west world; the Airocean World is a north-south world; and it is going to change human relations altogether. On my one-world island in one-world ocean arrangement, 90 percent of humanity can reach each other on the shortest great-circle air routes without going near the Atlantic, Pacific, or Indian Oceans.... I have used this Airocean World Map

as a background for all world resource-and-population-distribution expositions for the simple reason that uniform scale percentum graphics always displays on a uniform scale background, which no other projection provides.

- Cite RBF Ltr to Martin Gardner, 26 Aug'75

Dymaxion Airocean World Map: (4)

"Just as the Life Magazine publication of my map came off the press in 1943 and the first copies were distributed, Ricky Harrison told me he had a telephone call from Professor Irving Fischer at Yale who, excited by ray map, had asked Ricky to do the same kind of projecting for him on the icosahedron. Ricky did so and Professor Fischer published it in Look Magazine in competition with Life Magazine, Look being glad to parry the Life edition.

"Life told me at the time that they were able to sell more advertising space because of my map than they had ever sold before. It was the largest single edition of the magazine up to that time. I assure you that Professor Fischer was in no way responsible for any of the work I have done.

"In 1944, Science Magazine made the statement that my projection was the first and only projection to be granted a patent from the United States Patent Office. How this patent happened to be granted is an interesting story. When Life Magazine contemplated publishing my map (which they contemplated for over two years before the actual publication), they wanted to be sure that they were indeed publishing something that was new and valid. They consulted with Dr. Boggs, chief cartographer for"

Cite RBF Ltr. to Martin Gardner, 26 Aug*75

Dymaxion Airocean World Map: (5)

"the U.S. Department of State and the chief cartographer for the American Geographical Society, and with two mathematicians who later became the authors of Mr. Hits. All three experts stated that ray presentation was 'pure invention',¹ using the term in a derogatory manner. They did so because it did not conform to any of the known methods of projection. My method of projection is based on a three-way grid of great circles which, as the patent shows, does occur with a 0-degree-edge-angle vector equilibrium. The mathematicians said a three-way grid of great circles was unknown, and in fact was impossible. I was able to make graphic demonstration of my three-way grid, finely etched on a 12-inch-diameter copper hemisphere using the great circle edge of a fine tolerance enclosing hemisphere as the great circle scribe guide. The three-way great circle grid sprang from a uniform boundary scale of one-degree increments. Because of my demonstration Life Magazine went ahead with the publishing. My patent attorney then informed me that the patent examiner had ruled circa 1900 that no new cartographic projections could be patented because all the mathematical variations had been ramified. My patent attorney confronted the patent examiner with the three authority's statements that what"

- Cite RBF Ltr. to Martin Gardner, 26 Aug*75

Dymaxion Airocean World Map: (6)

•I had done was 'pure invention. • As a consequence the patent examiner allowed his office to reconsider and I was allowed patent number 2,393,676.

"The airocean map has never been marketed by any of the map companies. They have too much of an investment in plates for other presentations. It has, however, been used in a large way. Almost every one of the major national corporations has asked permission to use it as, for instance, the cover of their annual reports to stockholders. It has been used very frequently in general advertising and the maps are obtainable by the public from my office in Philadelphia.

"Subscribing to the evolutionary checks and balances of nature's own gestation rates, I have never promoted the map nor solicited sales, but the world-around demand for them is rapidly increasing."

- Cite RBF Ltr. to Martin Gardner, 26 Aug'75
BxMxXfin AUofigfln Wqrlld Map:

"The Dymaxion airocean world map is only one of many devices that could provide man with a total information-integrating medium. We are going to have to find effective ways for all of humanity to see total Earth, Nothing could be more prominent in all the trending of all humanity today than the fact that we are soon to become world humans; yet we are greatly frustrated by all our local, static organisations of an obsolete yesterday,"

- Cite HBF rewrite of SYNERGETICS galley at Sec. 537.34 8 Nov*73

Dymaxion Airocean World Map; (a)

^wI am attaching a copy of the world map published by LIFE on my new universal-hinging projection. I have taken off the global map onto this new projection in several other ways, for instance, with the North Pole and again the magnetic North Pole, ana the pole of the ecliptic as centers of triangles instead of squares. And another takeoff, particularly useful for navigational purposes, is that in which the vertexes of squares and triangles coincide at the poles.

"The new projection method is also extremely useful in relating the astronomical map to the land map of the world. This is because the spherical angles are all proportionately or symmetrically reduced when translated to plane geometry and vice versa; furthermore, every point on my plane geometry projection is vertically above the universally deployed center of the earth. All interior points retain their symmetrical positioning whether graphed in spherical or plane geometry. Therefore points in the astronomical projections may be made to occur vertically above points on the earth when they are actually in zenith, with the triangulation of astronomical positions usefully related by direct graphical method to the terrestrial map."

- Cite RBF Ltr. to Gilbert Grosvenor, 'Washington, DC; 29 Apr'43

"The article in LIFE did not describe any of the mathematical properties of my projection method. I am sure that you would be interested to have it pointed out that the triangular sections of my projection method represent those unique spherical triangles whose several vertexes are each coincident with a vertex of another identical triangle of a system of eight triangles, altogether forming a spherical triangular lattice of great circle arcs of 60° completely enclosing the sphere. This spherical triangular lattice (with equilateral spherical quadrangle interstices) represents the surface coincidence with a sphere of a unique system of tetrahedral segments of a sphere, all of whose apexes coincide at the center of the sphere. It happens that these particular equiangular spherical triangles of the infinite number between 180° and 60° are the only spherical triangles whose chords together with their interior vertexal radii form a united system of lines describing uniform, unit size, equilateral 60° triangles whose interior apexes coincide with the center of the sphere.

"There is no set of spherical triangles which uniformly subdivides all the surface of a sphere {as with the eight 90° equiangular triangles or the faces of an icosahedron} whose central

- Cite RBF Ltr. to Gilbert Grosvener, Wash., DC; 29 Apr*43

"60° apexes also coincide at the center of the sphere. The apexes of all other spherical segment tetrahedra either fall beyond the center or fall short of the spherical center.

This particular spherical triangle and tetrahedral unit which I have used is the only exception.

"It happens, however, that this symmetrical subdivision of the surface of the sphere by my eight spherical tetrahedra leaves a void of six spherical squares whose chords and radii form spherical pyramids whose apexes also coincide with the center of the sphere. Thus this system provides uniform and symmetrical chords and radii, any right angle or diagonal subdivision of which on the spherical surface must be the intersection of a plane passing through the center of the sphere and is therefore a great circle. Thus it is possible by employing these unique spherical equiangular triangles and 'squares' (quadrangles) to provide a quadrangular grid of great circles in the square and unique symmetrical triangular grid of great circles in the triangle (great circle phenomena not found in any other symmetrical spherical triangle) both symmetrically and uniformly subdividing the enclosing boundaries that allows of universal plane geometry projection"

- Cite RBF Ltr. to Gilbert Grosvener, Wash. DC; 29 Apr'43

Dynaxion Airocean World Map; (d)

"in the terms of the same uniform and symmetrical subdivisions without defractions of angles of transferred data along the hinges of the necessarily sectional projections, required for universal direction of unwrapping of the spherical map.

"All the interior structural geometry of the model thus devised consists of universally symmetrical equilateral and equiangular inside truss structure, united individually at their external vertexes and all joined internally at a universal vertex center, represents the unique stabilized, nonredundant four-dimensional force diagram of any dynamically radiant or convergent spherical organization. It provides a mathematical module system 'tri-' and 'bi-'secting central angular unity an*i* graphic model of the decimal twelve, or duodecimal system, essential to mathematical facility in radionics. It relates simple geometry to dynamic graphical requirements of electronics.

"The respective interior triangular and quadrangular great circle grids which terminally intercept the enclosing sides of the eight spherical triangles and six spherical squares in mutually uniform linear intervals may be collapsed to plane"

- Cite RBF Ltr. to Gilbert Grosvener, Wash. DC; 29 Apr*43

"surface grids uniformly subdivided by interior triangles and squares. This collapsing may be accomplished by 'loosing*' the unit apex centers of the tetrahedrons and quadrahedrons while holding the vertex positions of the squares or triangles and allowing the radii to 'dangle*' parallel to one another with their loosed terminals in one place.

"Uniform subsidence of the spherical arc segments of the major spherical triangles and squares of the spherical projection lattice into plane geometry sections of squares and triangles is accomplished by concentric shrinking to the chordal plane in such a manner that the right-angle relationship of all interior points in respect to the enclosing sides remains intact. It is the retention of the interior perpendicularity of points to enclosing sides that makes the hinging of the triangles and squares possible in a manner that, at the same time, does not disproportionate or refract the contours of areas partially occurring on adjacent triangles or squares.

"It is also this method of uniformly progressive concentric correction by subsidence from spherical segment to plane geometry which provides the uniQue characteristic or this

- Cite RBP Ltr. to Gilbert Grosvenor, Wash. DC: 29 Apr* 43

"method of projection which distinguishes it from all other methods. The unique characteristic referred to is that the projected diagram retains true-measurement, shape, direction, and distance throughout all of the enclosing boundaries of the segments with mathematically controlled distortion • massaged* to the center of the projection areas. All other projections are true in measure, shaping, and direction only at an interior point or along one side or along one or several separated lines or arcs crossing the projection with progressive distortion articulated outwards towards one or more of the enclosing edges of the projected diagram. In other words, my new projection is uniformly corrected by internalization while all other projections are corrected by some systematic externalization of error. This allows of true external association of my projection units, which is impossible in all other methods demonstrated to date.

"Only in the case of the azimuthal or gnomonic projections where correction is radiantly distributed does this extermination of correction allow of uniform relationship of one portion of the spherical projection to another; but in the cases of the azimuthal or gnomonic hemispheres, there is only

- Cite HBF Ltr. to Gilbert Grosvenor, Wash., DC; 29 Apr'43 "the tangent contact point of the circles and no hinging line of contact as is provided by my internally corrected triangle and square projection, which latter allows several sectional units of continental areas of the world map to be reunited as a whole within a symmetrically representative contour.

"This triangle and square system may be thought of as one in which a special set of spherical 180-degree gores have been subdivided so that each gore is symmetrically separated into three parts, two triangular ends and one square center, of equilateral 60° great circle boundary arc dimensions.

"Thus the two irreconcilable geometrical conditions of (1) central parallelism and (2) terminal convergence, demonstrated by spherical gore segments are formally segregated and resolved, each to its symmetrical unity of plane geometry square and triangles respectively.

"This resolution into triangles and squares allows of the formalized sections of globe surfaces being reunited on a plan in such a manner as to unbandage the sphere in perpendicular, diagonal or triangular direction or any developed synthesis thereof. This potential translation is indicated by the" _ Cte HJF Ltr. to Gilbert Grosvenor, Wash.,DC; 29 Apr'43

Dvoraxion Airocean World Map; (h)

"graphic fact, that the spherical gres are doubly interwoven across their girths and triply interwoven at their ends.

"This system takes joint advantage of (1) the centrally satisfactory characteristic of the Mercator projection's tropical area and (2) the azimuthal or gnomonic projection's polar areas. It also combines the unit strip-diagram of the former with the inherently-separate circle diagrams of the latter into a universally joined synthesis of the preferable aspects of both.

"My system thus accomplishes the synthesis of merit of equatorial and polar systems which the polyconic accomplishes in highly specialized and compromised manner, prohibiting universal synthesis in any direction. The bO -arc trianglind square system accomplishes this long-desired synthesis of merit while reducing the unit limit of percentage of distortion growth below that of any unit world map projection system previously demonstrated.

"Despite the notion which had developed by custom of thought almost to the inflexible extent of becoming an assumed **

- Cite RJB Ltr. to Gilbert Grosvenor, Wash.,DC: 29 Apr'43 "universal law; i.e., 'that no new invention of a spherical projection could be made and therefore that no patent could be issued for projection inventions as all mapping was a design synthesis within the already demonstrated mathematical arts,' —this now discovered random element set of great circles, hitherto undetected by mathematicians permits of constructing and graphing a three-way great circle triangular systematically and infinitely subdividing the internal area while always symmetrically subdividing the enclosing arcs occurring within this particular equi-sixty-degree-great-circle-arc spherical triangle and within this triangle only.

"True surprise discovery of principle and useful means of interpolating its employment, which combination of Initiative we call invention, has thus occurred, which therefore permits of allowable patent claimage on my projection system.

"I thought you ought to have this information even though you may not contemplate any immediate employment of the principles.Your continual, up-to-date, re-editing of geographical data represents a factor of progress of incalculable proportion--- the kind of factor that can determine the degree of happy issue - Cite RJB Ltr. to Gilbert Grosvenor, Wash., DC: 29 Apr'43

*27 Apr'43

RBF DLFililTIOliS

Dymaklon AiroGgan. 'arid i--ap? icosahedral Version;

"That's how I arrived at the icosahedral version of my Dymaxion airocean world map. Its edge is an arc of $60^{\circ}23'$ with symmetrical subsidence locally. All the changes are internal rather than outwardly. If you dismiss error outwardly in a circle--- or circumferentially--- you end up with three times as much error as if you dismiss them inwardly. The only way to improve on the isosceles version would be to have the 120 triangles of spherical unity, but that would mean breaking up the continents which I didn't want to do. It took me two years to find the airocean array

- Citation in context at Vectorial & Vertexal Geometry. (1), 27 Jan'75

Dymaxion Airocean World Map:

Museums Keynote Address, Denver, pp. 14-23, 2 Jun*71

Fortune Magazine, February 1940, Vol. XXI, No.2. p, 57

Fortune Magazine, Dec'43 (Vol. XXVII No.6): Figure on cover. (Uncredited to RBF.)

Synergetics: Sec. 537.34

See Cartography: Cartographic Projection# Constant Zenith Projection Flat-out World Map Projection Grid Basis Skinning: Three-way Great Circling: Three-way Grid Transformational Projection Trees: World-around Color of Trees Projective Transformation: Dymaxion Airocean

World Map

Dymaxion Equator

See Energy Slave, (4)

Large Patterns, (l)-(3)

Omnidirectional Typewriter, (1)(2) Skinning. Feb*72

Spherical Tetrahedron, 10 Sep*74

General

Twelve Universal Degreee of Freedoa:

Systems. (IV) •/orld Game, (I)

Dymaxion Artifacts: (1)

"The United Nations' l.ay 27 to June 12. 1976, Vancoouwer, e.C.
'Habitat*---World Conference on Human Settlements, occurred
in the 49th anniversary year of my 1927 conceptlon- ing of and
all-out commitment to (what at that time I carefully estimated to
be a 50-year gestation period of) economic initiatives, philosophic
formulations, testing, practical proving, progressive developmant,
and their Integration with general evolutionary events, all to culmi-
nate in the 1977 birth of a new world-around industry-- that of an
air-deliverable, air-serviceable, and air-removabla large-and-small
environment-controlling devices, including dwelling michine mass
manufacturing and renting industry which will employ humanity*s
maximumly informed and performing sciences and technologies
and most advanced production techniques, to comprehensively and
adequately accommodate all human living and development needs---
with the dwelling machines also serving as effective harvesters and
conservers of all local income energies of the vegetation, Sun, and
wind as well as of the energies human and food wastes---and,
most importantly of all--to serve as spontaneous, comprehensively
effective, self-teaching devices of both the young and ths"

- Cite ACCOMODATING HUi-UN UNiETTLEiXNT, p.1; 20 Sep'76
PjffiMAsn. ArUfMfitg: ^{(2]}

"old children therein dwelling (see 1923, *29, '30 press accounts of the Dymaxlon House),

"All of the Dymaxion artifacts which I have developed have come into socio-economic use only in emergencies when all known customary means of solving various problems were either physically inadequate or prohibitively expensive and there were no alternatives but to use my so much more specifically satisfactory performance for so much less material, energy, labor, and overhead input costs."

- Cite ACCOMODATING HUMAN UNSETTLING, p.1; 20 Sep'76

L>ynaxion Bathroop;

See Wichita House, (2)(3)

Dymaxion 'car' (1)

"The Dymaxion Car was not a car. It was a people mover. It was only my testing of the ground-taxi-ing capability of my omnimediate transport, wingless-airplane with twin-orientable jet-tilting.

"There are two kinds of birds., the cantilevered wing-spans are the most difficult part of flying. Jets can give an orientable thrust. Airplanes tend to head up into the wind as a result of their streamlining. I knew that the most dangerous tendency of the Dymaxion car was the ground loops brought on by the beautiful fairing of the shape of the body.

"The reason I built an advanced design car rather than an advanced design house was simply because I knew I could draw on the already available inventory of nats from the automotive world. There was nothing ¹like that available for housing.

"Because it was running around on the ground, people called it a car. Our new vertol aircraft are at an intermediate state"

- Cite HSF to World Cane Workshop; Phila., PA; 27 Jun'77

RoF

stage, -tn the tpansnortation future we will have very larre airplanes for great distances personal kinds of jet harnesses with dialable controls that we can put on for local jumps... just out of the window... something you could put on.

- Cite RBF to tforld Game Workshon; Phila., PA; 22 Jun*77

Qyiaxlon car*

"The car is still on display in the Chicago museum...,.

Walter Chrysler tried to market the idea. But banks with large amounts of capital tied up in financing used cars, bucked it. In the 1930s banks figured you had to sell five old cars to finance loans on each new □□ one. The banks argued that if you advanced the techndogy of a new model too fast, you reduced the value of secondhand cars. The whole banking system would go bust. It wasn't a conspiracy. Walter Chrysler found he had to make very slow advances. He just couldn't do it."

- Cite RBF to Susan Matter in W (Women's Wear Sally); 13 May'77

See Ounimediuffl Transport Sequence, (2)13}(4)

Sea Dyxoaxion Outset, SUBM

- *50

- The Dyraxion Equator la the one single great circle of the Earth which, starting at Cape Kennedy, goes entrlly around the Earth without touching any continent hut North America.

(See Original Synergetics Illustration #118)

□ Cite R3F rewrite of caption to Syn. Illus. #118, sent by Shoji, 30 May*75

Pypaxlon House;

"The 1927 Dymaxion House was my first tensegrity. The hub of the wire bicycle just becomes the mast. And the bicycle wheel itself was a transfer of sea technology.

"The ceiling was translucent reflecting light from the central mast which was perforated to draw heat down over the warm lights. The walls were shutterable membranes; there were no partitions or space dividers to say: You shall not pass. There were just natural barriers, like a kitchen or a tree.

"Light cells replaced door knobs because I found that door knobs were a major contact point for the transfer of disease.

"Opaque walls are difficult to let light through. There are four kinds of privacy: aural, tactile, visual and olfactory. Occulting--- cutting off the line of vision--- is better than opacity.

"Snelson gave me all the key, he gave me my great appreciation of how so much of tensegrity behaves; there is no thought of his 'stealing' my ideas."

- Cite RDF at Penn bell videotaping, Philadelphia, 29 Jan'75

Dymaxion House:

"Back in 1929 Vilhjalmur Stefansson arranged for me to have a dinner meeting with an engineer from the Soviet Amtorg office in New York. The Soviet engineer was in this country to arrange for a party of some 50 of his colleagues from Russia to visit the Ford Plant at River Rouge.

"The engineers told me that the soviet managers thought very well of my Dymaxion House. He said they were very familiar with it, but they had concluded that it must be kept secret from the Russian people for 50 years. The sacrifices of the people for the Five Year Plans were so great that the people must not know of the house as they would like it intuitively and they would all want it.

"At this time there was a world competition for the architectural design of the Palace of the Soviets. Corbusier would have won it but he would have introduced untenable standards for the use of new materials— as would the Dymaxion House. Ergo, the managers decreed that the Palace of Soviets and all Russian Architecture must be classical in style and be made of wood or stone. They had to use metals for more critical purposes than housing. No information would be allowed to come in and disturb this strategy."

- Cite RBF to Design Science Institute Mtg.. Aspen, Colorado, 13 Jul 7U

Q. What would a mass-produced Dymaxion house cost, allowing for inflation?

A. "If mass-produced, which means at a minimum of 500 per day per factory, Dymaxion houses should cost today about \$10,000 completely ready to occupy and live with at highest standards with all technical necessities included, needing only food supplies to be added. They would not be sold, but could be air-delivered and rented locally at \$100 monthly, with all maintenance guaranteed at no further costs—as with telephones.

- Cite RBF Ltr. to James Coley, Sep*73

Pypaylon Hom:

See Starting with Universe, 15 Aug'74

Tensegrity: Depolarised Orientation of Tensegrity-

Octahedron Universal Joint, (1)

Wind Power Sequence, (1)

Dymaxion Artifacts, (1)(2)

Dome House Grand Strategy: 1927-1977, (1)

It is a general dymaxion-concept-trend-history observation that, In 1927, at dymaxion outset, the industrial logistics tool-up for realization of the Inception of the sass production of an industrially reproducible... dwelling service industry... required development of the then nonexistent, standard, new, tooling network coordination."

- Citation & context at Dwelling Service Industry (A), Sunner* 50

Dypaxion Qwtm*

See Fuller, R.B: Crisis of 1927

PYmxlQn Vector Congtant?

See Synergetic Constant

Dvroaxion:

See Vector Equillibrlun

See Dymaxion Airocean World Dymaxion Airocean World Map
Dymaxion Artifacts Dymaxion Bathroom Dymaxion Car Dymaxion-
concept-tren-history Dymaxion Equator Dymaxion House Dymaxion
Outset Dymaxion Vector Constant

Dynamic:

`` And while no sphere large enough for a flat surface to occur is imaginable, the projective transformation model seems to indicate that finite minima and finite maxima do exist because flat is a confined triangle phenomenon. The flat occurs at the inflection point between insideouts and vice versa. As has already been seen, at the sphere's minima size and at its maxima the momentum to flatness goes beyond approximate flatness, as at the minima phase to satisfy the four triangle minima momentum of transformation; thus inherently eliminating the paradox of static equilibrium concept--- of all the Universe subdivided into two parts, that inside of a sphere and that outside of it; the first being finite and the latter infinite, and the continually transforming from inside- out to butlsde-in, finitely, is consistent with dynamic experience."

- Cite NOAH'S ARK, 3, 1950

See dernouilli Principle, Jan'75

See Twelve Universal Degrees of Freedom: General Systems, (III)

MM

"The three perpendicular bisectors of an equilateral triangle cross each other at the triangle's center of gravity, dividing the total triangle into six right triangles, of which three are positive and three are negative. So there are six fundamentals of the triangle which make possible dynamic symmetry. • . Each corner is balanced by its positive and negative--- like a street corner. This is called dynamic balance. Literally all machinery is dynamically balanced in this manner.**

- Citation & context at Dynamic Symmetry. 31 Kay *71
- -Cite tape transcript KBF to EJA and BO'R, Chicago, J1 Kay*71.

Dynamic Equilibrium:

"Static does not mean static. Equilibrium is the nothingness complementarity of dynamic. Static is never static: it is equilibrium.

'•Equilibrium elucidates the difference between the unreality of status quo, parallel, at rest economics and motion economics which evolves the reality of Universe.*

- Cite RBF rewrite of 24 Apr*76
See Absolute Velocity

Charts: We Need Only Rotate Our Charts 90 Degrees So the Upward Curves Level Off Into Dynamic Equilibrium

Eternity: EquationOf

See Free Will May'49

Norn of Einstein as Absolute Speed, Jun*56

Tensegrity: Interstabilisation of Local Stiifeners: Dec¹61 Tetrahedral Dynamics, (3)

"Education has now led us out and into a degree of meager awareness of Universe, somewhat as though we had been given spectators' seats commanding an improved view of the game-f- games called 'Universe.' It is, however, not as though we had been given better seats in the same old static stadium, within which the sports of extension of personal facility are tried, but more as though we had been given seats in a relay of refueled airplanes to command a view of a new kind of ocean race, a continuous around-and-around-the-world race of relay teams of deep sea craft. Both the frame of reference and the observed are in obvious continual motion and persist as individually composite dynamic continuities, though the separate men (invisible but implicit) and planes and boats and their component parts and sub-parts progressively shuttle or drop out and are eventually substituted for by inconsequentially increasing or decreasing numbers.

"The whole dynamic assemblage of race and observer relays are invisible even to an observer at a 30,000-foot altitude, let alone to an observer on Mars, or on another planet of another star who could only observe the motion of Earth relative to Sun, or the Sun relative to galaxy, etc."

- Cite TOTAL THINKING, I&I, p.2}1, Fay'49

"This schematically kinetic tapestry is the advanced concept of relativity---« now, at last, popularly significant,

because pivotal to the everywhere severe worldwide reorientation of all men's everyday affairs from a static to an a priori dynamic MKMB frame of reference. The reorientation is severe because it is more than an uprooting. Realization of relativity spontaneously evokes a springing, to dive from a then vanishing springboard into an infinite dynamic sea where man must learn to swim tirelessly, naturally, before he sinks, but only because what he used to think was that he ought to 'sink' rather than be attracted by dominant neighbors.

"As man learns to eliminate his preposterous one-, or two- or three-dimensional a priori references to a fixed level planar breadth and its inherent upwardness or downwardness of Universe and substitutes therefor the no*/ reliable sensation of an inwardness and outwardness relative to plural centers, he will come naturally to his new sustaining awareness of the impossibility of his doing aught but sustain his equilibrious and navigable position. If there is no inherent 'down' in Universe, man cannot sink.

- Cite TOTAL THINKING, IAJ, p.232, May*49 "This is not a semantic abstraction, 'What did man mean when he said, 'Up'? He meant two or more vertical and parallel lines perpendicular to the respective spots of a supposedly common plane whereon supposedly stood— fixedly in Universe— both himself and his addressee, with whom he would, avowedly, communicate meaningfully.

"But he is, in fact, employing non-sense. Unless one is standing on the other's shoulders, the direction of 'up' for any two men on the curved face of Earth is always geometrically different. They are respectively nonidentical radii of their commonly predominant energetic center, the Earth ball. It makes no difference what the local curvature of the Earth may be; they each balance, perpendicularly' independent, as 'radii' of the perfect sphere.

"By the time one man explains to the other by directional indication what he had meant by 'up' of a moment ago, the direction 'up' as registered in direction to the stars in Universe--- the other energy centers--- has shifted angularly to absurd non-identity. In the clock-time course of a sentence, his succession of complex 'ups' at Earth's level

- Cite TOTAL THINKING, Itl, p.232, May V 49

"has moved angularly thousands of miles; and the beam of his continuous, upin-pointing in the heavens, relative to the Sun and galaxy, has swept billions of miles. As he soon rockets toward the Moon he will find his feet pointing gradually and comfortably toward the Moon which he had just previously pointed to as 'up'.*

"If he persists in the up-and-down language m\$n may never conin-unicate accurately with other men for they do not employ the same meanings, either from moment to moment, or in respect to their indi-vidual 'ups' and 'downs.'

"Only when nan learns to say in and out relative to designated com-mon centers (for example, of Earth) is the meaning constantly reljrble. The sky is 'outward' to all men, at all places, at all times, on any planet. While enjoying an infinity of individual 'ins,' we, anywhere in the Uni-verse, also enjoy one connon nonsimultaneous, omnidirectional ag-gregate called 'out.'

"As the constantly relftible replaces the interrupted inaccuracy of the past moment, the yesterdays of inaccuracy dissolve

- Cite TOTAL THINKING, I&.I, pp.232,233, Fay'49
ttbr Jiir IMTIOtib

"in the presence of the finite dynamic constants of discovered ener-getic Universe of now; the inherent continuity of understanding (of overlapping-periodic interruptions) becomes increasingly available. .
• . "

• 'The everywhere-relative velocities and momentums of interactions, of energetic phenomena of Universe, are central to the preoccupa-tions and realizations of the comprehensive designer.

The concept of relativity involves high frequency of reestablished awareness, and progressively integrating consideration of the re-spective, and also integrated, dynamic complexities of the moving and transforming frame of reference and of the integrated dynamic

complexities of the observed, as well as of the series of integrated sub-dynamic complexities, in respect to each of the major categories of the relatively moving frames of reference of the observer and the observed. It also involves constant reference of all the reciprocating sub-sets to the comprehensive totality of nonsimultaneous Universe, from which naught may be lost.

"We have on the one hand the multiplicity-of-the-component-structunes-and-moving-parts-of-the-airplane-carrying-the- ob-server, as an integrated whole, as he observes the set-of-

- Cite TOTAL THINKING, l<xl, p.234, May'49

"all-the-boats called the race, headed for the next marker--- for instance, for Bernuda--- maintaining their relative continuity with respect to each other externally, as the individual boats persist as a continuity of internal sets and sub-sets (to'the power of any number J of synchronized interactions.

"tee have on the other hand the concepts of both the observer and the observed relative to their respective movinr frames of environment reference and then both moving frames merging into one with the Universe, but at two extremes of maxima and minima, that is, in the macrcosm and the microcosm. Both inwardly and outwardly and diametrically all eventuate in the same Universe of fundamental principles governing energy as atom or galaxy aggregates of nonsimultaneous yet related events.

"Returning to the concept of the moving observer in the airplane, we discover that, despite the numerically astronomical complexity of the total moving picture of his life at the moment, it is to be noted that he may gain immediate advantage over the total concept; because he can first resolve

- Cite TOTAL THIR.KIKG, I&I, p.235, May*49 "all phenomena into two prime subdivisions-- he can treat each moving frame of reference, in the terms of their composite scene of their internal and external aspects respectively.

"Internal to the observer's moving advantage, we have the concept of the supporting industry that produces the airplane and keeps it serviced for re-flight and the sub-sets of atomic interactions and the sub-sub-sub-sets of all the atomic interactions comprising planet Earth, and the even greater population of sub-sets of atomic interaction of the solar system, and the greater still population of the galaxy accumulation, and, finally, all atoms of the Universe."

- Cite TOTAL THINKING, IU, p.235, May*49

Dynamic Frame of Reference:

See Epigenetic Landscape, May*49

BranK YB. Uanic:

See Efcstlenology of Quantum Mechanics, 16 Dec*73

Dynamic OpDoaltloip

See Energy, 16 Sep*67

See Structure, 25 Feb'69» 3 Oct*72

"Cosmos---cosmogony---is pre-Scenario: it has no moaning in a static sense* We are only interested in the dynamic intertransforming available to and instrumentally relayed in our integral sensing circuitry. •

- Cite RBF to EJA A Roger Stoller, 3200 Idaho, Wash. DC; 12 Nov'75

See Cube: Diagonal of Cube aa Wave Proagation Model

Dynamic vB, Kinetic

Dynamic vs. Stable

Articulated & Unarticulated

Unsettling vs. Settlements

Mobile Rentability vs. Immobile Purchasing

See Decentralise VB. Centralise, 1 Apr'49

Environment, Jun*66

Vector Equilibrium, (1)

Air Space, Jfay'65

Industrial Man, 10 Oct*63

Thought, May*49

Periodic Experience, (6)(7)

Module: A Quanta Module: Introduction Of,

22 Feb'77

Pynamlc Syanetra'

(D

•When we make the geodesic subdivisions of symnetrlcally om-nitriangulated syfens, the three corner angles increase to add up to more tharf ISO degrees because they are on a sphere. If we deproject them back to the icosahedron, they become symmetrical again, adding to exactly 160 degrees. They are asymmetrical only because they are projected out onto the sphere. We know that each corner of a two-frequency spherical icosahedron has an isosceles triangle with an equilateral triangle in the center. In a four-frequency spherical icosahedron there are also six scalenes: three positive and three negative sets of scalenes, so they balance each other. That is, they are dynamically symmetrical. By themselves, the scalenes are asymmetrical. This is synergy. This is the very essence of our Universe. Everything that you and I can observe or sense is an asym-metrical aspect of only sum-totally and only nonunitarily conceptual, Omnisynr.etrllcal Universe.

"Geodesic sphere triangulation is the high-frequency subdivision of the surface of a sphere beyond the icosahedron. You cannot have omnisymmetrical, equiangular and equilateral, triangular, system subdivision in greater degree than that of the icosahedron's 20 similar triangles,"

- Cite SYNERGETICS text at Secs. 1031.11 to 1.12, 27 Dec*73

"As we have learned, there are only three prime structural systems of Universe: tetrahedron, octahedron, and icosahedron. When these are projected on to a sphere, they produce the spherical tetrahedron, the spherical octahedron, and the spherical icosahedron, all of whose corner angles are much larger than their chordal, flat-faceted, polyhedral counterpart corners. In all cases, the corners are isosceles triangles and, in the even frequencies, the central triangles are equilateral, and are surrounded by further symmetrically balanced sets of positive and negative scalenes. But since the positive and negative scalenes always appear in equal abundance, they always cancel one another out as dynamically complementarity equilateral. This is all due to the fact that they are projections outwardly onto a sphere of the original tetrahedron, octahedron, or icosahedron, which as planar surfaces could be subdivided into high-frequency triangles without losing any of their fundamental similarity and symmetry.

"In other words, the planar symmetrical is projected outwardly on the sphere. The sphere is simply a palpitation of what was the symmetrical vector equilibrium, an oscillatory pulsation,"

- Cite SYNLRC-TICS text at Secs. 1031.13 to 1.14, 27 Dec'73

Dynamic Symmetry: (3)

"inwardly and outwardly--- an extension onto an asymmetrical surface of what is inherently symmetrical, with the symmetricals going into higher frequency.

"What we are talking about as apparent asymmetry is typical of all life. Nature refuses to stop at the vector-equilibrium phase and always is caught in one of its asymmetric aspects: the positive and negative, inward and outward, or circumferentially askew alterations.

"Asymmetry is a consequence of the phenomenon time and time a consequence of the phenomenon we call afterimage, or 'double-take,' or reconsideration, with inherent lags of recallability rates in respect to various types of special-case experiences. Infrequently used names take longer to recall than do familiar actions. So the very consequence of only 'dawning' and evolving (never instantaneous) awareness is to impose the phenomenon time upon an otherwise timeless, ergo eternal Universe. Awareness itself is in all these asymmetries, and the pulsations are all the consequences of just thought itself: the ability of Universe to consider itself, and to reconsider itself."

- Cite SYNERGETICS text at Sec.s 1031.14,.15 • '<>', 27 Uec'73

"Within every equilateral triangle we can inscribe a three-bladed propeller going into the three corners and those propeller blades could be pear-shaped. Each of the blades is the same shape as the others. The pear shape is asymmetrical. We call this/dynamic syrtrnetrv.

(revol vafle omnibalanced asymmetry>

"We have three pears all; 120 from one another... The three perpendicular bisectors of an equilateral triangle cross each other at the triangle's center of gravity, dividing the total triangle into six right triangles, of which three are positive and three are negative. So there are six fundamentals of the triangle which make possible dynamic syn-

metry. One part may look like a scalene but it doesn't matter because it is always in balance. Each corner is balanced by its positive and negative-- like a street Corner. This is called dynamic balance. Literally all machinery is dynamically balanced in this manner."

- Cite RBF to EJA *It*. BO'R, tape transcript, Chicago, 31 May*71 "sviwrff- s?c.
50.16

"The difference between what I mean by symmetrical and omnisymmetrical is that in symmetrical I have no local asymmetries which I did have in any one of these propeller blades by itself. . . Let me take one propeller blade by itself. I'm going to split it longitudinally and get an 'S' curve, of which no power of the MB curve is the same . . . changing rates. So it's asymmetrical by itself: it's repeated six times; positive, negative, positive, negative . . . , and it comes around to dynamic symmetry. So the energy forces involved are in beautiful an.¹.¹ absolute balance. So we get energetic balance. This is asymmetry. And that's a vector equilibrium in the middle of all this. Not only is the propeller revolving on one axis only, but we have six axes with everything revolving in the vector equilibrium."

- Cite Tape transcript fR RBF to EJA and BO'R, Chicago, 31 May *71
srithFiity - sect, 51? 20 ->iTTHl

See Spherical Octahedron, Aug'72

Structure, 29 Dec'58

Tetrahedron) Polarization Of, 7 Oct*71

Fourteen Axes of Truncated T_etrahedron, (2) Propeller, Dec'71

Module: A Quanta Module: Introduction Of,
22 Feb'77

See Human Sense Ranging & Information Gathering, (1)

See Compound Dynamic System

Dynaxion

Dynamic vs. Kinetic

Dynamic & Static

Frame of Total Dynamic Reference

Hierarchy of Dynamically Symmetrical Conetillation Phases

Omnidynamic

Self-triangulation: Dynamical

Dynamic Symmetry

Static

Tetrahedral Dynamics

Twoness of Dynamic Reciprocities

Dynamic vs. Stable

Meaning as a Dynamic Patterning Verb

Electrodynamic a

Biodynamic

Swim: Dynamic Sea where Man Must Swim

Energetic Functions

See A11-acceleration Universe (1) Balls Coming Together (2) Calculus, Jul'71

Closest Packing of Spheres Sequence (1) Environment Valve, circa 1955 Epigenetic Landscape, May'49 Energetic Functions, 1964: 8 Auz'77 Energy, 5 Jul'62 ⁸

Flat: Almost Flat. 26 Jan'73 Geometry: Plane, 10 Dec*64 Geometry of Vectors, Aug'71 Inertia, 24 Apr'71; 20 Dec'?1» 6 Nov*73 Interpositioninf, 4 Oct*72 Modelability (2)(3) Industrialization, 10 Oct'63 Pauling, Linus, 1965 Prime Structural Systems, 29 Dec*58 Potential, 1963

See Reciprocity (2)

Stability, 25 Feb'69

Stardust, May'65

Syte, 31 May»71

Structure Sequence (2)

Synergetics, 10 Jan'50

Tetrahedron: Inside-outing Of, 16 Dec'73

Unityis Plural, 28 Apr*48

Universe, 1965

Walking, 31 May'71

Wave System Propagations, May'72

Star Events, 15 Mar*71

Harmonic Interval, May` 49

Future: l`.an Backs Into his Future, May'49

Wind Stress & Houses, (9)(10)

Universal Vertex Center Model, 29 Apr'43

Abstractions, 1964

See Dynamic Air Conditioning Dynamic Apprehension Dynamic Balance Dynamic Equilibrium Dynamic Frame of Reference Dynamic vs. Kinetic Dynamic Opposition D ya runic A Static Dynamic Symmetry Dynamic Velocity

See Electric Motor

See Civil War. (2)

Copper, (1)

Weapons Technology, (1)

E

KBF UEFINHIUhb

Early Man:

" 'The Roots of Civilisation' reveals an earnestly tested and exciting hypothesis of the significance of the Ishango Bone on the part of Alexander b'arsnhak. This book regenerates my own speculative drives that there seems to be increasing evidence in support of the assumption that man's intellectual capacity has been altered but little, if any, over vast years of his presence on this planet.

"certainly it is true that the earliest philosophical statements on record disclose a comprehensivity and profundity, and above all a simplicity, accompanied by great wisdom. The fact that the information sources available when they were written were almost negligible in contradistinction to the information sources of our own day, suggests that the intellect of man may readily have been at today's highest levels back in unknowable times. Kr. iarsnak's work contributes immeasurably to knowledge in this important field."

- Cite KBF jacket blurb for iarsnak book, J iars'7

"About, 25 years ago I began to say man is not descended from monkey. If that is so then we are liable to find better and better men, it is very interesting that in the time since I started my work a third of a century ago that we only knew of the existence of man a relatively short time ago and the findings of earlier man have extended that time,

it has been multiplied from a quarter of a million to a possibility of 10 million, so it has been a very large extension. But one of the things we continually discover as we find earlier man, is that the earlier man does not tend to be an inferior type man. There is some indication in talking about the capacity, the space for brain, of a larger pattern activity. I would not be surprised if we found much more about men during the time when you are alive, and if we do, I think you are going to find earlier man tending to be disclosed as of a very extraordinary integrity and of a high order patterning,

"in the way I am talking to you about man, there is... so clearly a pattern integrity-- that man--- as one way that universe might have come out, might have occurred, many other places in the"

MBF D-FDiTIUKS

"Universe before he occurred on Earth, and he may really have come on to Earth in a very whole, very high order of capability and actually may have deteriorated since arriving or separating out and depending on a much more complex kind of a pattern for total survival."

- Cite Oregon Lecture #5, p.174, 9 Jul'72

See Lever: Fallen Tree as * Lever Maxigator8: Early Navigators Raft: Early World Drifting on Rafts Stone Age Haga

See Darwin, May*70

Pattern Integrity, (3)(4) Structural Sequence, (C)

<>)

See Old Words

Old Questions

See Division, 1y60

EfirnlM^A MTIm:

1 tell the young people that they can give up all idea of earning a living, provided that they see something that is problem that they have a solution for.

- Cite RBF to DSI Meeting, Aspen, Colorado, 13 Jul'74

• • • Th« trend of increasing hours of humanity's total lifetime that are investable at the Individual's discretion over and beyond the hours required to earn a living."

10

- Cite HIPER, World Mag., p.3S, ® Apr'73

"The cosmic accounting assumes omnivalidity. Humanity must eliminate the requirement of 'Earning the Right to Live.* Living for all at high standard must be accredited. Work and right-to-live must be divorced. Work must be considered the greatest human privilege."

- Cite RBF revision of "Ten proposals for Improving the World," for EARTH, INC., New Delhi, Dec'72

"For many years I've had kids get very excited and work with me, and then at some point they'd say, 'Well, I'm sorry, I've got a family to support and I can't work with you any more. I'm different from you--- I've got to earn a living.' But I was no different. I was really dead bust most of the way. It was extremely hard to hold things together, to be responsible with money and yet not be ruled by it. I had the advantage of complete confidence that what I was saying was true, true in the largest sense of being in accord with Universe. And I trusted that as long as I was working on the side of evolution, evolution would take care of me. And that's the way it's worked out."

* 1?nnYCVaI¹SCr_pC fOr F «”el: passage omitted

from PLAYBOY Interview, p. 199; transcript pp. 45-46. Oct'71

•We are not operating logically. Everyone is being told or is already convinced that their alienation and violence exist give way to concern over how to earn a living. We hope to earn a living in a way that is pleasing but that can't be guaranteed. Earning a living has highest priority, We don't look at our environment and say: What is nature trying to do? We don't say: What needs to be done?"

- Cite Museums Keynote Address Denver, pp. 5-6, 2 Jun*71

"We must do away with the absolutely specious notion that everybody has to earn a living. It is a fact today that one in 10,000 of us can make a technological breakthrough capable of supporting all the rest. The youth of today are absolutely right in recognizing this nonsense of earning a living.

"We keep inventing jobs because of this false idea that everybody has to be employed at some kind of drudgery because, according to Malthusian-Darwinian theory, he must justify his right to exist. So we have inspectors of inspectors and people making instruments for inspectors to inspect inspectors. The true business of people should be to go back to school and think about whatever it was they were thinking about before somebody came along and told them they had to earn a living."

- Cite RBF quoted in New York magazine, p.30, 30 Mar'70
Earning A Living Sequence; (1)

"As we study industrialisation we see that we cannot have mass production unless we have mass consumption. This was effected evolutionary by the great social struggles of labor to increase wages and spread the benefits and prevent the reduction of the numbers of work-

ers employed. The labor movement made possible mass purchasing; ergo, mass production; ergo, low prices on vastly improved products and services which have altogether established entirely new and higher standards of humanity's living.

"Our labor world and all salaried workers, including school teachers and college professors, are now, at least subconsciously if not consciously, afraid that automation will take away their jobs. They are afraid they won't be able to do what is called 'earning a living.*' which is short for earning the right to live. This term implies that normally we are supposed to die prematurely and that it is abnormal to be able to earn a living. It is paradoxical that only the abnormal or exceptional are entitled to prosper. Yesterday the term even implied that success was so very abnormal that only divinely ordained kings and nobles were entitled to eat fairly regularly."

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, pp. 117-118, 1969

Earning A Living Sequence: (2)

"It is easy to demonstrate to those who will take the time and the trouble to unbiased their thoughts that automation swiftly can multiply the physical energy part of wealth much more rapidly and profusely than can man's muscle and brain- reflexed, manually-controlled production. On the other hand humans alone can foresee, integrate, and anticipate the new tasks to be done by the progressively automated, wealthproducing machinery. To take advantage of the fabulous magnitudes of real wealth waiting to be employed intelligently by humans and unblock automation's postponement by organized labor we must give each human who is or becomes unemployed a life fellowship in research and development or in Just simple thinking. Man must be able to dare to think truthfully and to act accordingly without fear of losing his franchise to live. The use of mind fellowships will permit humans comprehensively to expand and

accelerate scientific exploration and experimental prototype development. For every 100,000 employed in research and development, or just plain thinking, one probably will make a breakthrough that will more than pay for the other 99,999 fellowships. Thus, production will no longer be impeded by humans trying to do what machines*

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, pp. 118-119, 1969

"can do better* Contrariwise, omni-automated and inanimately powered production will unleash humanity's unique capability--- its metaphysical capability. Historically speaking, these steps will be taken within the next decade. There is no doubt about it. But not without much social crisis and consequent educational experience and discovery concerning the nature of our unlimited wealth."

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, pp.119-120, 1969

See Afford

Doing What Needs to be Done

Fuller, R.B: Crisis of 1927

Pollution: Infinite Room to Pollute

Right to Live

Scarcity

Success

Uneconomic

Retirement

Unemployment as Freedom to Think

Invented Jobs

Money: Money Making

Reality: Fuller's Reality vs. Popular Reality

See Average Human Being, 5 Mar'74

Buildings: Multiple Occupancy, 30 Apr*74 Building Industry, (8)-(12)

Doin What Needs to Be Done. 17 Dec'74

Human Unsettlement, (2)-(41

Individual Economic Initiative, (1)

Obsolescence, Apr'72

Office Buildings: Conversion to Apartments,

20 Sep'76

Politics, (2)

Population Explosion, (2)

Prospects for Humanity, 1 Feb*75

HBF DEFINITIONS

Earninrs:

"Th® capitalist... can see the prise before the others— they act As if it were theirs, whelh it is a product of nature and not of their own, ergo had ¹ earned* his profit. The augmentation is inherent in nature. That*a the point. Herein lies much of the fallacy of so-called capitalism."

- Citation **k** context at Capitalism. 11 Oct*71

Earninag:

S«e Capitalion, 11 Oct'71

Corporation, (2)

See Man, (1)

Universe is Technology, (1)

"A# I write the introduction to thie truly fascinating book, I find its author and its publishers spelling our planet's name with a small *e*, even though its 7,926-mile diameter is large than the mile,diameters of Venus's 7,620, Mars's 4,220. Pluto's 3,600, or Mercury's 3,010.

The first letter of all the other planet's names we honor with capital letters. I am confident that those who spell Earth with a small 'e' are not as yet 'seeing ourselves as others see us' from elsewhere than aboard our cosmically minuscule planet."

- Cite RBF preface to "American Space Photography"; 17 May'77

Earth:

"The Earth . . . being only an aggregate of all the atoms which are co-orbiting around the Sun at the same velocity

- Cite SYNERGETICS draft at Sec. 1009.21, 10 Feb'73

KBF DEFINITIONS

Earth:

"...Earth as a syntropic, orderly, energy concentrating mobile locus in Universe.*

- Citation and context at Manifest: Two. 1973

Barth:

"Earth is a coal-black prismatic cantar, drinking in the radiation from the cosmic 'high pressure' Sun and other stars--- someday to become a star."

- Citation and context at Boltzmann Sconance (2), Dec'72

Earth:

*••• A 10,000 frequency geodesic, which is what the Earth really is."

• Clt« HBF to LJA, 3200 Idaho, DC, 22 Feb '72

coweefTMurr— *TEC.* st/.T?)

*. . . This approximately inconsequential Celestial vehicle, Earth."

- Cite last line EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH, Jan *72, p. 22.

Earth;

"They always spell the Earth with a snail «e» because it is simply the stuff under our feet, 'down here,' which stretches away laterally to infinity."

— Cite jPESH Citation and context at UP and Down Sea-
Earth:

"We find only one place in the universe where we know energies are converging, collecting and being stored and that is our own spaceship Earth.. our planet.

energy is being collected here as matter. We also are collecting an enormous amount of radiation from the other stars.

"We may state it to be experimentally proven that our special space vehicle Earth is at least one mobile energy collecting center in contradiction to the stars which are energy distributors. The sun's energy is not being reflected from Earth as from a mirrored ball. . . .it is impounded in the atmosphere. . . to regenerate life by photosynthesis."

- Cite WORLD GAME (Jj, Oct'69
Earth:

that spaceship had been given the name Earth by its passengers this name being descriptive of its hard-packed dust, dirt, and * rock-surfaced deck stretching away surrounded by water seemingly to infinity. ..."

- Citation and context at Spaceship Earth (a), 1968

Earth:

"... The spaceship we live aboard is very illogically called Earth; Illogically because of the relative newness of its exquisitely superficial stardust and radiation supplied, biologically photosynthesised, and chemically composed 'top soil'-- that is, the very complex variety of fine particle aggregates generally identified as the substance earth."

(Adapted)

- Cite ..HAT QUALITY ENVIRONMENT, 24 Apr'67

Earth:

"While all the stars are radiantly entropic, the Planet Earth is not radiant and does represent a physical collecting local system in universe. The geophysical year disclosed that possibly a hundred thousand tons of stardust is collected daily by Planet Earth. Earth also collects star radiation, particularly the radiation from the sun star. The Earth seems to be cooling off, contracting and collecting as an anti-entropic locality in universe. Not all of the sun's radiation bounces off the earth, its heat is impounded in the sea. The sun's radiation by photosynthesis and gradually the energy is buried deeply in the form of fossil fuels. The biologicals act anti-entropically because they make orderly molecular chains and other orderly structures."

- Cite NASA Speech, pp Jun'66

Earth:

... Finite structures are mostly nonconceptual in any momentary sense, though certain local structures in Universe are momentarily conceptual, such for instance as the continually transforming historical aggregate of men's experiences packaged together in the words 'Planet Earth.'

- Citation and context at Universe. 1965. Incorporated in SYNERGETICS at Sec. 3217

s*rrh.Elrth=

Sa® Inxnaulat® Conception, 25 Jan'72

See Common Sense Common Sense Reality

See Mind As Reality, 27 Mar*73 Spaceship, (1) Spherical Triangle Sequence, (VIII) Twelve-inch Steel World Globe, (3)(4) Up 4 Down Sequence, (2)

Earth Fault: Society la Living In 1 Sort of Barth Fault-

"I have found that the Universe is actually operating in an entirely different way from the way society thinks it is. Society is living in a sort of 'fault.' The kind of fault I'm thinking of is like an Earth fault, like a gr«t cliff, a great discontinuity in the Earth's surface. There are great discontinuities in the public's image of what the Universe is."

- Citation for context at Universe. Fall',65
earth fault! Society is » IdTlnf <” * Sort aT

earth fault!

See Science Opened the Wrong Door

See Dihedral Angle* of Tetra & Octa, 16 Dec*73

WXh afl Pandlfl.gl. Nutcrackw-g:

See Gravity: Circumferential Leverage,

See Dymaxion Airocean World Map

Earth Model as Bundle of Nutcrackers

Geoscope

Miniature Earth

Mini-Earth

Six-ridge Tetrahedral Globe

Twelve-inch Steel 'World Globe

Twenty-foot Earth Globe & 200-foot Celestial Sphere

Earth Shrunk to Ona-town Dinanaion:

Sea Global Village

Earth Shrunk to Ono-town Diaonaion;

Soo Jet Engine, (1) Invention, May¹70

See Heaven at Hell. 31 Kay*71 Infinity, 1971

See Atom as Solar System

Co-orbiting of Earth & Moon around Sun Fault: Society is Living in a Sort of Earth Fault Planet: (Xir-Self-realixing Planet Rotation of Night as a Shadow Six-ridge Tetrahedral Globe Spaceship Earth Trolley System for the Whole Earth Wind Power: Effect of Earth's Rotation Planet Earth

Sea Cartography: Conventional Projectlone, (1) Boltsmann Sequence. (2)* Conceptuality, 196\$ Ecological Pattern, 19 Sep*64 Finite, 13 Nov¹69 Geodesic, 22 Feb*72 Machine, 1970 Manifest: Two. 1973* Motion, 4 Feb'oB Omnidirectional Halo. 2 Far* 72 Syntropy & Entropy, jl May*74 Universe, 1965* Up be Down Sequence, (2)* No Energy Crisis, (1)(2)

See Earth Birth

Earth: Let's Get Down to Earth

Earth Fault: Society is Living in a Sort of Earth

Fault

Earth Fault

Earth Model as Bundle of Nutcrackers

Earth Globe Models

Earth Shrunk to One-town Dimension

Earth as a Sandwich

See Environmental Events Hierarchy

Universal Requirements of a Dwelling Advantage

See Done: Rationale For (IV) Gravity, 23 Sep'73

•Since I have become 64 years old have ships of the sea become obsolete as the most economical means of human travel about our three-quarters-water covered planet. When I was 15 years of age the quickest possible travel of humans or their letters from Boston, Massachusetts, USA. to Buenos Aires, Argentina was two months. (From Boston, New England to Portsmouth, England via HMS Oceanic from Southampton, England to Rio and Buenos Aires via HMS Don and return via HMS Magdalena, which were Kipling's famous 'great steamers white and gold' that 'go rolling down to Rio, roll down, roll down to Rio some day before I'm old,')

In 1910 the quickest way humans could go from Boston, Massachusetts to Bombay, India too~~kthree months and three months to return. This is why all the 'English-speaking world accepted spontaneously Kipling's poetical observation that 'East is East and West is West and never the twain shall meet,'*

- Cite RBF Address to MENSA International, Chicago, IL., 22 Jun'74

East-Is-East Theme:

AAUW Journal, p.177, iy '65

OPEJUTING MANUAL for Spaceship Earth, p.107, 1969

"Wichita is not Hollywood or New York, but there is Ofc an east-to-west trend with the first cassette production, Lear, Beech, and Cessna executive planes, etc.

"I think it is worth our at least entertaining further information from these people and X have answered accordingly.

(A propos a request from Tanner Publishing Company, inc., 3202 West 13th, Wichita, Kansas for HBF to do a script for educational cassette tapes.)

- Cite KBF note to EJA, 13 Sep*72

Eaat-to Want Trend; Eaat-WMtlnjs;

(1)

See Weat-to-Eaat: Prevailing Winds

Saat-to-weet Trend: Eaet-weetlne:

See Iceland, 7 Oct¹75

fatahlly:

See Technlogy. ^{22 J*n}'75

Eat it, Skin it, or Kilk it:

See Fe&alo, 17 Oct'72

See Metabolic Flow Feed Meals

See Life Is Not Physical, 11 Sep'73

"Man. unlike machines, always has something eccentric in his design. The Sperry gyrocompass in employing precession displays an eccentricity characteristic of humans."

- Cite RBF to EJA, Sarasota, FL., 7 Feb'71

. .We see in 60 separate picture frames per second as in a moving picture continuity. Each frame is a finite increment. Our brain's after image lag is so powerful that it gives a sense of absolute 'eccentricity¹ to our only subconsciously packaged 'seeing.'"*

- Citation A context at Mering Pictur. Cont<OTltT| j_{un}ife6

MMMB Eccentric-concentric :

* wave system la "radiations! (eccentric) or
gravitational (concentric.)"

- Cite Synergetics Corollaries. 1971

See Radiation-gravitation

So* Dimensionality, (1)

Prine Dichotoaoy, (2)

See Eccentric-concentric Off-center Effects Ellipse: Elliptical Off-
»oro

See Abstraction, 24 Sep*72 Atomic Computer Complex, (2) Inter-
transforming, 1971 Moving Picture Continuity, Jun'66 Radiation,
1959

dtiF DtFINilUNs

"1 feel that Eccles and 1 are in such accord he would be very excited
about what 1 am saying, . , He must have been at that lunch where 1
spoke to the 2000 neurosurgeons, . , What Eccles says about mind in
no way contradicts what 1 have been saying: image-ination; mind as
TV station; Station

"Station W.I.M.G. • World as Ideas in the Mind of God,"

- Cite RBF to EJA, J200 Idats» DC, 7 4 Feb ' /2

See Genetic, 14 Feb*72

Metaphysical, 14 Feb*72

Nucleated Systems: Idealistic Vectorial Geometry-Of 15 Feb'72

Now, 14 Feb'72

Principle, 14 Feb*72

Subconscious, 14 Feb*72

BBF DKFDiTTIOMS

"• • • You would have to be considerate of the complex ecological balances all the time. You must not be a deliberate changer of the fundamental balance. You don't know enough about it. You must be responsible about the recirculations."

Kft TTlgpagglM (B),

- Citation and context at Trespassing; 19 Feb*73

See Design. (2) Metabolic Flow, Aug*68

Attra:

"The ecological pattern . . . a wit tree-air-Barth-wora- bird-bee-rain-vind relay ayatea ..."

- Citation in context at AltQMMUG L1T1M TatitaQlQgT FaUrt, 19 Sep'64

Ecology:

"Ecology is tensegrity geodesic spherical programming."

" 29 Dec'??*1116 SYNERGETICS galley at Sec. 1005.53

Ecology:

"Ecology is only circumferentially omni-intercoordinating..

- Citation and context at Ecology,Seouance (F), 5 Jun'73

Ecology:

"In ecology what we had thought were the side effects we now see were the main effects all the time."

- Cite EBP to EJA, Michael Denny & Arthur Morey at Belmont Stakes restaurant breakfast, NYC, 3 Apr*75

Ecology:

"Where we see the interplay of all the biological systems. *hat we have come to call ¹ ecology¹-- the watercooling of the roots, the interaction of the creatures and the flora. We have thought of this programming as linear but the results all go into the atmosphere and then come back radially as rain. So the pattern should be seen as omnidirectional."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 8 Feb»73 (Rewritten by RBF as SYNERGETICS Sec. 1005.23, 16 Feb'73)

Ecology;

"On the scale of complexity of ecology... we observe spherically orbiting relay systems of local discontinuities as one takes the pattern of regenerativity from the other to produce an omni-embracing, symmetrically Interfunctioning, synergetic order."

- Citation and context *& DNA-RNA, 16 Feb*73

Ecology:

"What is spoken of as ecology is slowly orbiting local interaction of mutual intersupport within unpremeditatedly accomplished tuning of the prime drive programming of the spontaneous fall-in-ability of the creatures within the critical proximity conditions: the sugar on the table, the naked girl on the bed."

- Cite SYNERGETICS draft at Sec. 1009.6*. 15 Feb*73

[pf

Ecology:

"Now, forty-six years since my 1927 prediction that it would do so, th* whole of humanity is becoming deeply concerned with its environment and is particularly aware of the relevance of ¹ ecology.¹ without having as yet much detailed understanding of that science. If you look

at Shelter magazine which I published between 1930 and 1932, you will find that the title of the opening chapter is 'Ecology.* At that time I also felt that the word 'architecture' tended to make humans think only of classical orders rather than solving total humanity's evolutionary shelter problems by competent and comprehensively adequate anticipatory design of tools with which humanity could cope intelligently in solving their problems to everyone progressively highest advantage and satisfaction. I then decided to rename 'architecture' and called it 'Environmental Designing. '*

- Cite RBF in Michael Ben-Eli interview, AD, Dec*72
l£oi2£Jt:

"Ecology is the science of cataloging and ordering and inspecting patterns of life and the different kinds of life demonstrate different kinds of patterns. . . There is a difference of radius of sweepout of wolves, sea gulls and man. ... In our ecological patterning if we only had the tactile to go by we could only

sweep out a fairly small territory..."

- Cite Oregon Lecture #3, p. 92. 5 Jul*62 rnrw. 8oi.d5|

HBF DEFINITIONS

"All biological life on Earth is sustained exclusively by star (Sun) radiation. The radiation is vegetation-impounded by photosynthetic chemistry, which proliferates hydrocarbon molecule a. To avoid dehydration by Sun exposure the vegetation puts down roots through which, by osmosis, it draws water through its whole system, launching that water into the atmosphere to return some day as rain.

"The vegetation gives off gases that keep the animals going. The maxunals give off the gases that keep the vegetation going. Honey bees going after their honey only inadvertently cross-pollinate the vegetation, which vegetation being rooted, could not reach other vegetation to procreate its kind. In the same way the money-bee

humans, going after their profit inadvertently crossproliferated general production tooling but only for war making, which all inadvertently in due course provided swiftly amplifying, worM-around life support not foreseen by the money bee when underwriting the development of arms production.

"I saw that all living organisms were given genetically incisive"

- Citation and context at fjlllaE, Crisis of 1927 (a) (b). 12 Jun'73

(b)



 Ecology hequMice;

"drives which, in their accomplishment, inadvertently fed into the complex regenerative pattern of life on pataewn Earth which has now come to be known integratedly as ecology.**

- Citation and context at Fuller. R.B: Criaia at 1027 (b), 12 Jun'73

"One of the discovered generalised principles is that of complementarity; wherein, for instance, inherent local systems' energy exporting is known as entropy, the law of increasing randomness, which is comprehensively balanced by syntropy, the law of increasingly orderly importing and compounding. 'Non- mirronisjage, * i.e., dissimilar complementarity, is the conservation-producing principle.

"The ways in which energy are compacting syntropically in increasingly orderly manner is demonstrated by the structure of molecules and atoms. Boltzmann's law discloses a cosmic WMM conservation system: Wherever and whenever energy is being exported it is always being imported in other 'elsewheres' and 'elsewhens.' The importings and exportings are nonsimultaneous and nonidentical, but they are evolutionarily, overlappingly sequential.

"That the energies that are everywhere exported in disorderly ways are being imported and collected in omniorderly ways is now being dramatically realized by the astrophysicists as constituting the preposterously nicknamed 'black hole,' which"

- Cite "Ko Title," (Part I), WORLD Lag. p.14, 22 Kay*73
Eg?19Kr Sequent: (B)

"is just such an energy importer* Some astrophysicists estimate Cyngus X-1, 'the black hole,' to contain as much as half of all the matter of the Universe. The only locale in the Universe of which we know considerably more about energy being collected is our own planet. The planet Earth is a place where cosmic energies in general are being compounded in orderly ways. The Sun's radiation is refracted systematically by the atmosphere into the red, orange, yellow, green, ultraviolet spectrum and by the oceans as heat. The Sun's radiation is also impounded and photosynthetically converted into beautiful molecular structures by the vegetation on the dry land and algae in the sea, all of which are exquisitely orderly and are regenerated multiplyirigly into organic growth. The biological growth increases the rate at which radiation-energy importing is converted to multiply the productions of exquisitely ordered molecular structures. The hydrocarbons are continually multiplying and historically have been buried ever more deeply in ojr Earth's crust. And we find that human beings are functioning as the most important metaphysically syntropic factors operating on our planet, as they sort out their experiences to understand and employ the principles they discover. Mo other creature has"

- Cite "No Title," (Part 1), WUKLJJ Fag. p.34-b2, 22 Fay'73
"any such local syntropic capabilities.

"In the pattern of cosmic regeneration by disorderly energy exporting and orderly importing, in which our planet is one place where we humans can witness the Sun's radiation being impounded by the vegetation; it is also manifest that the vegetation, in order to avoid dehydration while exposing its leaves to so much Sun. has to be rooted so that it can be osmotically water-cooled through its antigravitationally

valved roots and capillaries. These root-inhibited waters provide the noncompressible, load-distributing structural integrity of the trees, finally atomize those waters into the skies to be rained back again onto the regenerative ecosystem.

"Because the individual vegetation systems are rooted, they cannot reach one another to procreate. Their essential regenerative function is accomplished by the mobile biological organisms, the caterpillars, insects, and birds that inadvertently cross-pollinate the vegetation. Each mobile organism is programmed to seek its special regenerative energy chemistries. The honeybee is programmed to go after its honey, while its humble tail, unbeknownst to the"

- Cite "No Title," (Part 1), V/UKLD lag. p.t>2, 22 toy'73

"bee, is designed to inadvertently knock off and transport pollen with which to cross-pollinate the vegetation. Every one of the biological species has been so programmed. The tree is programmed to put its roots into the ground and to bud out and unfold its leaves. Every one of the biologicals are programmed to inadvertently complement one another. The trees have no idea they are giving off the precise gases necessary to keep marjinals alive; the mammals have no idea they are taking in those tree-discarded gases and that they are giving off the vital gas necessary to keep the trees alive. The whole ecological inter-regeneration is genetically, physiologically, and subconsciously programmed."

- Cite "No Title," (Part 1), WORLD Mag. p.b2, 22 May'73

^E991°KY SggMffnCQ! (E)

"Schematically, ecology 18 planetary encircling. The pine-tree and palm-tree belts encircle the Earth as the world-around winds interact with other ecological mechanisms. Each of the creatures is programmed linearly to seek targets. Each of the biologicals is reflexed

powerfully by gravity. All except humans are equipped to excel in special local environments. However, the whole terrestrial ecological system is only omniscircumferentially successful. Only the whole big system works. Like all well-designed, complexly intercomplementary, evolutionary systems, the self-regenerating terrestrial ecology has a plurality of alternate circuits, i.e., of failsafe mechanisms with a plurality of newly developing alternates and an equal number of progressively phasing-out components. Of all the biologicals, only humans are able consciously to discover this omniregenerative patterning in pure principle.

/~See Radiation-Gravitation Sequence (1) *J*

"Gradually humanity as a whole is beginning to realize that it is not just a matter of idealistic 'unselfishness' but a synergetic effect of all the great generalized principles governing"

- Cite "No Title," (Part II), rFORLD Nag., p.39, 5 Jun*73
fcfPIQKY SquenCO: (F)

"the Universe that the Universe and its evolving transformations are cooperative only in 90 degrees, or orbitally interlinking, directions; that is. circumferentially. 'I go for my own honey' is linear, specialized, disintegrative. Ideologies, sovereign states, corporations, bureaucracies, bureaucrats--- all are linearly programmed, biased, and competitive." "Humans, born helpless and ignorant, were programmed to take on food, to get hungry so that they would spontaneously (subconsciously) regenerate metabolically. In the cosmic design of self-regeneration, incandescence subsides exportingly to gases, then to liquidity, which in turn subsides to crystalline. The rocks are thus regenerated. Stones do not have to regenerate metabolically; therefore they do not become hungry. But humans

become hungry because they use a lot of energy. Humans were forced to find out what works and what does not work. Trial and error always produces inadvertent (i.e., sideways), oblique results. But now humanity is learning about ecology, which is only circumferentially omni-intercoordinating. All principles are omniembracing, omni-permeative, omni-synergetic. There are"

- Cite "No Title," (Part 11), 'JORLD Hag., p.39, 5 Jun'73

"only side effects! The propeller turns sideways to net forward motion. Humanity can only survive by complete regard for all of humanity. Humans are beginning to learn, 'No other, no me.'

"Great historical leaders have always hoped that we may be trending from 'might makes right' to 'right makes might' dominance, which means from a rooted, programmed creature, a 'specialist'--- just going after its own honey and stinging others who interfere with its program--- to an ecologically cognizant, spontaneously synergetic, omni-integration of cosmic functioning. I'any programmed plants have thorns and thistles; if you try to interfere with them, you get scratched or barbed. Humanity has acted as it has until now because it always has been, and is as yet, ignorant. Now, however, young humanity is gradually learning enough of the great principles to realize that we are not going to survive unless we become spherically integrated and go into cosmically normal, individual orbiting, which is always inherently considerate of the rest of the Universe. Knowledge is orbital. Earth is a very small item in a vast integral system."

- Cite "No Title," (Part II), JORLD Mag., p.40, 5 Jun'73

"There is now visible a precessing of humanity from being a dominantly hungry, sex-urged, programmed, special-function slave to a well informed, thoughtful, cosmically considerate being. Yesterday, only the pharaoh was informed; later, only the pharaoh and the nobles;

later still, only the king, nobles, and wealthy middle class were in on the information. Now, all of humanity is being illuminatingly informed and is discovering principles and beginning to realize that it must operate strictly on principles and not yield to the temptation just to go after its honey.

"The child in the womb is linearly connected to the mother by the umbilical cord. Exiting from the womb, the child graduates from the umbilical, linear dependency and goes into individual orbit. The umbilical cord becomes obsolete. There was nothing wrong with it. It was vital. But now it is obsolete, in the same vital-to-obsolete, 180-to-90-degree way 'money making' and its unilateral self-advantage-seeking competition have become obsolete. All the residual drives of humanity's moneymaking derives from ecologically programmed honey-seeking. It was always perfectly logical. That was the way we were first"

- Cite "No Title," (Part 11), WORLD F*ag., p.40, 5 Jun»73

"programmed. ⁸¹¹¹ when w* kno" otherwise, i.e., 90 versus 180 degrees, It is all obsolete. Humans released from the programmed, pre-conditioned-reflex paralysis are beginning to think spontaneously about the whole, and about how to make all of our world work for everyone. It is feasible."

- Cite "No Title," (Part II), WORLD Jig, p.40, 5 Jun>73

E9919CT Sequence

(D

"Here we see the interplay of all the biological systems wherein all the 'life' accommodating organisms of Earth's biosphere are exclusively regenerated by energy sent to Earth by radio from the energy-broadcasting stars, but most importantly from the star Sun. by which design-science system the terrestrial vegetation and algae are the only energy radio receiving sets.

"You and I and all the other mammals cannot convert the Sun energy to direct life support. In the initial energy impound-ment of the powerful Sun energy radiation's exposure of its *leaves and photosynthesis, the vegetation would be swiftly dehydrated were it not watercooled. This is accomplished by the vegetation putting its roots into the ground and drawing the water by osmosis from the ground and throughout its whole system, finally to atomize it and send it into the atmosphere again to rain down upon the land and become available once more at the roots.

- Cite SYNERGETICS draft at Secs. 1005.21+22, 16 Feb*73

"Because the rooted vegetation cannot get from one place to another to procreate, all the insects, birds, and other creatures are given drives to cross-circulate amongst the vegetation as, for instance, does the bee go after the honey while inadvertently cross-pollinating and interfertilizing the vegetation. And all the mammals take on all the gases given off by the vegetation and convert it back to the gases essential for the vegetation. All this complex recirculatory system combined with and utterly dependent upon all the waters, rocks, soils, air, winds, Sun's radiation, and Earth's gravitational pull are what we have come to call ecology.

"As specialists we have thought of all this design programing separately and as linear drives, but the results are multi-orbitally regenerative and embrace the whole planet as does the wind blow the seeds completely around the Earth.

"Seen in their sky-returning functioning as recirculators of water, the ecological patterning of the trees is very much like a slow-motion tornado: an evolving-involuting pattern"

- Cite SYL.EHGhTICS, Secs. 1005.23+24, 16 Feb*73

HBF DEFINITIONS

"fountaining into the sky, reaching outwardly, downwardly, and inwardly again once more to recirculate and once more again--- like the pattern of atomic bombs or electromagnetic lines of force. The magnetic field relate to this polarization as visually witnessed in the Aurora Borealis."

- Cite SYNERGETICS draft Sec. 1005.25, 16 Feb'73

See Biosphere

Epigenetic Landscape

Epigenetic*

Fuller, RB: Ecological Predictions of 1927 Human Ecology Transformations

Omniecology

Radiation Sequence

Sweepout

Interecological

Regenerative Intersupport

Only the Whole Big System Works Conservation

Pollution: Pollution Control

See Berry Picking, (3)

Design, (2) Design Science, Dec*72; 13 Mar*73 Design Science for
 World Game, (B) DNA-RNA, 16 Feb'73* Dwelling Service Industry, (5)
 Environment Controls, (1) Metabolic Flow. Autumn'68 Trespassing,
 (2) Orbital Escape from Critical Proximity, (1) Doing What Needs to
 be Done, (A) Universe via Technology, (2)

Economical:

See Equieconomical Geodesic Least- Effort Minimus! Effort Most Eco-
 nomical Omnieconomic

karmic AccMUax grater

"All society must become totally conversant with total energy ac-
 counting in short order if we are to pass through the crisis and
 flourish upon our planet. If we do succeed it will be because,
 since the other plenary events, humans have come
 to recognise that the canon wealth equating accounting must be
 one which locks fundamental and central energy incrementations--
 such as kilowatt hours--- to human physical energy work capability
 and its augmentation by the mind comprehending employability
 of generalized principles of Universe, as these may be realistically
 appraised in the terms of increasing numbers of days for increasing
 numbers of lives we are thus far technically organized to cope with,
 while accommodating increasing hours and distances of increasing
 freedoms for increasing numbers of human beings All of this funda-
 mental data can be introduced into world * * computer memories
 which can approximately instantly enlighten world humanity on its
 increasingly more effective options of evolutionary cooperation and
 fundamentally spontaneous social commitment." "

- Cite SYNERGETICS at Footnote to Sec 826.03, Sepp»72
 .Esgwmjg AfMUnUnfi SygtOT):

"But this cosmically permitted Rearrangement of our planet's Environmental furniture of chemical elements Was erroneously assessed and costed by America As constituting a vast national Indebtedness And entering only negatively Into the ledgers

Of the ignorantly perpetuated

Exclusively depreciative agricultural accounting system. This historically honored financial system Had been appropriate only To the inherently perishable Short-term energy conservations

And ecological energy exchanging of bio-organics Accomplished exclusively by photosynthetic impoundment, On planet Earth, of Sun and star radiation.

Agricultural economics accounts only The strictly physical, short-term realizabilities.

- Cite RBF rewrite of BRAIN & MIND at p.72, July'72

Economic Accounting System: (B)

"Agricultural metabolics differ from industrial metabolics Which deal BBIBB exclusively with the eternal metaphysical principles Impersonally governing the external, detached processes Of the inherently imperishable, forever regenerative. Physical energy intertransformings of cosmic evolution Whose inexhaustible inventory of unique capabilities Human minds may employ to produce Progressively amplifying human life support With ever less units of time, weight, and effort Per each accomplished function.

"This metaphysical experience always and only Multiplies irreversibly As human 'know-how;' whereby for instance, The telephone invention and its ever evolving technology First conceived of and realized

The transmission of only one conversation

Over a given cross-section Of imperishable copper wire; Whereafter
in seventy-five years of development"

Cite RBF rewrite of BRAIN &. KIND at. p.72, July'72

"Mind learned progressively how to conduct Increasing numbers of
privately isolated Overlappingly transmitted, individual conversations
Over She same cross section of a single wire;

First accomplishing two, then twelve, Then twenty eight, followed
successively Within a few years by ever multiplying steps Of two
hundred and two thousand conversations Over the same original
cross section of wire And then went wireless!

After which the distance range

Of transmittability

And fidelity of sound were amplified

Until the 1972 completion

Of a world-girdling set of fixedly oriented Communications satellites

Which provide world-around, high fidelity, Twenty-four thousand
mile, telephonic communications Wherein each one-quarter ton
satellite

Is outperforming the transmitting and fidelity capabilities Of one hun-
dred and seventy thousand tons"

- Cite RBF rewrite of BRAIN & KIND a-fr. p.72, July'72

"Of transoceanic bottom laid, copper cables.

The self regenerative electronics know-how

Continually remelted and reworked World War One's

Limited North American and European copper inventory

Of the world telephone industry

To accomplish the omniplanetary interlinkage of all

humanli

while all the time reducing
The total tonnage of copper involved in 1918.
Despite such evidence
Of irreversible vantage gain
For ever successive reinvestment
Of the concomitant service know-how increase
Regarding the ninety-two regenerative chemical elements'
Infinite reworkability.
The reinvestments are financially capitalized
Only as interest-bearing debts and earning obligations.
Initially funded only by cold war's 'emergency* enactments,
This misaccounting is perpetuated
Through politically maneuvered misinterpretation
As constituting only colossal monetary war 'expenditures'"
- Cite RBF rewrite of BRAIN & MIND at p.72, July'72
Economic Accounting System: (B)

"Whereas the only true war 'expenditures' have been Of hours of human life

Or of human lives themselves.

**Those human life expenditures over-prepaid all costs for all times---
Billionsfold.**

The only indebtedness
Is of human gratitude
To all humans of all times.
Thus all of humanity's common wealth—
Its real wealth— is its
Established production and distribution capabilities

As on-going life supports
Both metaphysical and physical
Which have been forever amplified
And will be ever more so— forever.”

- Cite RBF rewrite of BRAIN & KINL p.72, July'72

"Conyerssion of World Accounting System: The world accounting system must be converted from annual agricultural metabolism to an eternal world-around accounting which includes all generations to come, and which is consistent with the cosmic economics of an eternally regenerative physical universal system. The accounting system would include a redefinition of wealth with the scarcity model of economics to be made obsolete by the magnitude of man's participation in the irreversible amplification of the inventory of information: i.e., know-how. This eliminates economic competition.

"As a by-product of the new accounting system, competition for the monopoly of affection may also be surrendered along with the onerousness of ownership.

"We must advance from an inherently depreciative to an inherently appreciative commonwealth.

"The Universe is not operating on a basis in which the Sun opines ignorantly that it can no longer afford to let Earth have the energy to keep life going because it hasn't paid its last bill: 'We Stars have got to make a profit!'"

- Cite WORLD-AROUND PROBLEM THAT HAVE TO BE SOLVED, Etc. 29
Jun'72

"Omnisuccess has now become technically feasible but is frustrated by humanity's clinging ignorantly to the inherently shortsighted one-year accounting system which was suitable only to yesterday's life support which was entirely dependent upon 'this year's' perishable

crop of Sun energy which was then exclusively impounded by land-borne vegetation and water-borne algae. . . No longer is it valid to say, 'We can't afford to spend. . . Now we are throwing the switch to connect humanity into the Universe's eternally self-regenerative system. ... Designing the new accounting system is the task of the Comprehensive Anticipatory Design Scientist. The new economic accounting system must make it eminently clear that whatever we need to do, that we know how to do, we can afford to do."

*s "Design for the

- Cite RBF introduction to Victor Papanek, Real World." Draft dated 18 Feb'?1

Economic Accounting System: (1)

"We will adopt new accountancy standards for all wealth. To account our success in terms of gold and various traditional banking practices is irrelevant. Real wealth is organised capability. One of its major characteristics is that it is irreversible. No matter how much wealth you have, you cannot change one iota of yesterday. Wealth can only be used now and in the future. What we really mean by wealth is how many days forward we have energy available and organised for work to keep the machines running, to keep the foods growing, the refrigeration, transportation, and so on. The basis for our new accounting system will be 'How many □□ forward days of organized capability do we have available to serve how many men.¹ We will be able to make the working assumption that it is normal for him to move as freely as he wishes without interfering with any other man. Our overall accounting assumption will be based on whatever amount of organized energy capability is required so as to make it possible for any man

to travel around and enjoy the whole Earth, and be completely supported in doing so. There will be no such thing as deficit accounting. You cannot eat deficitly, or drink water deficitly. What is to eat is there--- as the water is there.

- Citation and context at Population Sequence (7)(8), Feb*67
gfiQBQsic Accounting Svnt*|; (2)

•All such negative accounting procedures went along with the need for exploiting others in the 'you or «*e* phase of nan'e past struggle for basic survival."

- Citation and context at Population Sequence (8), Feb*67

^WI am confident that nan through further invention is on hia ever swifter way to becoming a metabolic and physical success in Universe. But, it is also obvious to me that almost the whole of the economic accounting systems now employed by men are utterly irrelevant to the present com* prehensively regenerative wealth augmentation and are therefore obsolete and worthless. It is also obvious that we need a universal accounting system adequate and appropriate to lucidate and guide man's emergence into total metabolic success and mutually non-selfinterfering freedoms of individual initiative and development.**

- Cite RBF Ltr. to D.W. Robertson, 24 Feb '65, p. 8.

Accelerating invisibly

The changing mood of youth

Will between 1972 qnd 1975

Throw off all sovereign protectionism Either local or continental.

A swiftly multiplying world man
Will come into majority control
Of social economics by 1975
And will have converted his economic accounting system
From the annual profit and failure system

To an exclusively successful, Planetary industrial system, Based on
human life-hour production As augmented by mind evolved know-
how. This transition will account Yesterday's so-called 'unemploy-
ment'

As constituting historically-won freedom to think

And will be formally supported By universal research fellowships With
which to develop

Humanity's wealth-evolving metaphysical faculties."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH,
Jan '72. Pp 19-20.

"This revolution will be accomplished Unexpectedly, invisibly, emer-
gently Manifest by a swift set Of political inadvertencies, Expedien-
cies, compromises, and detente.

"Through emergency after emergency will emerge Utterly unprece-
dented adjustments

Which will seem so logical to all the world As to seem quite natural
Ergo, permitting utter change Which seems like no change at all. Thus
avoiding all opposition

This will free automation to start regenerating wealth At an exponen-
tial growth rate On an around-the-clock Around-the-world basis

Employing the already extant Invisible technology and Know-how."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH,
Han '72, pp. 20-21. *

"The human advantage is both* physical and metaphysical, As ever-increasing proportions of all Earthians Become involved in the processes Of massive production and distribution Of both the necessities and desirables Which implement humanity's regenerative evolution requirements. And the degrees of increasing advantage Are expressible in precise scientific terms Of the number of centimeters, grams and seconds of work Humanity is able to accomplish Out of each hour of investment

Of each and all of its individuals' Potential lifetime hours.

Energies, materials and know-how,"

- Cite BHAIN *tL* MIND, p.93 May »72

EgffimBl.; Hunan Lira-hour Production;

See Radom* Sequence, (C)

Egenamlc Accounting

(D

See Afford

Agricultural Accounting System Appreciative vs. Depreciative
Coanonwealth Deficit Accounting Depreciation Earning A Living
Energy Slave Fiscal Year Gross World Product Sequence Industrial
vs. Agricultural Accounting Inflation Life-hour Production Political
Revolution Scarcity Wealth

See Industrialisation, 1 Aug'72; (2J Meek Have Inherited the Earth,
10 Oct*63 Pollution, Oct'70 Pollution Control, (?) Population Sequence.
(7)(B)* Radome Sequence. (B)(C) Savings, 13 Mar'73 Selene
e-Technology-Industry-Econotnics-Politics

Sequence, (3)

Transnationalism vs. Colonialism. (4)»(6) W«alth, 8 D.c'75 Building Industry, (11)

Economic Ermreaa SrmtaW

See Housing, 13 Nov*69

EconomicB:

What economic systems would derive from design science?

Q:

RBF:

"Economic systems are all push and pull. You have to use gold because no one trusts anyone else. The Russians* Five-year Plan might have approached it, but only if it had been for the whole world."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb*75

Economics:

Q.: Are you saying in your world strategy that we

* can get along without politics and economics?

RBF: "No. You can't do world game without economics.

The word economics means the management of the house--- environment controls; the internal and external metabolics. Economics simply means the external metabolics. It is not a matter of just cows or coins for money. We must deal with the full patterns of energies and not just money. That's the way the Universe works; energy and motion. Economics are essential, but not in exclusively dollar terms."

- Cite RBF in videotaping session, Philadelphia, PA., 1 Feb'75

EpnnnirRi

"It is notable that the hard sciences and mathematics have discovered over experimentally-verifiable generalisations. But the social scientists and the behaviorists have not discovered anywhere-everywhere, experimentally-verifiable generalizations. Only economics cannot be regarded as other than special-case: that of the utterly uninhibited viewpoint of the individual. Nature's own simplest instructional trick in its economic programming is to give us something we call 'hunger' so that we will eat. take in regenerative energy. Arbitrarily contrived 'scarcity' is the only kind of behavioral valving that the economists understand. There is no other way the economists know how to cope. Selfishness is a drive so that we'll be sure to regenerate. It has nothing to do with morals These are organic chemical compounds at work. Stones do not have hunger."

(This is an amplification of Economics. 16 Feb*73.)

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1005.61, 29 Dec*73

HBF DEFINITIONS

Economica:

"Economics does not think in technological terms; certainly not in terms of doing more with less. It always resorts to artificial scarcity restraints. Economics has no throttle, only brakes."

- Cite HBF to Yale students, New Haven, 9 Dec*73; as rewritten by RBF, 3200 Idaho, 13 Dec'73

Economics:

"Economics does not think in technological terms; certainly not in terms of doing more with less."

- Cite BBF to Yale student*, New Haven, 9 Dec¹73

Economics:

"Economics is interaction— a complex, rather than a simplex

- Cite RBF to Yale students at Berkely College breakfast. New Haven, 10 Dec'73

Economica:

"It is notable that the hard sciences, even mathematics, have the generalizations. But the social scientists, the behaviorists, have just the exceptions and not the generalizations. Only synergetics permits economics to be regarded as other than special case: the utterly inhibited viewpoint of the individual. Nature's own simplest trick in programming is to starve us so that we will eat. That is the only kind of valving that the economists understand. There is no way the economists can learn how to cope. Selfishness is a drive so that we'll be sure to regenerate. It has nothing to do with morals. These are highly polarized chemical compounds at work. Stones do not have hunger."

(RBF amplified above in Economics. 29 Dec*73.)

- SYNERGETICS draft at Sec. 1005.62, 16 Feb'73

Economics:

"All economics is committed to the fundamental formula of scarcity---even to the point where it may be necessary to invent scarcity."

- Cite RBF to Henry Liberman, NT Times, 22 Jun'72

KBF DEFINITIONS

Economics:

"Science paces technology, technology paces industry, industry paces economics. and economics paces politics. Quite clearly, then, political leaders are at the tail end of affairs."

- Cite RBF quoted by Michael S. Gruen, Harvard Crimson story on Charles Eliot Norton Lectures, January 1962.

Economics:

"Technology paces industry ... Industry in turn paces economics. . . Economics in turn paces the everyday evolution acceleration of man's affairs."

- Cite NO buRr. StCuhjHANO GUJ, Preface. P. ix. 1?60

Economics:

**We mist think of our whale economics in terns of a preventive pathology instead of a curative pathology."

- Cite: Wichita summary for Christopher Morley, 1946
- Cltgon A context at Pathology: Preventive vs. Curative. (1)

See Charts: Economics Charts Gross World Product Sequence
Inflation Individual Economic Initiative Money Monopoly Scarcity:
Economy of Scarcity Selenee-Technology-Industry-Economics-
Politics Sequence

Social Sciences Time-energy Economics Uneconomic Prediction:
Socio-economic vs* Engineering No Absolute Debt Wealth

Motion Economics

Social Economics Standard of Living Regenerative Economic Suste-
nance

See Design Science k World Game (B) Inhibit, 9 Apr'40 Politics. 4
Jan'70 Tensional Integrity. 1970 Weapons Technology (1) Export-
import Centers, 20 May*75 Pathology: Preventive vs. Curative, (1)*
Structure, 8 Sep'75 Culture, 2? Jan'77

Esgnofflat*

"As specialists, economists are only concerned with awning their political leader, and the economist workd entirely on the assumption of scarcity. When things get out of hand... he tries to make it scarce ain by cutting down the production because that's the only model he has.**

- Cite RBF in Edward Newman TV Interview, transcript p.27_t Feb»73

Economists:

"Economists exist economically only as they are of apparent value to finance and industrial management. They know nothing of industrial technology invention logistics."

- Cite IORTI LTR. draft, p. 3, 1 Apr '71

"...The econoaists and Boat of the other netaphvsicists failed to understand the full significance of the new physics and went on thinking in classic concepts of instant Universe and its aeeningly inherent self-annihilation. They as yet abhor 'spending*' because ignorant of the new physics."

- Citation and context at Metaphysics. Jun*66

RconoBdst-poet:

See Artlet-ecientiet, May'60

EggayatM!

See Ecology Sequence, (C)

Eddlnrtgn.*a. Prwf ***IrrirrnMlivr***

See Wow: The Last Wow, 22 Apr¹71

Eddington. Sir Arthur;

342

How Little I Know, Oct'66, p,65

MdlrntQD: Sir Arthur (1882-1944)

See Physics, Jun*66

Science, Oct*66; 12 May'39

BBF DEFINITIONS

Mu:

"Synergetic topology • • • identifies strata with edges.*

- Citation and context at Topology: Synergetic Topology. 28 Oct*72

**"Edges and vertexes do not cone out as the same number systems---
you can describe the world both ways and not be redundant."**

- Citation and context <t Description, 25 Aug*71

rrrj>

lyy ta?t-

"Strutted trusses are high-tide aspects of edges . . . *

- Citation & context at Tidal. 31 May'71

- pits iimsi, oniiii(i r

RBF DEFINITIONS

Edeei "The number of edges is always divisible by six in structural system."

- Cite P. Pearce, Inventory of Concepts, Jun*67

Edges - Central Angle:

See T Module, 21 Jun'77

I Edge vs. Radius;

"The new edge of the star tetrahedron may be the same as the reduced radius of the icosahedron. If it is, the star tetrahedron could be the positron, as the icosahedron seems to be the electron."

- Citation at Electron & Positron, 8 Oct* 71 — * * * " * * |,v

See Angles < Edges

Cube Edge

Edge vs. Radius

Equi-edged

Great-circle Chord Edges

High Tide Aspects of Edges

**Photon: Tetrahedron Edge as Unit Radius Radial Line as Tetra Edge
Tetra Edge Chemical Bonds: Double Bond Vertexes, Faces & Edges
Octa Edge**

See Description. 25 Aug'71*
Equiangularity. 25 Sep*72
Gibbs: Phase Rule, 1960
Invention Sequence (B)
Powering: One Dimension, 15 Oct*72
Sixe (1)
Tetrahedron, 10 Dec*73
Tidal, 31 May*71*
Topology: Synergetic Topology, 28 Oct*72*
Twoness, 1967
Vector, 16 Dec*73
Conceptuality Independent of Sixe < t Time, 2 Jun*74
Cycle, Jun'66
Rigidity vs. Resilience, 20 Dec'74
Chemical Bonds: Double Bond, 19 Dec*73
Standard, Jul'71
System, i? May'72
Structural Quanta, 9 Nov*73
Windows of Nothingness, (1)
Triangle, Nov'71
Edjteleaa;

See Prime Structural Systema, 3 Nov*75 Topology, 10 Dec*75

Eaxaon, Thomaa A., (1\$47-1931)

See Fuller. R.B: A Propos Ben Franklin. (1)(2) Invention, H»y*70

Education;

"Nothing could be more illogical than the assumption that all the kids will be interested in the same thing at the same time. The trick is to let the child get the information he wants when he wants it. Studying is something you can only do by yourself: and you should mark your own paper.

"Electronics will improve the system but in ways that are bound to be opposed by all the tenure-holders. Free satellite relay of information is inevitable."

- Cite RBF in videotaping sessions, Philadelphia, Pa., 1 Feb*75

Education:

"All education is self-education. Experiences may be apprehended but only the individual can comprehend."

- Cite RBF videotaping session Philadelphia, Pa., 20 Jan*75

Education: (i)

"Therefore in direct contradiction to present specialization, All educational processes M*

Must henceforth commence

At the most comprehensive level

Of mental preoccupation,

And that level is the one

That consists of the earnest attempt

To embrace the whole eternally regenerative phenomenon

Scenario Universe,"

"And this is what children Try to do spontaneously whenever they ask their parents Embarrassingly important Cosmological questions."

- Cite INTUITION, p.46 Fay '72

Education:

"Evolution, most powerfully operative In the metaphysical spontaneity of children, Is trying to break through

The barrier of ignorance of synergy and mystery Which as yet frustrate human understanding. Perversely the parents Tell them to forget Universe And to concentrate With A,B,C, 1, 2 and 3--- Only with parts, Which process the parents Call Elementary Education.• And reflexivill misconceive As the essential beginning Of all learning processes."

- Cite INTUITION, p.46 May »72

Education:

"...Humanity... is at present omnivictimised By a universally specialising antisynergic, Anticosmological Education Process."

- Citation and context at Synergetic Integral. May*72

Education;

"Thia forced rejectionof the European scholar®' Former depreciation of the Polynesian competence Which ia typical of the reversals In both conceptioning and logic That are taking place

In the late twentieth-century academic world.

The general education system

Has not yet formally acknowledged

The wholesale devaluation

Of their formally held

"Scholarly opinions and hypotheses,"

But that devaluation

Is indeed taking place

And is powerfully manifest

In the students' loss of □ esteem For their intellectual wares."

- Cite Numerology draft August 1971, p. 22.

Education;

"The notion that starting out with unity as one (such as Darwin's single cell) will provide simple and

reliable arithmetic compounding (such as Darwin's theory

**of evolution: going from simple to complex- amoeba- aonkey-> man)
is an illusion that pervades the elementary**

educational concept."

uni? «uinBruf₁n~m-?mwTnnmnie rtn*~r rrr.

- Citation at Darwin; Evolution Hav Be Going the Other War.

24 M»r'?1

Education:

"All those who have attained high scholarly capability assure us that real education is self-education. They also say that this self-disciplining is most often inspired by great teachers who make it seem apparent that it will be excitingly worthwhile to take the trouble to bring one's self to apprehend and then comprehend variously pertinent data, phenomena and derived principles. The intimate manuscript records of many great self-educated individuals show that they discern intuitively when and what it is that they want to learn. Thereafter they arrange to do so by four main strategies. The first is by selfconducted experiments, if they are scientists. The second is by going to those live humans whit have educated themselves from direct experiences. The third is to contact through books those who have discovered and learned by direct experience but are now dead. Fourthly, they sometimes have recourse to the esoteric and often exquisitely valuable information contained within the word of mouth information system relayed almost exclusively from generation to generation by the directly experienced craftsmen artists."

- Cite Preamble and Memo to Those Inquiring AboutWorld Game, P* ¹ • November 1970

aBF JhFIhTIOSS

Education:

"The child has everything it needs educationally Right from birth.

afe have thought erroneously of education

As the mature wisdom

And overbrimming knowledge of the grown-ups

Injected by the discipline pump

Into the otherwise 'empty' child's head"

**"If we design the environment properly It will permit child and rnn to
develop safely And to behave logically."**

- Cite HOrf LITTLE, pp. 70-71. Oct»66

R3F D-FIKITIOKS

Educatjgp: (A)

"The problem of education is not a matter of ignorant grown-ups insinuating information into childrens' heads. It is a matter of the older Ones' learning about their universe and learning how to modify the environment in order to permit life tow operate and articulate the innate capabilities which apparently are far greater than man. as yet, has been permitted to realize. The innate cerebral and metaphysical eapabilities have been frustrated by negative factors of the environment. Not the least of the frustrating factors of environment are the people in it who surround every individual.

"ivery child is born a genius but is quickly degeniused either by unwittting humans or by physically unfavorable factors of the environment. The bright ones are those who are less danaged than the others, 'here are those who have spe ial inbred aptitiudes and those' more crossbred who are more comprehensively coordinatedd.

~~_____~~

- Cite NASA Speech, pp.18-19, Jun'66

HBF UEFIMTAUhS

Education:

"... The errors and inadequacies of our long established educational system were devised originally under the inspiration, patronage and strict board of directors supervision of the old pirates, brilliantly conceived to provide the pirates with the exclusive exploitation capabilities in respect to all Intellectual * discoveries."

Cite NASA Speech, p. 90. Jun'66

Education:

"We are also going to give you a 1 and 2 and 3. We give you what we call an elementary education that is to say consisting of elementary 'bits and pieces' of education. You can forget the universe. . . . With enough elements you may be able to build up a body of knowledge, but it will always be a small body and a poor exchange for the fascinating and progressively coordinated apprehension and comprehension of universe which you as a child had always been spontaneously prone to deal and reason with before we caught sight of your natural brilliance and snared you in our education trap."

"I propose that we now start our education exactly the other way. Let us return to the universe as our starting point in all problem consideration. We assiduously avoid all the imposed disciplines of progressive specialization. We depend entirely upon our innate facilities, the most important of which is our intuition and test our progressive intuitions with experiments."

- Cite NASA Speech, p. 90. Jun'66

Mugfign:

"The politicians did not realise that the education at the masters-- the 1/1000th of one percent of humanity who were physically and economically successful in the last half dozen millennia--- was one of private tutorial and self development of the comprehensively coordinating and integrating capabilities with which life is endowed."

- Cite NASA Speech, p. 20. Jun'66

Education:

"... Our educational process has been one of going from parts plus more parts towards the whole, but never reaching the whole, in contradistinction to the strategy that I have employed, working from the whole towards the parts. It is a complete reversing of processes--- not just a reversing of processes, but a different process. It has capabilities that were not inherent in the first system ... so that the elementary system of education to which everybody has been exposed just does not have inherent in it the ability to make the predictions that I am able to make from a strategy of dealing with the whole and then separating the whole into the parts."

- Cite Oregon Lecture #2, p. 37, 1 Jul'62

Education:

"Fan's desynergized conviction is that education and mathematical argument should start with simplest elements and a concentrated diet of these elements, unembarrassed by the necessity to identify them in the total scheme of experience. This conviction is so universal and so interwoven with man's notion that his routines with dealing with the young constitute a gratuity from the old to the young that I feel an urgency to reorient those who chance to read our book in such a manner that it becomes logical to readopt and rehabilitate the synergetic comprehension advantage of the child. It is logical

to start with universe and to discover therein a set of sublimely rational relationships whose omni-accommodative transformations and transactions are facile because the total accounting is never lost sight of."

- Cite kul Ltr. to Gene Fowler, 6 March 1960.

Education;

"Education, in the sense of nan's being 'educante' (led out from) the monological fixations of ignorance, involves also being led into, 'introducente,* (introduced to) the new awareness of the dynamic fluidity of the infinite persistence of complex-yet-systematic interconnection of universal principles."

- Cite TOTAL THINKING, I&I, p. 231, May'49

See Video Cassette: Videocassetted Documentaries "Life, as born, is inherently comprehensive in its apprehending, comprehending, and coordinating capabilities. Every child is interested in the Universe. His questions are universal. Development of specialisation has been either a forced training affair or is a product of inbred talent-- as two musician parents tend to produce musical aptitude children.

• Specialisation, as a consequence of education or craft training, was invented by the great pirates."

- Cite NASA Speech, pp.18-19, Jun*66

See Montessori System, 1928

Education, 1 Feb*75

Education; famMIM.Wrcj* tllft firing Afff

"We've got enormous chasms here on Earth, like the Grand Canyon, You come to the brink and you can't cross it. Then suddenly you've got a beautiful bridge. You don't have to persuade people to cross it. They want to get to the other side, so everybody uses the bridge. When we're properly educated, we'll know where the bridges are, and we'll know the fortunate consequences of crossing them," ... "Universities ought to be like that Grand Canyon bridge. .

- Cite RBF in tape interview with Barry Farrel for PLAYBOY, but above passage omitted from final text on p. 70. + p. 196.

Oct»?1

EducatXon Revolution: d)

'Education Revolution: The Highest Priority of All: An education revolution based on synergy, which means behavior of whole systems unpredicted by behavior of any of its parts taken separately, requires the reversal of our present system of compartmentation of knowledge and of going from the particular to the ever more special,

"rfe must commence education with the inventory of all known, i.e., all as-yet-discovered, generalized principles and proceed from that whole to the realization of the special cases. This calls for the elimination of all specialization, with generalists in limited-period plunges-in-depth to special case studies and applications of the omni-interacco- mmodative generalized principles. Plunges in depth involve unique sub-complexes of the whole. These generate the applied sciences.

"The education revolution requires the elimination of all academic tenure.

"Learning is to be accomplished by use of cassette-tape type video documentation with the individual child learning to*

- Cite JORLD-AROUND PROBLU«S THAT HAVE TO BE SOLVED BY BLOOD-LESS,ETC

"find the most competent answers to the child's own questions. It is programmed by the child who spontaneously presses the obvious symbol buttons: Why is the sky blue?"

Cite WORLD**ROUND PROBLEMS THAT HAVE TO BE SOLVED BI BLOODLESS DESIGN SCIENCE REVOLUTION, 29 June 1972.

Education Revolution?

See Self-educatIon, 1974

Educational ThwriM?

See Robin Hood Sequence (1)

Education: Evolutionary Touchdowns:

"What society applauds as 'creative' has been isolated out of an extraordinary set of coequal evolutionary events, most of which are invisible. Evolutionary 'touchdowns' are unpredictable, sometimes centuries apart. Who knows which child is to make the breakthrough? In the next decade society is going to be preoccupied with the child, because through the behavioral sciences and electrical exploration of brain functioning we find that, given the right environment and answers to its questions, the child has everything it needs educationally right from birth. Je have thought of education as the mature wisdom and overbrimming knowledge of the grownups injected by the discipline punwp into the otherwise 'empty' child's head."

* Cite RBF in AAUW Journal, p. 174, hay '65

Evolutionary Touchdowns:

See Organic Model: Biological World aa Model for Society.

Oct'66 "

Education: Trained kind:

"... Inasmuch as the great reality is all invisible, the only way man is able to treat with it is by the trained mind. ... The number of young people in the States in 1929 who were completing high school was negligible. We got through grammar school, but completing high school was a very, very low percentage. That is one of the curves that accelerated the ` `ost, going on and completing high school, going through college, then getting into masters and doctors, getting to be a mass production affair of doctors. So this all has to do with the fact that man, in order to be able to cope with reality, simply has to have that kind of a trained mind.

So nothing is more essential to our revolution right now than the trained mind.'*

- Cite RBF1 Address, The, HABITABLE CITY, U Oct. *69.

Education:

»* Oregon Lecture #1, pp. 25-29 34, 1 Jul'62

"3 =268.05

151

229.02-229.03

(1A)

See Degenlue

Learning

Montessori System

More & More about Less & Less Museum

Old Life Informing the New Physical Education Research fellowships

Self-discipline Self-education

Schoolroom

Spontaneous Education

Study

Teaching

Tenure

Television: Third Parent University

Natural Education

(IB)

See Unlearning

Yesterday's Textbooks Design Science: Education For

(2)

See Darwin: Evolution May Be Going the Other Way, 24 Mar'71*

Force Lines: Omnidirectional Lines of Force (2) Leaders: Take Away
the Leaders, 1967 Self-discipline, 13 Nov'69 Synergetic Integral
May'72 World Game. 15 Jun'74 Culture, 1 Feb*75 Sensitivity of the
Artist-scientists, Apr*77

Effect:

See Cause

Doppler Effect

Intereffects

Intersystem Effects

Sailing Ship Effects

Side Effects

Steering Effect

Precession of Side Effects & Primary Effects

Primary vs. Side Effects

Sunburst Effect

Efficiency;

Efficiency means the ratio of the amount of work you're getting out of a machine compared to the energy you're putting into the machine."

- Cite RBF at Penn Bell videotaping session. Philadelphia

22 Jan'75

Eftltippcj, gf Etainja:

See Connie Accounting Sequence, 14)(5)

Efficiency:

See Kost Economical

Beautiful □ Most Efficient

See Geometry of Vectors, 15 Jun*74

Mass Production: Inadvertence Of, May¹72 Tensional Integrity, 1970

See Center of Effort Least Effort Kininaua Effort

EPM;

See Experimentally Founded Mathematic® Synergetics

I 4HIMB E«*a?

"it is no aesthetic accident that nature encased our brains and regenerative organics in compoundly curvilinear strictures--- there are no cubical heads, eggs, nuts or planets."

- Citation at Curvature: Compound, 22 Sep'71

Egg Embryo: Homogenised & Returned to Shell:

See Enzymes, 24 Sep*72 Evolution, 15 May'75

Hard-boiled Ere:

See Promote: I Don't Promote, 2 Jun*74

See Hen laying Eggs

See Divide & Conquer Sequence, (F)

Tenure, 28 Jun'72

Technology: Enchantment va. Disenchantment, (3)

Eggshell:

wrfe are just about to step out from amongst the pieces of our just-one-second-ago-broken eggshell.^{1*}

- Cite RBF to Cam Smith in RBF TO CHILDREN OF EARTH, Dec*72

See Bird*8 Nest as a Tool

(1)

Chick Breaking Out of its Egg

Hen Ovational Shell Ratio

Vessel

(2)

See Curvature: Compound. 22 Sep*71* Female. >iay'65 Young World, 15 Sep*71

Egos

"The way I learned to do my own thinking ia to learn how quickly I could get rid of the conditioned reflex that I knew what It was all about. There have been so many billions of people, they had to make quadrillions times quadrillions of mistakes. In fact they've had to

make so many mistakes that they've become discoured, they've developed such an inferiority complex over the mistake-making that nature has provided a vanity and ego to cover them up. If you really want to get anywhere, you've got to conquer your ego and pride and really admit your mistakes to find out what's going on."

"I really don't feel that society knows what's going on. They don't really know what they're doing when they make a baby the first time. The child doesn't know it's being born. Through that ego business, we kid ourselves into thinking the whole Universe is waiting for our decisions. We know now that there are a billion galaxies and our Sun is only one of 100 billion stars in our own galaxy. Obviously the Universe is not waiting to know whether the Republicans or the Democrats are going to come in."

- Cite RBF to Kathryn Elliott, Wash. Star-News; 9 Nov'75

Ego:

"Human egos are multiconcentric frequency 'halo' systems.

- Citation & context at Duality of Universe, May*49

Ego Dropout:

See Local vs. Comprehensive (1)

Egft: SgparaUAK Egg gu gf WMitW

"The god would periodically, then, reject himself so that we might become part of the great all-knowingness again instead of being separated out as ego.*

- Citation & context at Local vs. Comprehensive (2), 30 Apr '74

*Ashsd=£sjoJ!aE&Ballis£=

See Cosmic Accounting, 20 Dec'73

Human Beings & Complex Universe, (2)

See I

Identity

Omniscience VS. Ego

Pride Self Vanity You or Ke

See Aiken, Conrad. 14 Sep*72

Odd Ball, 2? Sep'72; 10 Nov'74

Pollution, 1970

If, MBMMHi 1947

Clinate & Intellect, May'49

Duality of Universe, May*49*

Life is a Suratotal of Mistakes, (1)

tightness:

"The eightness being nucleic may also relate to the relative abundance of isotopal magic numbers which reads 2, 8, 20 ,50, 82, 126 !"

- Citation at Magic Numbers. 2 May*72

- SisM II .Ila liaj»78

Eight,-dimensional:

See Powering: Eighth Powering

Powering: Fifth & Eighth Powering

See Magic Numbers: Isotopal Octahedron: Eighth-octahedre Octant: Octantation Octave: Octavalent Complementarity: Eightfold Operation Of Environmental Twoness Point *» Eight Tetrahedra Begeted Eightnees

Rightness:

(2)

See Spherical Triangle Sequence, <111}

Synergetic Constant, Jul*57

X Configuration with One Ball at the Center, (2) Rubber Tires, 24
Jan*75 Hedra. 10 Apr'75 Spherical Quadrant Phases, 9 Jul*75

Eighteen:

(D

Soe Periodic Table: Haraonia *ot* 16

See Closest Packing of Spheres, 29 May*72 Nuclear and Nonnuclear
Polyhedra, 19 May'72 Octet Truss, 1959 Tetrahedrons!ng, (2)

Einstein;

"Einstein makes >1 variable and c^2 constant: $c^2 - F^2$ at the

of F^4 . F^4 at limit is c^2 - speed of radiation, causing the K - Flass to
be the equation's variable. While in synergetics the energy as hass is
constant and nonlimit frequency is variable."

- Cite SYNERGETICS draft at Sec. 960.06, 16 Nov'72; deleted from
galley by RBF

ainstein:

o O 2

"Einstein makes M variable and c constant: $c - F$ at the limit of F .
 F^4 at limit is c^2 - speed of radiation, causing the M • Mass to be the
equation's variable. While in synergetics the energy as mass is con-
stant and nonlimit frequency is varfclle."

(Above passage deleted from SYNERGETICS by RBF at galley rewrite
of MBM 20 Dec'73-- eja.)

- Cite RBF marginalia of 7 Nov'72; incorporated in SYNERGETICS draft
at Sec. 960.06, 16 Nov'72

RBF DEF1NT1UNS

Einstein:

"What did Einstein do and what had the other scientists not been doing that made it possible for him to •surprise them so? • • . You must remember that Einstein was a schoolteacher in Switzerland, but he also worked in the first patent office. You also know that Switzerland is very famous for watches and clocks, so as a patent examiner in the patent office he would be in many, many patent confrontations with watches and clocks and dealing with time. I am sure that Einstein began to think a great deal about time as just an occupational result. At any rate, you have people trying to make watches that are better than other watches, stop watches and so forth. So one of the things he saw clearly was that none of the watches really agreed. And so in an important race you «=would have two or three timers and you would take the average of their results. In other words, he said there was no exact time. He had chronometers being invented so that the navigators would have better and better results, but he found the navigators had to have three or four chronometers on board and they took the rates of change of their error and they averaged their error to give themselves something that was reliable time. Time was all unreliable. He saw that Newton had said .time was a very specific affair, that there was a specific and finite time that permeated the

Einstein:

"Universe, that everything occurred at the same time. Einstein wasn't at all sure that there was a same time and he felt that time might be relative to the individual and the observer."^w

- Cite Oregon lecture #2, p.71, 2 Jul*62

Einstein: Equation: E - Me²

"By embracing all the energetic phenomena of total experience the scientists secured a synergetic advantage for all energy accounting and prospecting...

"Adopting synergetic advantage science hypothesised that the physical portion of Universe is energetic and finite. Under this hypothesis Einstein wrote his equation of physical Universe as $E = Me^*$. This said that the total of local system energy is the product of all concentric local system of energy's self-interfered, shunt-holding patterns (K for mass) as multiplied by the entirely noninterfered local omnidirectional velocity of surface growth of an omnidirectional, outward-bound spherical wave of radiant energy (in terms of second power of radial wave module frequency growth rate)."

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p.123-4, 1959
gjaatain Equation; Talocraa to "ocichl» <1>

"PLEASE WIRE ME RUSH EINSTEIN'S FORMULA AND EXPLANATION THEREOF." (Telegram to RBF in New York from Isamu Noguchi in Mexico City.)

R3F Rgplyi

"EINSTEIN'S FORMJU DETERMINATION INDIVIDUALS SPECIFICS RELATIVITY READS 'ENERGY EQUALS MASS TAKES THE SPEED OF LIGHT SQUARED.' SPEED OF LIGHT IDENTICAL SPEED ALL RADIATION COSMIC GAMMA X ULTRA VIOLET INFRA RED RAYS, ETC. ONE HUNDRED EIGHT SEVEN THOUSAND MILES PER SECOND WHICH SQUARED IS TOP OR PERFECT SPEED GIVING SCIENCE A FINITE VALUE FOR BASIC VALUE IN MOTION UNIVERSE. SPEED OF RADIANT ENERGY BEING DIRECTIONAL OUTWARD ALL DIRECTIONS EXPANDING WAVE SURFACE DIAJ-ETRIC POUR SPEED

AWAY FROM SELF IS TWICE SPEED IN ONE DIRECTION AND SPEED OF VOLUME INCREASE IS SQUARE OF SPEED IN ONE DIRECTION, APPROXIMATELY THIRTY FIVE BILLION VOLUMETRIC MILLS PER SECOND.

"FORMUU IS WRITTEN LETTER E FOLLOWED BY EQUATION MARK FOLLOWED BY LETTER C FOLLOWED CLOSELY BY ELEVATED SMALL FIGURE TWO SYMBOL OF SQUARING. ONLY VARIABLE IN FORMULA IS SPECIFIC"

- Cite NINE CHAINS TO THE MOON_> pp.62-63, 1938

Einstein Equation: Telegram to Noguchi: (2)

"HASS. SPEED IS UNIT OF RATE WHICH IS AN INTEGRATED RATIO OF BOTH TIME AND SPACE AND NO GREATER RATE OF SPEED THAN THAT PROVIDED BY ITS CAUSE, WHICH IS PURE ENERGY, LATENT OR RADIANT, IS ATTAINABLE. THE FORMULA THEREFORE PROVIDES A UNIT AND A RATE OF PERFECTION TO WHICH THE RELATIVE IMPERFECTION OR INEFFICIENCY OF ENERGY RELEASE IN RADIANT OR CONFINED DIRECTION OF ALL TEMPORAL SPACE PHENOMENA MAY BE COMPARED BY ACTUAL CALCULATION.

"SIGNIFICANCE: SPECIFIC QUALITY OF ANIMATES IS CONTROL, WILLFUL OR OTHERWISE, OF RATE AND DIRECTION ENERGY RELEASE AND APPLICATION NOT ONLY TO SELF MECHANISM BUT OF FROM-SELF-MACHINE DIVIDED MECHANISMS. RELATIVITY OF ALL ANIMATES AND INANIMATES IS POTENTIAL OF ESTABLISHMENT THROUGH EINSTEIN FORMULA."

- Cite NINE CHAINS TO THE MOON, p.63, 1938

ElnMala Equation: B - Me² :

See Triacontrahedron, 1J May* 77

Triacontrahedron as Limit Regular Polyhedron

13 Apr'77

T Quanta Module. (1)(2)> 21 Jun*77

Mass, 14 May*73

T Module, 31 Jul'77

Einstein: General Theory and Special Theory:

"In the end we may find that Einstein's Special Theory is special case, radial, and that his General Theory is orbital. The Special Theory is the Umbilical Cord, the conceptions¹ and locally dependent gestational phase. The General Theory is the independently orbiting phase now released to only cosmical coordinates."

- Citation and context at Umbilical Cord, *k* Mar*73

See Spherical Field, Aug*73

Elneteln ae Intellect:

See Intellect: Kquation Of, 26 Sep'68

"Dear Dr, Einstein:

"Mr. Strauss advises me that you are willing to recieve me, but that you wish to recieve a letter in advance identifying the subject of the proposed meeting.

"In all humility I state that I seem to have articulated aright the •open-aeaaae' to a coworohanaiT. avatm pf commensurabllity. Broad mathematical properties are disclosed as inherent functions of an energetic Universe.

*(AJ.l the factorial departments

Required by the historical progression

Of interactively ramified advantages In technical practice and measurement Resulting in discovery

Of new aspects of the energy Universe Are schematically self contained."

- Cite RBF holograph draft Ltr. to Dr. Einstein, 17 Jan'48

Einstein; RBF Draft Utter To; (2)

"All chemico-physico-biological components and their behavior necessities seem originally invested. Any and all of the radiant, thermal, compressive-expansive, convergent-divergent, rotational, orbital, processional, valencial, polar, refractive, gravitational, vectorial, and reciprocal motivating factors, et. al., may be uniquely identified, quantitated, separated, subdivided, multiplied, or compounded empirically, in infinitely extensible directions--- and seemingly without loss of simple commensurability at any and all stages.

"This apparent claim to sublime commensurability and comprehensiveness continually challenges for a downward scaling by detection and exclusion of awkward factors. Despite earnest attempts to discover such shortcomings

the opposite result occurs on each occasion. The principles of further discovery were in fact developed through determination of a technique for detection of fault.

"This statement in no way implies invention of a comprehensive system, but alleges discovery of the existence of such a system.¹

- Cite RBF holograph draft Ltr. to Dr. Einstein, 17 Jan*48

Einstein: RBF Draft Letter To: (3)

"My work reports the history of its redifeovery. in which the whole bunch of keys are all required as original assumptions for unlocking the big door at once, rather than picking the locks of small compartments of knowledge separately with h&arpin assumptions (for pro-

gressive previews of areas of knowledge as seen from traditionally tolerated levels of ignorance* The attitude of re-exploration for an-organic-whole-or-nothing was adopted because it was noted that the successive exploitations of the picked- lock previews of relatively limited compartments of fundamental wealth have nonetheless precipitated economic preoccupation in avalanche proportions precluding immediate and formal re-entry of the original scene for precision design of the keys and scientific inventory-taking of the infinite wealth infinitely available to scientific procedure.

"Because the discovery is comprehensive and sublime, the nature of its properties may be demonstrated by simple geometrical and elementary mathematical techniques. All formulas derived are empirically cogent."

- Cite RBF holograph draft Ltr, to Dr. Einstein, 17 Jan*48
Einstein; RBF Draft Letter To; (4)

"I have documented the steps and phases of exploration to date by models, graphs, notes, drawings, tables, and formulas but the horizons of discovery constantly broaden till it becomes obvious that teamwork which amplifies and accelerates technical advantages into industrial commonwealth is now desirable for further development.

"Granted that I may have come upon important behavior mechanics of the truth, I am hesitant now to make disclosure to you only lest my ineptness betray this aspect of truth to re-obscurity and a redoubled remoteness from man's conduct of his survival affairs because of the infectious discouragement too frequently perpetrated through failures to attain new advantage under favorable auspices.

"Others more skillful or expertly informed might win, where I may lose because of personal limitations, but ... I know of none willing or qualified to assume the responsibility of demonstration.

"More closely identifying the area of exploration: I am informed by Preston Basset, President and formerly chief engineer of the Sperry Gyro Corporation, that when he was an assistant to Langmuir at General Electric, that the

"latter entered aspects of this field with what he named his octet system but that Langmuir did not pursue that subject to the stage of identity.

"I was also approached three years ago by another General Electric scientist who had heard of my work and asked me to inspect the work of a Russian-American's in New York City: this man's work postulated identity of tetrahedrons with atomic components. Neither the latter's nor Langmuir's work anticipates the discovery with which I have been engaged.

"In answer to your possible question that additional scrutiny would be advisable before your time, (lest it develop that I am retracing already well-explored territory) it should be noted that I have exposed the subject in considerable detail before scientists and academic groups on several occasions and, though appropriately cautious, they have verified the uniqueness of the discovery and have encouraged further efforts. The chemistry fellow of Oxford said in 1943 that the project transcended mere coincidental significance and he felt that it augured important possibilities."

- Cite RBF holograph draft Ltr. to Dr. Einstein, 17 Jan'48

^WA year ago I was asked to speak on the subject before the U.S. Air Corps Institute of Technology at Wright Field and no challenges of fallacy were vouchsafed. I have spoken recently before science department heads of several large colleges, such as Dartmouth, who asserted keen interest and credit in the discoveries. At one time I was

technical consultant on the staff of Fortune Magazine, at another assistant and director of research at Phelps Dodge Corporation; at another head mechanical engineer of the U.S. Board of Economic Warfare, In these undertakings I was under obligation to maintain wide coverage of scientific literature, and I am reasonably satisfied that there is no publication of parallel data. A year ago I was asked by the President of Sperry Co. to recount the subject to an officer of the mathematical society, and he confirmed my conjecture that I was not duplicating another's work. As you know, few academic scientists will make hasty affirmation of exploratory finding. The disclosure must detect tentative assent by lack of negatives coincident with manifest interest.

- Cite RBF holograph draft Ltr. to Dr. Einstein, 17 Jan*46

Einstein: flpf Prpfl Utttr to- (7)

"There exists the possibility that, if true, this discovery could be useful in dissipating in a measurable degree the manifold misunderstandings of a worldwide nature now now pyramided directly upon wholesale ignorance of fundamental factors at present too difficult to gear into elementary education. For this possibility, remote as it may be, I find myself required by conscience to apply full effort to the subject despite economic hazard, and for this reason alone believe myself justified in soliciting your attention.

"Increasing uncertainty as to my economic circumstances threatens the further adequacy of my sole custodianship of what appears to be an important close-up of truth. Wherefore, in view of your willingness to see me, I must risk a convincing disclosure while my records are in order and my mind in articulate focus upon the many facets of the subject.

"Inept at purely mathematical expression and awkward in prose I am unwilling to try the case on paper in advance of a personal meeting fortified with the paraphernalia of exposition and an atmosphere of taint responsibility toward the potential.

Faithfully yours, R. Buckminster Fuller,

- Draft Ltr to Dr, Einstein, 17 Jan*48 Kindness of Mr. Strauss

See Einstein, (A} Nonsimultaneous, 9 Jul*62

- » ElMtffin ^aB Foot-'

in his daring concept of universal evolution as constant notion, as put forth and written into (unwitting) poetry by Einstein, we have then the greatest conception- ing and greatest communication by a human being to other human beings not only in the 20th Century but possibly in any other of the centuries, Therefore I see that Einstein is certainly the great artist of the 20th Century. Einstein becomes the prototype scientist-artist of not only the 20th Century but of the now looming 21st Century. The fact that Einstein did not profess being an artist does not mean that he was not one. The term artist is not really professable. It is a term which society alone can bestow and then only retrospectively,"

- CITE UNESCO TIFLIS 1968 p. 12

See Intellect: Equation of Intellect, 26 Sep*65 Poetry, 13 Nov'69

1BF DKFIMTTIOMS

"Margaret Mead said recently that god is rarely mentioned at scientific or social conferences. This is not so much a phenomenon of conferences as it is characteristic of our times. Many think of science and the age of Industrialisation as atheistic. Scientists frequently

have been asked by less educated men whether anything they observe through their microscopes or telescopes confirms religious dogma and the scriptures-- and, if not, must they not forsake scripture and religion as having no fundamental significance whatsoever? Surprised by the question and unconvinced that they are atheists, the scientific specialists, also avoiding philosophic speculation as treacherous ground for reasoning, have been notably ineffective in refuting their atheistic status.

"Cosmology and philosophy have been differentially dissipated in the era of increased specialisation. Total thinking is now almost completely legendary or speculative. For instance, it is a popular conception that the Universe must have been begun in chaos, out of which it has happened from time to time that probability, reversing its law of increase of the random element, has surprisingly accumulated increasing order. It seems that this illogical increase of order accredited by the"

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 19 Sep'64

Einstein: . Cosmic Religious Sense: (2)

"popular science cosmology has also since from time to time been aided by scientists who 'wrest order out of chaos.' finally, according to the legend, probability and science together have now provided us with an extraordinarily well-organised chemical, physical, and biological world within a Universe of gratifying regularities.

"The scientific record refutes this a priori chaos scheme. Every great scientist who has documented the events surrounding his major discovery has documented the fact that, in comparison to his crude hypothesising, his discovery has disclosed a sublime regularity of

nature. The regularities of nature are governed by pure mathematical principles. Thus, since principles are inherently weightless and infinite--- that is, endless--- the Universe could never have been chaotic and thus has no beginning.

"In 1930 Einstein wrote of the nonanthropomorphic conception of god and of the cosmic religious sense, asserting that the great scientists such as Kepler who had been called heretics were indeed the most profoundly religious men when appraised in a cosmic, nonanthropomorphic sense. Einstein said, 'that an*

- Site THE PROSPECT FOR HUMANITY, Sat. Review, 19 Sep'64

Einstein: Cosmic Religious Sense: <3)

****extraordinary faith in the orderliness of Universe must have inspired Kepler to spend the nights of his lifetime alone with the stars.'**

"Scientists, having developed double names for their overlapping work (biochemistry, biophysics, etc.), are now finding their total field interconnected and unitary. This is a general trend of science. And so many scientists are now being educated that it may be forecasted that within the next half-century not only science but much of educated society will have come naturally through its own explorations and experiences to discover the comprehensive order of the Universe. Thus they will inadvertently develop a regeneratively inspiring faith in the order and integrity of the Universe.

"And because the complexities of this Universe are only intellectually comprehensible, recognition of an intellect greater than and anticipatory to our own intellctions is inexorably emergent in the integrating totality of scientific exploration. This means the personal, firsthand discovery by increasing numbers of humanity of nonanthropomorphic god, the great intellectual integrity of universal evolution."

- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 19 Sep'64

TEXT CITATIONS

Einstein- Copernican Religious Sense:

No More Secondhand God, (1963), p.18

Klaudia W. Coale :

(1)

See Kepler Alone With the Stars

See Population Sequence, (6)

Technology: Kachantant va. Diaeachantant, (2)

Einstein: As Einstein Said . . . ;

Approaching the Benign Environment, p.72

See Absolute Velocity, 30 Oct¹73

Axis of Spin. (3)

Faith, Oct*71

Nonsimultaneous, 5 Jul*62; May*71

Railroad Tracks: Great Circle Tracks: Convex &

Concave, 11 Jul*62

Scenario, 24 Apr*67

Religion, (2)

Scenario Universe, Kay*72

Spherical Triangle Sequence, (a); (e)

Thinkable System Takeout, (2)

Time, Jun'66

Truth, 10 Nov*72

Unique Frequencies, y Jul*62

Universal Integrity: Second-power Congruence of

Constants, (1)

Universe, 10 Jun*72

/“ But probably never did. In fact. RBF says he uses the phrase just as shorthand.

— EJA *J*

See

Elmfikln: Unified Field Theory:

"Unified field theory: the absolute interconnectedness of everything."

- Citation & context at Paaign Science: Grand Strategy, 31 Jan*75

TRIT CITATIONS

FlnghciliP Vnlfirt fild Theory:

Synerg<tic», 2nd. Ed. - S«c. 1052.32

SlasLslB: !!al£14LLsUJhg&xx:

(D

See Unified Operational Field

See Gravitational Constant. (1)(2)

Spherical Field, Aug'7\$ design Science: Grand Strategy, 31 Jan'75*

See Quick & the Dead: Song Of, Oct*66

Intuition, p.4S, May *72

Earth, Inc., (RBF Reader - Ed. Meller, ft. 228-229 - 1947

Synergetics draft, Sec. 1052.10, et. seq., 7 Mar'73

Synergetics Sec. 321.01 - Oct'71 + 325.00- Oct'71

**Transcript of SCI Talk # 10 at SIMS Mtg. U. Mass, Amherst: pp. 20-25,
22 Jul*71**

**See All-acceleration Universe Curved Space: Bent Space Fourth Di-
mension Fuller, R.B: Meeting with Einstein Fear & Longing Mass New-
ton vs. Einstein Instant Universe vs. All-motion Universe Norm of Ein-
stein as Absolute Speed Omnimotions Pendulum Model vs. Scenario
Model Relativity Synergetic Hierarchies Trinity: Equation Of**

Angle, Jun*71

See Acceleration, 14 Feb'73

A11-motion Universe, 1965
 Definite, Oct*66
 Dimensional Supremacy, 16 Nov*72
 Eternal Instantaneity, (1)
 Eternal Slowdown, (1)
 Field, 14 Feb*73
 Fuller, R.B: Meeting with Fernandes-Moran, (1)
 Gravitational Field, 8 Mar*73
 Gravity. (1)(2)
 Industrial Lag, 22 Jul*71
 Intellect: Equation Of, 26 Sep'68
 Invisible Architecture, (1)
 Isotropic Vector Matrix, 16 Nov*72
 Light: Speed Of, 1 May *71
 Man as a Function of Universe, (D)
 Matter, 9 Jul'62
 Motion, 27 May*72
 Dymaxion Airocean World, (II)

See Poetry. 13 Nov'63

Polyhedron, 20 Feb'73
 Regenerative, 1965
 Scenario Universe, May*72
 Spherical Triangle Sequence, (e); (V)
 Study, May*70

Time. 1938; 2 Jul*62

Transcendental, 7 Feb*71

Umbilical Cord, 4 Mar*73*

Universe, 16 Jun'72

r/hole System: Principle Of, (1)

Geodesics, (1)(2)

Triacontrahedron as Limit Regular Polyhedron,

13 Apr'77

Environmental Inventory, 28 Apr*77

Time-angle-size Aspects, 30 Apr*77

See Einstein: General Theory fc Special Theory Einstein as Intellect

Einstein: RBP Draft Letter To Einstein as Patent Examiner of Clocks

Einstein as Poet Einstein: Cosmic Religious Sense Einstein: As Ein-

stein Said... Einstein: Unified Field Theory Einstein is a Verb Einstein

Equation: $E = Me^2$

gyftar/Or:

See Rules of Universe, 9 Dec*73

RbF uEFIMITIOhS

Ekistics:

"Doxiadis used ne as a foil. Dinos was committed to human settlements and I am committed to human unsettling. He was very thoughtful. It was his integrity to have the most powerful operation he could find. Before he died he said I seemed to be winning. My maps show that we are going from divided humanity to integrated humanity. My one-town world was dated. 1927."

- CITE RBF to Mtg. of Worlds Ekistics Society, American Univ.

11 Nov*75

RBF DhPINHIuNS

Ekistics:

"The whole world has welcomed Dinos Doxiadis' epistemological formulation of the word ekistics. He derived It from its relevant Greek roots to Identify the scientific study of human settlement problems and their most economical and humanity- considerate technological accommodation in the most expeditious manner, The ramifications of ekistics, the Delian symposia, and Doxiadis* world-around operations has woven his ekistics* general systems grids deeply into the warp and woof of coming history's human self-education and ultimately successful, total human survival and success initiatives,*¹

- Cite bbT '*1**', p.14, Aug*72

Ekistics:

See Unsettling vs. Settlements

See Young & Elders

Older Generation: Old Life: Older World

See Alternatives of Action

Discretion

Lifetime: Personal Lifetime Experience for Elective Investment

Option: Optional

Reinvestable Time 4 Survival Needs Selective

See Isotropic Vector Matrix, 16 Nov*72 Spherics, 30 Nov*72

See Electronic Referenda®

Electronic Voting

See Automation of Metabolic *. Regenerative Process, tpp. 158-159)
Dec»69

Politicians, 10 Sep*75

See Conceptual Mathematics, (1)(2)

"In looking back at the history of electric lights, they were first for the battleship. You brought them over and put them in the candelabra in the home, but not in the whole house. A pure substitution of parts. We were not looking at the total, the way we did today, looking at it as a weapons system. We didn't have living systems; we didn't consider what might happen if you took the highest capability of man and applied it directionally to making man a success, instead of having all these things come to him technologically second-hand from the weaponry."

- Cite LEDGEMONT IIB, Address, p.43, 15 Oct*64

See Weapons Technology, (1) Frequency Islands of Perception, 13
Nov'75

Flight XgAI HMBiu-fiUlitT*

See Vector Equilibrium, (2)

Electric Motor;

"The tension of Universe is circumferential. The explosive, disintegrative is radiationally outward. The copper in the electric motor goes around the iron magnet. The copper, in its conductivity--- its embracement--- send the energy inward. The iron magnet can be made to repel or attract. The Poisson effect is operative. Precession is moving the magnet toward the coil and makes the magnet go (+) and (-): circuit and noacircuit, which is conceptually modelable."

- Cite RBF to EJA, 3200 Idaho, Washington, DC, 25 Jan '72

See Dynamo

Engine

Metric Motor:

(2)

Seo Modelability, (1)

BBF DEFINITIONS

"The scenario you see up there on the board, the electrical network one--- in a sense it's already started and it's already done, and regardless of politics. Politics didn't have anything to do with it. The major electrical companies or networks in America have now linked up, and they are, in a sense, the start of this electrical network linking the time zones. And it didn't have anything to do with politics

Cite HBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part J, p.72

See High Voltage Power Tranamiaaion World Power Grid Electromagnetic Generating & Distributing Houses & Infrastructure

(2)

Electrical jjetitark-

See Wlndmllle, 13 May'77

Electrical TtnciffiP

"... Electrical tension first employed by man to pull energy through the non-ferrous conductors and later to close the wireless circuit was none other than ... universally available sectionless tension."

- Citation & context at Tension (B)_t 1 Apr'45

Electrical Tanalon:

See Chemical Bonds, (2)

See Circuitry: Thermionic & Political Analogy

Electromagnetic Generating

Electrostatic Generating Generators: Electric Power Generators High Voltage Power Transmission World Power Grid Visible Light vs. Electricity Series vs. Parallel Circuitry Wind Power Feeding into Electric Utility Grid

See A & B Quanta Modules: Constant Volume, 10 Jul'62 Colloidal Chemistry, 1938 Measurement Trends, 1938

KI octree heal cal Reduction Plant:

See Humans as Machines, (1)

See Electromagnetics: Electrodynamic Invisible Electrodynamics

See Temperature of the Human Body, IA)

Electrolysis:

3M Communications Hierarchy, (1)

Electromagnetic Attraction*

See Chemical Bonds, U)(2)

TEXT CITATIONS

Electromagnetic Constant;

1052.30

1052.40-1052.44

See Radiational Constant

(1)

See Icosahedron as Electron Model, 7 Mar'73

Universal Integrity: VE 4. Icosa, (1)

Electromagnetic Lines of Force:

See Fountain Pattern

See Enib raceme nt, Aug* 71 Gravity: Circumferential Leverage, (2)
Planetary Democracy, (5) (7) Domes, 12 May*77

ElgetromonUc tfrMrflUiu and ^DlfttribUng:

"... A complex of... generalised principlea...has ever been found to be interaccoamodative at exponential rates of synergetic interaugmentation, as for instancy, the efficiency of an electromagnetic generating and dytributing system increases as the square, i.e., as $\&^2$, of the rate of the system's voltage increase."

- Citation and context at Generalised Principle (B), 22 May'73

See Synchronous Inverter

See Generators: Electric Power Generators High Voltage Power
Transmission Inanimate Energy Power Wind Power Sequence World
Power Grid Nuclear Power Generation

See Windworke Windmill, (1)(2) Houses A Infretruetune, 20 Sep*76
Building Industry, (7)

See Copper Sequence (II)

Waterfall, Feb*73

Precession (b); (II)

Windworks Windmill, (1)(2)

Human Unsettlement, (1)(2)

yg. Gravity;

See Gravitational Constant (1)

Radiation-gravitation, 11 Fob*76

(Sec. 1052.30)

^Elcctr9ragicEl£

Synergetics, 2nd. Ed. - Sec. 1056.20 ff

See Chromosonie Programing

Morphological Control Codings

See DNA-RNA, 9 Jun'75

"Life's reality is constituted by the unique frequency identifications of the chemical elements and their atomic components, as well as the humanly tune-in-able 'color' frequencies of the comprehensive electromagnetic spectrum's concentrically interpositioned occurrences---usually published as a chart of positions along any one radius of the comprehensive concentric system. Death's reality is constituted by all the intervals between and beyond---inwardly-and-outwardly---of the comprehensive electromagnetic frequencies."

- Citation & context at Life & Death. 26 Jan*76

** . . . The etromagnetic Frequencies of systems are sometimes complex but always constitute the prime rational integer characteristic of physical systems."

exist in complementation of gravitational forces to

Insert added by RBF at Deer Isle, Me. 2\$ Aug.

- Cite NASA Speech, p. 91 Jun*66 Rev. 25 Aug`71

KBF JtFlhTIUhS

"Physical experiment has never discovered any phenomena other than discontinuous discrete energy events, each uniquely identifiable amongst the gamut of frequencies of cyclic discontinuity of all the physical phenomena as comprehensively and overlappingly arrayed as the vast frequency ranges of the electromagnetic spectrum.

The electromagnetic spectrum 'reality*' has been found experimentally to embrace all known physical phenomena: visible, subvisible or ultraviolet thus far detected as present in universe."

- Cite SYlitrtGijTlCi Jraft - "Conceptuality: Solids." RBF Marginalia, Somerset Club, Boston, 25 April 1971

ELPCtropaknetic Spectrum:

"Very, very slow changes identify humans as Inanimate. Slow change of pattern they call animate and natural. Fast changes they call explosive, and faster events than that humans cannot sense directly. They can see the rocket blasted off at 7,000 mile per hour. They cannot see the hundred thousand times faster radar pulse moving 700 million miles per hour. Humans can sense only the position of pointers on instrument dials. What they call 'radio'--- electromagnetics--- they learn of through scientific instrumentation. Of the total electromagnetic spectrum range of the now known realities of Universe man has the sensory equipment to tune in directly with but one-millionth of the thus-far discovered physical Universe events. Awareness of H all the rest of the millionfold greater- than-human-sense-reality can only be relayed to human ken through instruments, devised by a handful of thought-employing individuals anticipating thoughtfully the looming needs of others."

- Cite RBF Introduction to Gene Youngblood's EXPANDED CINEMA, P. 25. Oct'70

"At the present moment in history 59.9 percent of humanity's important physical evolution--- scientific, technical, industrial, and biological--- is taking place in that major portion of the Universe of which man has no direct apprehension, but with which he does have exquisite instrumental hook-up."

- Citation at Invisible Architecture (1), Aug*

"The big thing about World War I is that man went off the sensorial spectrum forever as the prime criterion of accrediting initiations."

"All major advances since World War I have been in the infra and the ultra-sensorial frequencies of the electromagnetic spectrum. All the Important technical affaire of men today are invisible. This is the prime reason that the educational processes are now essential to survival, for only through highly literate disciplining may man control the invisible events of nature."

- Cite EDUCATION AUTOMATION, p.62, 22 Apr'61

"... The now partially explored, obviously vast, and inferentially extensible electromagnetic frequency ppeyyrum."

- Cite COMPREHENSIVE ANTICIPATORY DESIGN SCIENCE, p.87, 1956

See Invisible Reality

Spectrum

Tunability

See Black Hole (2) Conceptual Tuning. 24 May'72 Design (1) Frequency, 1970 Invisible Architecture (1) Motion Apprehension, 19ofi Senses. 9 Apr*40 Time, 23 May'72 Unique Frequencies, 9 Jul '62 Myopia: Incasting vs. Broadcasting, 22 Jan*75 Thinkability, 6 Nov'73 Repetitive, 28 May'75 Metaphor, 2 Jul'75 Energy Involvement of 92 Elements, (1) Frequency Islands of Perception. 13 Nov'75 Heard & Unheard Resonances, 17 Jan'75 Eyes, 1964 Form Cannot Follow Function, 20 Sep*76 Death, 29 Mar*77

"I am delighted to have your letter including reprints from the Detroit Engineer and Arthur Clarke's 'Profiles of the Future.* Arthur is a very good friend of mine and I don't want to seem competitive or smarter than him, howver. if you read 'Nine Chains to the Moon' (chapter on 'the Xian') printed in 193*5, you will come to the first science fiction in which travel of pattern integrity by electromagnetic scanning is clearly described and anticipated.

"A few years ago an article was published quite prominently by one of the major magazines in which the author reviewed all the known case histories of science fiction presentations of the concept of ultra-high-frequency-wave transmission of complex patterns including human organisms. The earliest articles cited by the magazine's author went only halfway back to my 1936 publication---they went back only to 1954.

"I also suggest that you read 'Synergetics' in which there are a number of very important mathematical discussions of such phenomena as inherent in generalized principles; particularly I refer to the isotropic vector matrix characterizing the frequency modeling of all systems."

- Cite RBF Ltr. to Kelly Swainson, Berkeley, CA; 4 Jun'77

Electromagnetically Transmittable Logistics:

See Airspace Technology, 20 Sep*76

See Cosmic Transmission Man: Interstellar Transmission of Man Radiation as Information-carrier Scan-transmission of Pattern Integrities

See Sliectre, 30 Nov* 72

Elwtrwimwlt Ware Prtwiwm>u: Ultra-ultra With Frequency:

See Telepathy, 29 Jun*72

a«ctrw>mUc Were Prommtlon;

See Trigonometry: Spherical Trigonometry (3) Calculus, Jul*71

Focus - Beanable - Wlable, 1 Apr*72 Metaphysical Wave Patterns, 6 Nov'73 Invisible Quantum as Tetrahelix Gap Closer.

23 May*75

Modules: A & B Quanta Modules, 20 Dec*73 Nuclear Pattern of Growth & Decay. 8 Dec*75 Mites & Quarks as Basic Notes, < 3 J

See Electrostatic vs. Electromagnetic

Fountain Pattern

Magnetic Field

Visible Thermodynamics vs. Invisible Electrodynamics

Wave-frequency Language of Electromagnetics

Frequency & Wave

See Chemical Bonds, (1)(2)

Domains of Actions. 21 Dec*71

Embrace, Aug'7<

Invention Sequence. (1)

Omnipermeative. 9 Apr'40

Physical, Jun'o6

Repulsion, 9 Jul*62

Radiation-gravitation, 12 Jun*74> 11 Feb*76

Solid State. 13 Kay*73

Symmetry &. Asymmetry, Jun*66

Tension & Compression, 1944

Telepathy, 29 Jun'?2

Waterfall, Feb'73

and Micro- Resolutions, (2)

Life & Death. 26 Jan*76*

Space, 2 Jul'76

Quantum Mechanics: Minimum Geometrical Poorness, (1)

Communications, 21 Jun'77

See Electromagnetic Attraction

Electromagnetic Constant

Electromagnetic Lines of Force

Electromagnetic Field

Electromagnetic Generating & Distributing

Electromagnetic Generators

Electromagnetics vs. Gravity

Electromagnetics11y Transmittable Logistics

Electromagnetic Membrane

Electromagnetic-photosynthetic Programming

Electromagnetic Spectrum

Electromagnetic Transmission

Electromagnetic Wave Propagation

Electromagnetic Transmission of Human Organisms

Electron;

"The etron is not entropic. It does not deteriorate. It is regenerative in its own right.

"The particle physicists recognize this but they do not understand why, though they would if they knew about its model in the T Quanta Module."

- Cite Rbf to EJA, 3200 Idaho Ave, NW, Wash, DC: 12 May*77

TBF DEFINITIONS

Elegtrpn:

"Electrons are borrowable..

- Citation and context at Icosahedron As Local Shunting Circuit,. 22 Jun'72

Electron:

"The icosahedron is the electron world."

- Citation at leoaah.dron a. Electron Model, >4 S.p>71
- erra~witni wt, __m mnji mnul| iuu. TUIU, *H, ka.t.zi*

Electron:

"The electron la always on the outside of ays teas--- chargee are always ob the convex, not the concave, surface."*

- Cite HBF to EJA, Blackstone Hotel, Chicago, 31 flay1971

Electron:

*1 don't think an elactron io bad because we give it a negative sign,"

- Citation fc context at Good fc Evil Sequence (1), 10 Aug*70
KBF DnFIMITIUMS

EXartrflA find Mrw

"... Since enzymes are molecular event Integrities and involve ejx-tron binding proclivities, this introduces further identification with the fact that the icosahedron's non-closest-packability tends mathematically to be identifiable exclusively with the migrating, trading independence of the electron and its volumatric relationship to the vector equilibrium, i.e., 18.51 : 20, which is akin to the fractional number relationship of the electron's mass to the neutron's mass."

- Cite SYNERGETICS draft at Sec. 1055.06, 2 Oct'?2

See Icosahedron A Vector-edged Cube, 11 Mar*69

RBF D-FIKITIUi.y

"The new edge of the star tetrahedron may be the same

as the reduced radius of the icosahedron. If it is, the star tetrahedron could be the positron, as the icosahedron seems to be the electron."

- Cite SH.LRGiiTICS draft "Antitetrahedron," 8 Oct. 1971 * P. 11
Electron *Si* Pgaltrap?

See Hatter k Antimatter, 20 Jun'66

See Icoahedron as Electron Model Twentyneee in Mass Ratio of Electron ft Proton

See Synergetics Constant, Jul'57

See A ton as Solar System

Icosahedron as Electron Model

Orbiting Magnitudes

Relative Activity Diameters of Stars & Electrons Vector Rjilibrium:
Lending & Borrowing Model Quantum Mechanics

See Coincidental Articulation Sequence, (2)

Icosahedron aa Local Shunting Circuit, 22 Jun*72

Orbiting, 6 Far*73

Radiation: Speed Of, (C)(D)

Star Tetrahedron & Vector Equilibrium, 9 Nov'73

T Quanta Module, (1)

UJF jEFUITIONS

Electronic Rcfnrpdum:

"Electronic means will have been highly developed for continual inventorying of all of humanity's thoughts, volitions, and dispositions regarding all currently evolving problems. Humanity will know at all time what the unique majority volitions may be regarding each and every currently recognized and considered problem.

"There will be one world management organization similar to but greatly improved over those of the 20th century USA 'city manager' functions. The one world management will be taking its instructions directly from the computer read-out volitions of the majority. When a majority discovers that a given decision is leading humanity into trouble, the popular realization will be immediately computer manifest and the world management will alter the course accordingly.

"This feedback servo-mechanism is the same as that employed in automatic flight controls and in the steering of ships.

The popular view will be immediately served by the management with no searching for scapegoats when erroneous decisions are discovered and corrected."

^w Cite ftdF transcript of "2000, If., for Philadelphia journalist given to Stewart Brand for Co-Evolution Qtrly, San Francisco. 9 Jan»75

Electronic Referendum:

"World Democracy is to be incorruptibly accommodated by continual electronic referendum, being progressively fed by subconsciously telepathic ultra-ultra-high frequency electromagnetic wave propagation, signalling subconsciously reflexed feedback attitudes toward specific propositions coping with evolutionary problems as educationally manifest."

Cite WORLD-AROUND PROBLEMS THAT DESIGN SCIENCE REVOLUTION,

29

HAVE TO BE SOLVED BY BLOODLESS June 1972

T&XT CITATIONS

Electronic Voting:

Ko Lore Second Hand God, pp. 9-13

Education Automation, pp. 41-43 (Two-way TV)

Ssa Electronic Referendum

Everyone in on the Information

See Planetary Democracy World-around Communication Transcends Politics

Sec Sovereignty, (2)

Klectrenica:

See Universal Vertex Center Model, 29 Apr¹⁴³

See Atomics, 10 Sep^{*74}

Tension t Compression, 1944

Sl«ctro»tatic G«ner*tlm!

See Lightning & Atone, 28 Apr^{*74} Reverse Atomics, 10 Sep^{*74}

SlwwntUtttr

"Each of the cheuioal elements are pattern integrities formed by their self-knotting, inwardly precessing, periodically synchronised self-interferences."

- Citation at Pattern Integrity, 25 Aug'71 fiiiarrrmf inirn nj lie nui si luu
Elementality:

"Unique pattern evolvment constitutes elementality. What is unique about each of the 92 self-regenerative chemical elements is their nonrepetitive pattern evolvment which terminates with the third layer of 92.*

Cite RBF Insert Synergetics text, Sec. Bear Island

25 August 197V

"Unique behavior constitutes elemental!ty.*

- Citation & context at Science (2'), Jan¹⁴⁹

Elenent: Elementallty:

See Carbon

Cosmic Democracy Chemical Element Four Unique Frequencies
Hydrogen Ninety-two Elements Rearrange Elemental Order Super-
atomics Trace Elements

Furniture of Chemical Elements Nuclear Domain & Elementallty

See Pattern Integrity, 25 Aug'71* Science, (2)*

Elementary;

"The whole of Universe is the minimum consideration

and the relationship of its regenerative subsystem functionings are
alone elementary."

- Citation and context at University. 15 Apr *55
ElMtaWl-T T».

•Experiences are never eleaentary: ergo, they are always gfiauleg.
Conceptual formation la inherently empirical

- Citation and context at Experience. Feb<50
glsjwjtary:

See Education (2) Experience. Feb*50* Relationehipa, 15 Apr»55

Elephant:

See Design, <1)5 ® Sap'75 Hierarchies, 16 Jun'72 Prediction, 22
Jul*71 Synergy of Synergies, 31 May*71

Elevent

See Prime Number, 16 Oct'71

See H el eenbarg-E Hot-Pound Sequence

Ellipse:

"Ellipse means two restraints, the integrated relationships to something more than just the single-restraint Sun. Orbits mean tensive restraints. A composite of all the other pulls brings about the elliptical phenomenon."

- Cite HBF videotaping session Philadelphia. Pa., 20 Jan*75

Ellipse:

"A single ellipse is a wave system with two diametric peaks: a gear with two teeth--- at 180° from each other. All the rest are multi-toothed high-frequency waves. All is wavilinear."

- Cite SYNERGETICS draft at Sec. 1009.Sfr; U Feb'73

Ell

See Diametric Unit Functions Eccentric: Eccentricity Otherness Restraints for Elliptical Orbits Orbits Are Elliptical Oral

Ovalional

Elauhnnfl:

See Ecology Sequence, (A)

Rgeharog-

See Ecology Sequence, (A)

KbF J-rUHTIuNS

Embracement:

"Two triangles may be combined in such a manner as to create the tetrahedron, a figure volumetrically embraced by four triangles. . . ^w

* Cite RBF revision of caption to Synergetics Illustration "1.» 7 Oct. 1971 - Washington DC.

Embracement:

" . . . 'the electromagnetic field of our Earth is a world-around circumferential embracement field."

- Cite Synergetics draft, Sec. «70. et seq., August 1971

Embraceroent:

"What we call 'adheres' are always geodesics. While they may appear to be spherical superficially, they are always high-frequency geodesic embracements. • •

"An embracement is to a sphere as a circumference is to a circle. An embracement is not just a surface, but it is a layer ... a system which returns upon itself."

- Cite RBF to EJA, U. Mass, Amherst. 22 July 1971. (jOOSJU
See also Synergetics text, "Omni-topology," Sec.
RBF DEFIMrnOMS

"The eternal is embracing and the temporal is linear.* This opens up a very high order of generalisations of generalizations

- Citation & context at Truth. 16 Feb¹?!

See Radial-circumferential Radial V8. Orbital Linear vs. Orbital Local
vs. Comprehensive

See Truth, 5 Jun*73

See Circumferential Field

Embracing i Linear

layer

Omniembracing

Radial-circumferential

Radiation-gravitation

Returning Upon Itself

Self-embracement

Spherical Field

Surround

Omnembracing vs. Permeating

Omnisurface

Periphery

Gravity Operates Circumferentially

Nucleus & Embracenment

See Electric Motor, 25 Jan'72

Eternal, 16 Feb'73 Frequency, 22 Jun'72 Gravity, 21 Dec'71; 11 Feb'76 Gravity: Circumferential Leverage, (2) Powering: Third Powering, 28 Oct'73 Vector Equilibrium, 18 Nov'72 Energetic-synergetic Geometry, 1 Feb'75

Geodesic Sphere, (1)

Octahedron as Conservation & Annihilation Model, 23 Jun'75

Octahedron as Photosynthesis Model, (A)(B) Triangular-cammed, In-out-and-around Jitterbug Model, 11 Dec '75

See Event Center: Event Embryo:

Egg Embryo: Homogenized & Returned to Shell

See Fix, 6 Nov'73

Invisible Quantum as Tetrahelix Gap Closer.

23 May'75

See In & Out: Go In to Go Out

See Chorda, 26 Jan'73

See Adoption of the New Only as Last Resort

See Air Delivery & Submarine Cities (3) Rearrange the Scenery (2\$ Dymaxion Artifacts, (2)

(D

S«« Teleology: Spontaneous rs. Emergency Mutual Emergency

See Evolution, May*72

Mass Production: Inadvertence Of, May*72 Everybody's Business,
(1)-(3) Options, 13 May'77

TEXT CITATIONS

Emergent:

This word appears in conspicuous repetition throughout Introduction
to Omnidirectional Halo.

Emergent:

Soo Rosorgont

Eaeraon, Ralph Waldo: (1802-1882)

See Creativity of Children. 22 Jul*71 Poetry, 13 Nov*69

Emotion:

"I am so impressed with the importance of emotion that I say to myself, 'Be sure to entertain all your emotions,* even though I don't let them run me. On meeting a female for whom I suddenly and surprisingly discover that I have a strong attraction. I don't tell her and I do dismiss the inclination, but I don't pretend to myself that I had no such thought. If I get angry, I let it be so, but I have learned to get anger under control in a split second. I know how devastating anger let loose can be, but I don't try to say, 'Don't be angry,' I do not try to suppress myself,"

- Cite RBF in AAUW Journal, p. 178, May '65

Emotion:

"Emotion, bo essential to selective growth and survival, was denied by technocracy as a social factor,"

- Citation t context at Superstition. 1y3*

Emotion:

See Superstition, 138* Hunan Beings & Complex Universe, (6)

See Mo n-empirically-diacov enable Experience-harvested Inforuat-
lon Experimental Deomatrability Experimentally-founded Mathemat-
ics

See Experience, Feb¹50 Mathematics, 18 Apr'63 Modelability, 12
May«75

Enolov;

"Man simply finds and employs. He does not put anything into the Uni-
verse."

- Citation *. context at Technology. Oct*69

See Objective ftiploynent of Principles Invented Jobs Unemployment
Earning a Living Make-work Inspectors of Inspectors

Empty:

*Our beds ere empty two-thirds of the time. Our living rooms are
empty seven-eighths of the tine. Our office buildings are empty one-
half of the time. It's time we gave this some thought,*

- Cite I SEEM TO BE A VERB, Queen, May <70 (Not in Bantam edition)

Cipher, 2J lug*71

Eaptv Set:

^wA vector is a partial generalisation being either metaphysically theoretical or physically realised, and in either sense, an abstraction of a special case as are numbers both abstract (empty sets) or special case (filled sets)«*

- Citation and context at Vector. 26 May'72
ESSEX.. Sfttg:

"There are no empty sets but only generalised group or system synergetical relationship characteristics."

- Citation at Relationship. Feb'50
- riwinr giimHlil natesFeb»50

Empty Set;

"There are no empty sets of number independent of pattern. There are empty sets but the word 'pattern' is inherently a subclass of 'pattern'.

- Citation and context at Number Pattern Raleigh, NC, undated
Tc-XT CITATION

Empty Set, Tetrahedron:

415.45

415.59

905.52

1012.35

Empty got Tetrahedron=

See Vector Equilibrium at Empty Set Tetrahedron

See Abstraction

Number Pattern

Vector Equilibrium as Empty Set Tetrahedron

See Conceptuality, 11 Jul⁶² Energetic Functions, 1954; 8 Aug⁷⁷
Generalisation: First Degree, 10 Dec'64 Number, Jun'66 Time, 16
Nov'72 Transformation. 12 Jul⁶² Relationship, Feb*50* Vector, 26
May'72* Model of Toothpicks & Semi-dried Peas, (1)

See Zero Tetrahedron Zerovolume Tetrahedron

See Four-triangular Circuits Tenaegrity, 6 Apr* 77
SmtT Twon«»»:

See Magnetic Field >ky'49 Twoneas, May'49

Empty Unlverae:

See Vector Equilibrium, 11 Dec'75

See Nothingness

Vacuum

Void

Face Congruence with Opposite V_ertez - Zero - Empty

Static Invalidity of Solid Things vs. Empty Space

See Area, Jun*66

Invented Jobs, 20 Sep*76 Invisible Tetrahedron, (2) Out-lining.
22 Mar*76 Vector Equilibrium, 11 Dec*75 Vector Equilibrium: Ze-
rophase, 1 May*71 Vector Equilibrium: Zero Tetrahedron, (2) You
Alaa Pattern Integritys, 22 Jan*75

Enantiodromia:

"Enantiodromia, which means that at the attainment of any extreme position there is a point where a thing begins to turn into its opposite. When you hold a magnifying glass at a certain focal distance, the image reverses."

- Cite "The Synanon Philosophy." by Tom Patton, p.28; 1973. Patton's attribution to Fuller confirmed by Fuller to EJA, 200 Locust, Phila.; 28 Jan'76

TEXT CITATIONS

Enantiomorph;

See Loeb Contribution, Sec. J, p.851, line 10.

See Handedness

Left II Right

Enthrauin

See Technology: Enchantment re. Disenchantment

Enclosure:

"The tetrahedron is the minimum structural system for we cannot find an enclosure of less than four sides--- which is to say--- of less than 720° of interior (or exterior) angle interaction."

- Citation at Tetrahedron_t 1} Nov'6y

Enclosure;

"./hen three or more lines cross two others, we have enclosures or areas."



- Citation at Area. Jun'66

EnglscHTf*

ID

See Area

Circuitry: Enclosed Circuitry Closed Closure Envelopmental Relationship No Absolute Enclosed Surface or Volume

Opening Prime Enclosure Surface System Awareness

See Surface Strength of Structures, Mar*72 Tetrahedron, 13 Nor*69*

See Beginnings

Beginnings t Endings

Biterminal

Finality

No Open Endings

Tail End Terminal: Terminal Condition: Terminable

Sea Aeeeeably: Law Of, 10 Dec¹73 Definitive, 1959 Infinity, 20 Jun*66

Principle, Jun'69 Ring, 10 Jan¹50 Transcendental, 28 Jan*69

See Absolute

Cause Meaning No End in Itself Teleology Design

Ehdleaa;

"Endless does not mean infinite, A circle is finite.

The circle may be recyclically considered only as many times as the observer's total life may accommodate.*

- Cite Generalised Laws of Design, p. 2. 22 Apr'6B

See Circle, 22 Apr¹68 or Endless, 22 Apr*68

See Beginningless Endless r Infinite Eternally Regenerative Intern!nable Linitless Scenario Unlimited

See Concentric Coordination, IS Mar¹69 Scenario Universe, Jan'72 Flight, 3 Oct'73

EnsrxfUc

See Reality, 23 Aug'71

Energetic Freed one:

See Gibbs: Phage Rule, 26 Sep'73

"With the 42-ball layer added to the vector equilibrium there is no ball showing at the center of flu any of the triangular faces of the vector equilibrium. The three-ball edges of the 42-ball vector equilibrium provide a frequency of two. Three spheres in a row have two spaces between them. These interconnecting spaces between the centers of area of the adjacent spheres constitute the vectorial interconnections which provide the energetic or force frequency of the described systems

1011. • », 18 Feb'73

- Cite SYNERGETICS draft at Sec.

Yun<?tlqnv

"The twoness of inherent otherness of awareness is synergetic. Twoness inherently Induces the dynamic quality of oscillatory propagation unpredicted by one-integr-plus-one-integer as empty set. Synergetic twoness and the primitive topological complexity of minimum systems themselves and the presently-non- tuned-in but always inherently coexistent macro-micro otherness inherently produces the ever-interaccoouoodative, intertransforming, ceaseless restlessness intercomplementary characteristic inherent in energetic functions,"

- Cite SYNERGETICS 2 draft at Sec. 400.651; RBF rewrite, 8 Aug'77

---HI Energetic Functions:

"Two-ness is synergetic. It gives the dynamic quality of oscillatory propagation unoredicted by one integr plus one integer as empty set. Synergetic two-ness fh the essential complementarity characteristic inherent in energetic functions. The two-ness is the following: Positive - Negative Precessions! processing of polarisation Omnidirectional or focal Push-pulling Gravitation - Radiation Involuting - Evoluting Turbining - Counterturbining Inside-outing - Outside-inning Rotational - ovational gearing Convex - concave Convergent - Divergent pulsating

"Resultants of pluralities of co-potentials of initial freedoms of unique reciprocally displacing event patterning, of necessity occasioning fundamental conversion of Euler's empty integer `plus two-ness,' into the synergetic, or • unpredicted, inherent nuclear cohesion."

- Cite RBF draft Ltr. to Jim (Fitxgibbon?), Raleigh, NC, 1954-59

See Inventory of Proclivities Motions: Six Positive & Negative Pendulum Model vs. Scenario Model Structural Functions Proclivities: Inventory Of I-ntion Freedoms a. Degrees of Freedom

See Intellect: Equation of Intellect, 28 Apr*48

Radiation: Speed Of, Oct'71

Syntropy, 13 May*73

Transfonaation, 10 Oct*50

Vector Equilibriua (2)

Precession (b)

Einstein: RBF Draft Letter To, (2)

Six lotion Freedoms & Degrees of Freedom, 11 Aug'77

Energetic Information*

"The information in Universe has always been there. The total information is always there, but it has been deployed into generalised-principle increments of a cosmic tunability. If we fail to catch a cosmic fish it may be a trillion years before the opportunity comes again. It will come...but maybe not in this galaxy. *11 the fish will be caught."

(Quoted in EJA: COSMIC FISHING)

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 23 Apr¹⁷⁶
faicnwlXs Inf graft tian -

"Physical is always special case. Energy is physical and always special case. Information is always special case. Energy is information: information is energy.

Special case is always realised by its energetic information. Dimension is unique frequency information. Time incrementation is special case information. Content is general; information is quantitative (special case)."

- Cite SYNERGETICS 2 draft at Sec. 1075.12; 20 Dec^{*74}

Information:

See Consciousness as Synchronisation of Time It Energy

Time & Energy

Thought & Energy

Enwgrtlc-aynorMUc

"All that is physical is energetic. All that is nonphysical is a synergetlc."

32i.0t-

- Cite SYNERGETICS 2nd. Ed. Draft at Sec. pt nr; 11 Nov^{'74}
Energetic-emergent Geometry:

"Energetic-synergetic geometry 1B the embracing word for it.

- Citation & context at Harmonica, (3), 1 Feb*75

Energetic-Synergetic Geometry:

***1** have chosen the first name, Energetic. because the discovered coordination consists of a vectorially structured geometry, inherently embracing velocity--- (distance/time), direction, and mass which are collectively convertible into all the thermodynamic aspects of physical experience; and Synergetic because it commences (totalistically) with a fundamental law of conservation of universal pattern integrity

- Cite RBF Ltr. to Colliers (full text, p.3, July*59

Jgmcgtltzxsxnrtrtlc CwamiXi Original Publication In 1944:

SBF and Barry Parrel; tape transcript Side 6A, pp.4-5, 16 Aug'70

Synergetics : Sec 222.L3

Oregon Lecture #4, pp. 133-137, 6 Jul*62

Ggomtry: Original Publication in 1944; (1)

See Fuller, R.B: Unpublished Mathematical Discoveriee

See Omnidirectional Closest Packing of Spheres: Synergetics Principle Of (2)

Virus, 19 Jun'71

Synergetics: evolution Of, 6 Oct'76; 14 Oct'76

See Fuller, R.B: Energetic Geometry: in 1917 Synergetics

I Began the Search

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£nw-MU8/sni*r*Hle .gw&tai

(2)

See XTZ Coordinate System (A)

"Synergy is to energy what, in the calculus, Integration is to differentiation."

- Cite Marks, p. 134, Fig 1,1, caption. 1960

faamtlc-aTinrretle :

See Calculus, 1960

Cosmic Discontinuity & Local Continuity, 15 Jan'74

Environment Control, 1954

Integration & Differentiation. 10 Oct'63; 4 Mar*69

Universe as Energy & Information, 11 Nov'74

Brain as Library, 15 Nov'74

Slagle Integer Differentials, (1)

Minimum System: Minimum Structural System, Nov'71

Energetic and Synergetics:

"Energetical is in contradistinction to synergetical.

Energetics employs isolation of special classes of our total experience from our total experience, the better to discern unique behaviors of parts undiscernible and uneasable in total experience."

- Cite RBF footnote on "Pi and Synergetics Constant" holograph, Pacific Palisades, 29 Dec'73, as re-edited by RBF, NYC, 10 Jan'gl

"We are all very familiar with the word •energy* because as specialists we have been persuaded . . . to employ the strategy of separating out our experience. Instead of looking at our total experience, man began looking at just what his eye would do and discovered the energy properties called optics. Newton began to pay attention to gravity alone.

There was no word gravity up to this point but he began to pay attention to what makes things go into the center of the Earth first and then he comes to the concept of gravity. He isolates the phenomena out so all the classifications wrfiave of the scientific words are all energetic words. 'They are words differentiating out the total behavior of nature.**

- Cite Oregon Lecture #1, p. 30. 1 Jul'62

SaSE&SIIS:

See Abstract ve. Energetic Energetic-synergetic Synergism vs. Ener-gisa

See Physical Universe, 1 Apr*49 Spear, sunaer'71 Tensegrity Icosahedron (3) Universe (2) Synergetics, Jun'66 Tension 4. Compression, 1 Apr'49 Universe, 1962; (2) Geodesic Line, 9 Sep'74 Special Case, 27 Dec*74

"The total quantity of ener constant, but a dependent.

Energy;

gy operative in Universe is a function of Intellect."

- Citation t context at Intellecti Equation Of. (*), 17 Jun'75

Energy:

"Energy tends by goodesical economy and angular law to bo bounce-confined by Che tetrahedron.....

"Therefore, all triangles and tetrahedra 'leak* energy..."

- Citation 4 context at Bounce Pattornc of fa»rn. 19 Doc'73

Energy:

Synergetics provides for "the identification of energy with number."

- Citation at Synergetics. 19 Jan*71

to EJA by telephone from Los Angeles, IQ. Tan 71 pursuant to Coxeter¹

'frontier Planning¹ in America
winter 70-71.

Energy:

"The energies do not get out of Universe. Energy is finite.

... Energies are always accountable."

- Citation at Man as a Function of Universe (A), 26 Sep'66

Energy:

"The environment always consists of energy--- energy as matter, energy as radiation, energy as gravity, and energy as ¹events."

- Cite PLATBOT- P. 27 of Manuscript Apr*68

Energy:

"Energy is shown experimentally as only accomplishing disassociation here through entirely orderly regrouping or association there. Energy transactions are 100 percent accountable.

"In this dynamically opposed system every action has its reaction and resultant and every nuclear component has its positive or negative opposite with each reversing every characteristic of the other."

- Cite GEOMETRIC REVOLUTION, p.163, 16 Sep'67

Energy;

"Energy is the capability or the capacity to rearrange elemental order. Energy can neither be destroyed nor created within a closed system. Therefore both associative energy (matter) and disassociative energy (radiation) can be harnessed, energy equals mass times the speed of light: $E = mc^2$.

- Cite RBF Glossary of Terms found in "The Live Book Squad 1967

»e-<. 3 13-. 1-0- Fvfe< rro sy

KgF Iiuov'y

Energy:

Nature uses the tetrahedron as the unity of energy, as its energy quanta. • • *

-!"Cite Carhnttlale-Orafr- tQ Mfy**1 ahl 14fy i

- Citation & context at Tetrahedron r Jun*66

Energy;

"Scientists experimenting with entropy discovered that while energy left one local system after another, it always did so only by joining other local systems. The scientists found that energy was always 100 percent accountable. Therefore, they had to elucidate a new and fundamental scientific law which they called the 'law of conservation of energy' which stated that energy could be neither created nor lost.

"Therefore we emerged scientifically in the early days of the 20th century into an entirely new cosmological concept of an inexhaustible, ergo finite (physical) Universe consisting entirely of energy--- energy associative as matter, and energy disassociative as radiation, and both intertransformable."

- Cite NASA Speech, p. 25, Jun'66

I/NNERSC — 3 E c . 3M3)

Energy:

"Energy consists . . . of two main behavior phases--- Its associative phase, as the matter with which we fashion the physical advantage producing tools such as the looms and the electric generators; and its disassociative phase as the free positive and negative energies of radiation and gravity may be focused to impinge on the ends of levers to power the tools to do the physical work for men."

- Cite NASA Speech, p. 2d. Jun'66

Energy:

"Energy flows around the Universe and is then shunted and canalled into valvability upon the ends of the levers which we make out of the physical energies interactive in patterns which we call 'matter.'

"Physicists like Einstein and Max Planck saw that energy left one's system only by joining another system. . . . That's a finite package of energy, the finite physical universe, which is the Einsteinian world."

- Cite DESIGNERS AND POLITICIANS, (I&I) Pp. 302 303

Energy:

"What Einstein was saying was that the world was inherently a dynamic process which would never run down. The world was energy and energy was continually in transformation. It was not a single thing but a (b) plurality of nonsimultaneous events in pure principle and which would be continually affecting one another in varying ways. Einstein

took the position that in energy universe, the velocity of energy completely unfettered in a vacuum would be the norm of energy's velocity. The velocity of fundamental transformations would be the velocity of energy."

- Cite OREGON Lecture - pp. 77-78, 5 Jul'62

Energy:

"Energy itself is an ever-regenerative patterning entity.

Its forms are protean. It can appear as the breath of a hawk or coign of a cliff. It can cloak itself as radiation, as mass, as design, and as the wellspring of work. And since by fundamental law, energy can neither be created nor destroyed, 'its fate in the cosmic scheme is to meander through eternity in persistent, regenerative bliss."

- Citation and context at Regenerative_T i960

Energy;

"Synergy 1b to energy what, in the calculus, integration is to differentiation.**

- Citation at Energetic-smergetic. 1960

--artE

Energy:

•Energy la both local and resoto as radian expands it, or generates unfolding leaves. •

- Citation and context at Ro tat, f, 6 May'48

RBF DEFINITIONS

Energy:

"4b gravity, and light, and heat, and spinning, and orbiting, and expansion, and contraction are ppecial characteristics of the comprehensive principle energy, so are democracy, and science, and technology (and their conflex assemblies into industrialisation) and evolution allpecial characteristics of the comprehensive principle, Intellect. And the relative position in the hierarchy of energy and intellect, or omnipotence and omniscience, is demonstrated by the fact that Intellect discovered and inscribed that energy equals mass times the speed of light squared. Energy did not, and seemingly cannot, write or discover what the comprehensive faculty intellect, is or equals."

- Citation at Intellect: Equation of Intellect. 28 Apr*48

Enragy. ActmuitInt

See Einstein. 1959

Synergetics, 1959

Tetrahedron, 1960 Humane City, (2)(3) Synergetics Constant, 10 Dec'75

Energy Adventaga:

See Gravity, 21 Dee'71

See Cosmic Accounting Sequence, (1) Universe as a Kaleidoscope,
May'K9 Wind Stress & Housing, (6) Propeller, Dec'71

See Bounce Patterns of Energy Holding Patterns of Energy

See Mitea Make All Regular Polyhedra, 27 May'72

Sequence:

(1)

"We talk about energy capital and energy income. If you will think about the concept I gave you about the Earth being a place in the world Universe where energies are being collected ... That's the function here and now: to collect energy, not to get rid of it. Therefore when we are using fossil fuels, it is very questionable whether this seems to fit in with the antientropic function of Earth.

"Some of the geologists that have worked with me very exhaustively, some of the top oil geologists, tell me that the amount of time it takes for the energies inhibited as soology or vegetation--- for that energy to get filtered down on the land, to go down as coal in the sea, getting down finally to more and more depth, finally the 4,000 foot depth there on the verge of becoming petroleum, a little more together. If we take energy as the pressure and the time involved, and do that in kilowatt hours to find it costing somewhere around a billion dollars a gallon to make petroleum, when we say this is for free. It's like saying how we found how to get a pipe in back of the savings account of the kiddies' bank and all you have to do is pump it out."

- Cite RBF to World Game, Jun-Jul»69

Energy Capital |

Sequence:

(2)

"Why go to work? So, I think we're defeating ourselves. We are all convinced that we're entitled to use a certain amount of our energy savings to get going, as a self-starter, provided you are not using it up faster than it is being inhibited into our Earth.**

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part 2, pp.29-30.

Engrar Capital Sgwneg? u

"In photosynthesis we find the production of fMMi very beautiful, orderly molecular structures— and orderly molecular structures are exactly the opposite of increasing disorder.

"So, we find all the biologicals are antientropic. In fact, we've found that our Earth itself seems to be antientropic: it impounds and puts energy together and the energy being collected, both as energy and as matter, as the dust, and energy as radiation— both kinds of energy are being impounded,

"We find that the vegetation gradually dies and the leaves fall, and there is dust and winds, and it gradually gets buried. It gets buried deeper and deeper and the three- quarters of it in the water gets buried very very deeply. We've found that by the 4,000 foot depth, where the pressures are really very great, it gets to be such a pressure that it gradually turns into petroleum, at just about 4,500 feet of depth, and suddenly we have great salt domes, and petroleum and great fossil fuels. We find our energies then being concentrated and concentrated in the most beautiful orderly"

- Cite RBF to World Game, Jun-Jul*69

"molecules, and those fossil fuel molecules are so superbly orderly they can be converted easily into plastics or energy to drive you from here to there, to make alcohol, food, automobile tires, or whatever."

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul*69. Saturn Film transcript, #J27, pp.11-12.

See Cosmic Accounting

Energy Income Fossil Fuels Main Engines of Universe Photosynthesis

See No Energy Crisis, (A)

Energy Center

240.50 921.01-921.04 921.40

924.10

Ewer

"Identically dimensioned nuclear ayateras and layer growths occur alike, relative to each and every absolutely compacted sphere of the isotropic vector matrix conglomerate, wherefore the integrity of the individual energy center is mathematically demonstrated to be universal both potentially and kinetically."

- Cite SINEHGÉTICS, "Corollaries," Sec. 240.50. 1971

Energy Centers:

Synergetics, "Jitterbug as Energetic Model," Sec.404.03, 4 Oct'72

Se® Center® of Energy Rebirth

Interauclear Vector Modulus

Modules: A ft B Quanta Modules: Centers Of Nucleus

See Isotropic Vector Matrix, 1971

Energy Qrlflifl:

See No Energy Crisis

ESS£&X_&S£lSi:

See Technology & Culture, 25 Oct'77

Eng ng EnYirqnMnWmMUmcfochlMfi»

"The housing Industry will have no connection with the dwelling service rental industry.... Not any more than the carriage and wagon-makers had to do with cars; they survived only as a vestige. 'Body by Fisher' was the last gasp of the buggy-makers to survive in the automotive world.

"But they don't sell automobile chassis any more. And it will be just as obsolete to try to sell a house as a frame or a shell. What the rental service industry will do is to lease energy environment-harvesting machines."

- Cite RUF to Glenn A. Olds and EJA; 3200 Idaho; Wash. DC: 27 Jan'77

Energy Environment-harvesting Machines:

See Dwelling Machines Environment-modifying Machines

RBF DEFINITIONS

Energy ETCHV

"An energy event is always special case. Whenever we have the experienced energy we have special case."

- Citation & context at Special Case, 27 Dec*74

HBF DEF DITIONHS

EngrKy.Ey.gnV

"Scientists..* refer to high energy events as 'particles*.

- Citation and context at Invisible Motion. 13 Ear*73

"wTou have six vestora or none for every energy event.

• Cite HBF to KJ A, Washinjtoc, DC, 7 Oct, *71. *guetci e vent- se e. tn. o~r)*

Energy Event:

"A single event is integrally complex. As angles are conceptual. independent of size, events are conceptual, independent of frequency of occurrence.

"An original or prime energy event is conceptual.

"An energy event is inherently complex. It is a nuclear component, but it is not the nucleus. Nuclei--- complexedly composed of prime or original energy events--- are themselves •prime' and `original*, originality being inherently complex integrals.

"Energy transactions occur between nuclei as an extramural complex of events--- as a 'chemical compound.'"

- Cite SYNERGETICS text at Sec. 511.01, May*71

Energy Event:

"Physical experiment has never discovered any phenomena other than discontinuous discrete energy events, each uniquely identifiable amongst the gamut of frequencies of cyclic discontinuity of all the physical phenomena as comprehensively and overlappingly arrayed as the vast frequency ranges of the electromagnetic spectrum."

~~188 Draft, "Conceptually: Solid" HSW
at the Concordia Club, Boston, 23 April 1971~~ - Citation k context at Solid. 25 Apr*71

-rwcSIKE

Energy Event;

"All energy-event experimentation discloses omnioptimally economic, behavioral patterning of physical events. Every physical event in nonsimultaneous scenario Universe is characterised by three multidimensionally interlinked vectors that interact precessionally, i.e., at angles other than 180 degrees to one another, as in the multidimensional, helically xig-xagging pattern of lightning."

- Cite SYNERGETICS text at Sec. 511.02, Mar»71

Energy Eyenfr:

"The open ended triangular spiral can be considered aa one energy event consisting of an action, reaction and resultant. Two such negative and positive events combine to fora the tetrahedron." One energy event is illustrated by a diagram of a man jumping from one boat to another.

(Adapted.)

- CiteSYNERGETICS ILLUSTRATIONS, caption /J

^RBF DEFINITIONS

Energy Event:

"An energy event is an energy transaction."

- Cite Definitions for SYNERGETICS BY PETER PEARCE. 1967

Energy Event:

"The energy event of an action and a reaction /"and a resultant-/ ie inherently processional because it is against gravity. It is a linear acceleration and an angular acceleration simultaneously, as functions with a prominent resultant and a prominent reaction. Because we have now learned that these are going to be at angles other than 180 , the three-fold affair is obviously not going to occur in a plane. Therefore, we are not surprised to find that our event has a positive and a negative pair of events which then come together to make the tetrahedron, the tetrahedron then being the consequence of a positive and a negative event and it becomes the first subdivision of Universe."

- Cite OREGON Lecture #5 - p. 175> 9 Jul'62

Energy $\mathcal{E}Y_m =$

•When the end of one energy action comes over the middle of another energy vector there is a precessional effect, a tensional effect. One energy event gets angularly precessed and the next energy event goes by the center of another mass and each one of them are interacting together. It is a basketry interweaving where each one precesses the other angularly so that they hold together very much as a cotton ball.

... •

- Citation in context at Matter, p. 62

energy in the form of a vector

"We have an explanation of structural engineering in force diagrams. You hear engineers say you have action and reaction so there really are always sort of two lines. If I get a result like this I get a reaction in the opposite direction. I began to discover that this was an oversimplification. At the top here I have a man standing and he jumps. In the first place I want you to remember that he jumps. He doesn't glide horizontally, he jumps. That is, he goes outwardly from the center of the Earth and that is a vector. That is an energy action in itself. He jumps. He is the action. The action was not just horizontal but also vertical. It was mildly vertical in that he went outwardly. He represents already this kind of a motion and this kind of a motion. As he jumps this boat goes into reaction and shoots off that way and then a moment later he lands and the boat goes this way so he is the action and he is complex in that he is both horizontal and vertical and he jumped. There is a reaction and a result so there really is a four-foldedness going on. Sometimes it looks quite three-folded because he doesn't jump very high. It is all right for us to think of a tetrahedron very low in

Energy Event: SlidyU

(1)

altitude.”

(See Slides #43-46

140-141. Illustration #3.) 6 Jul'62

Energy Event* (Second Slide):

(2)

"Now here is another case and it has a whole lot to do with how those boats were angled in their keels. There are all kinds of fundamentals of shape. Much of the action->reaction kind of talk doesn't pay much attention to those relationships. At any rate, we have him now jumping again from the stern of the boat and so this one starts to whirl that way and the end comes round like this and he jumps in this one and it goes off like this. This one whirls around and starts to follow him so that the reaction is following the resultant. They are not going in opposite directions."

- Cite Oregon Lecture #4, p. 141, 6 Jul'62

Energy Event: (Third Slide)?

(3)

"Now the boats are more or less parallel to one another so he jumps from one to the other and they literally run around and run into each other. The reaction and resultant run into each other. Notice that this begins to look like a triangle and there also, as I said, was a vertical component out towards it so it not only looked like a triangle but more or less our friend tetrahedron."

• Cite Oregon Lecture #4, p. 141 • 6 Jul'62

'ENC/KV ScC?'s/|,2||

"This complex of his action and the reaction, I call an event. This is a picture of an event and it has also a vertical component coming out towards us. I see that the event could look like this. It could look something like a triangle, and so forth. Now then, let me take an event which seems to be in three parts, but which also has a vertical component and can also look like a tripod of a camera--- and the tripod legs want to spread outwardly.

Then I have another event where the thing comes around on itself, like this, and it contains it so here we have the tripod. In one and the other event, I have two events coming together and one of them comes back around to itself and prevents the legs of the tripod from going outwardly. It is like three strings between the three feet of the tripod and they won't let it go any further because our friend tetrahedron begins to show up so suddenly we have a stable structure. Remember yesterday I also showed you a picture with three things falling towards each other and the legs were sliding out and then we finally contained them. Now we are coming back here to where we have two events which can develop a stability."

- Cite urgeon Lecture A, pp. 141-142. 6 Jul*62

KbF JibKIMThuNS

Energy Event: (Synergetics Illustration #2.): (5)

"Here is our friend the 2-form which we were talking about. I spoke about a triangle and a triangle we said could really be opened and look like a Z. Then we must find they are not operating in a plane, there is no such thing as a plane, therefore one of the legs is sticking up a little. Here is our 2-form. I have a positive Z and a negative Z. One cannot nest in the other. Notice if I try to make this vertical leg go to the other one, this one refuses to go. One is a positive and the other a negative helix--- spirals, and they will never be congruent with one another. I put them together like this and they complement

one another and they become the tetrahedron. This way you can really see that each one of those is what we call the triangle. An event is a triangle, A triangle is an event. Two of them together make the tetrahedron."

- Cite Oregon Lecture #4, p. 142. 6 Jul*62

FVSM T - 5*5 5ril, m

B» DUBinOB

iaawcr Mw

□111 «xp«rl³⁵ento pwtwasod, book* wrlttoo, thoughts expressed ana structures completed, are .finite energy events* Together they fora a totality, a cornucopia of patterned quanta. . . . experience is as finite as any other energy phenomenon."

Energy Event;

*, , , All energy event experimentation has shown systematic and most economic behavior patterning."

- Cite MARKS, p. 48, i960

See Action-reaction-reagent

Basic Event

Event

Three-vector Tease

Z-cobrae

See Atom. 20 Oct¹72» 8 3ep»75 Invisible Motion, 13 Mar»73* Matter. 9 Jul'62 Particle, 6 Jul*62 Regenerative. 15 Mar*71 Resultant, 22 Jul*71 Six Degrees of Freedom, Jun'66* ; Dec'71 Solid, 25 Apr'71* Tetrahedron: Inside-outing Of, Jun'66 Triangle, 1967; 14 Feb'66 Vector, 22 Jul ' 71 Verbs, 1969 Special Case, 27 Dec'74* Structure, 3 Oct'72 Environment, 28 »ar'77; 29 Har'77

35 f'MFiSC'r 5T)l. 0 Z /

Sea Universal Integrity: Manifest k Potential Hating Vector Equilibrium: Field of Energy

Energy Field: Energetic Field:

(2)

See Synergetics, 11 Oct'73

$E_{\text{nergT}} FJlw * D_{\text{lacQQt.lruUr}}$

Synergetics, 2nd. Ed. : Secs. 935«1O - .10

Energy-harvesting Dwelling-aachine Devicea:

See Impossible: Only the Impossible Happens, (A)

Energy Harvesting;

See Ererbody'a Business, (2)(3)

BBF DEFINITIONS

Enerav-as-Heat:

"When energy-as-heat la progressively extracted from systems by cryogenics the geometries visibly approach equilibrium. Which ia to say that removing energy-as-heat reduces the anyonetrical pulsativeness in respect to equilibrium. As the asynnetric kinetics of energy-as-heat are removed, the whole field of vectors approach identical length and identical angular interaction. That is to say that they approach the model of closest packed spherical energy fields. The lines interconnecting the adjacent spheres' centers ebstitute a vectorial isatrix in which all the lines and angles are identical, which is spoken of by the mathematical physicists as the isotropic vector matrix, i.e., where all the energy centers are identical, i.e., in equilibrium."

- Cite HBF dictation to EJA for SYNERGETICS, Beverly Hotel New York, 28 Feb. '71. Incorporated in "Synergetics," Sec. 205,2 Oct. '71.

Energy ap Heay?

"... Energy /appears/ *e heat-in-the-form-of- radiation. . . and as heat-as articulation-by-molecular- acceleration in gaaea. (The latter 18 conmonly identified by the combined behaviors known as conduction and convection.)

"Energy-aa-radiation (heat or light or radio) la refracted by the atmosphere."

- Cite PREVIEW, 14,1, P. 221, 1 Apr'49

See Cryogenica

(i)

See Hacmering Sheet Metal, (1)

Cold &. Vacuum, 1946

Energy Holding Patar-ip

See Holding Pattern* of Energy

Energy Income Sequence:

"Projection of the United States power base led us to the figure of 15,000 kilowatt hours per capita per meal. This will mean a total of 100 trillion kilowatt hours for the population of the world at the year 2000. « •

"These are the winds, the tidal, the geothermal, and algae culture energy sources. If we develop allthe hydroelectric power, that's 15 trillion. We could burn coal to make up the rest but we don't want to do it, because that's boning up our spaceship as we go aloag--- and that's something we can't replace." Income energy soucres " are the ways we get energy, as much energy as we need, without having to do that. There's a tremendous amount of tidal energy in the world

caused by the Moon's pull, where the levels are different. We could get about four trillion kilowatt hours out of all those tidal sources. Geothermal energy sources have to be investigated. And a very important source of energy is the Sun, which really comes into all the other energy sources. The most efficient way of taking energy from the Sun is by growing algae with it. • . Algae could be grown in the deserts with only a foot of rainfall. There's 50 trillion kilowatt hours potential in the Kalahari desert. And you could get"

- Cite RBF to World Game, Jun-Jul'69

(2)

"about 60 or 65 trillion kilowatt hours in the Sahara. . . We have very much more air power at all places around the Earth at more times than water power. It's simply a matter of how do we harness the intermittent receipts. It is by far the most promising. The tidal powers, of course, are phenomenal."

- Cite RBF to World Game at NT Studio School, 12 Jun-31Jul»69 Santa Anita Film transcript, Sound 2, Part 2, pp 22. + 48-51.

BBF DEFINITIONS

Energy XawM?

•In the past, Man had to do Many things shortsightedly and we have wasted a great deal of our natural heritage. We have squandered the fossil fuels which represented an extraordinary 'savings* or energy capability account stored up in the Earth. The great change now will be in a new type of accounting when we begin to draw more consciously on the fabulous ¹ income* energies of Sun, water, wind, and tidal powers--- which, if not used, will not be •saved* or impounded on the Earth."

- Citation and context at Population Sequence (7), Feb*67

Knorg Ineoaa:

See Energy Capital Main Engine# of Universe Wind Power Sequence
Alcohol as Fuel Energy Harvesting

See Boltzmann Sequence (2) Design Science & World Gene (B) World
Power Grid (2) Time-energy Economics, 15 Jun'74 Everybody's Business,
(3) Windworks Windmill, (1)(2) Building Industry, (11) No Energy
Crisis, (2)

EPCFKT fc lafonnatlen:

•Physical is always special case. Energy is physical and always special case. Information is always special case. Energy is information: information is energy. Special case is always realised by its energetic information. Dimension is unique frequency information. Time incrementation is special case information. Concept Is general; information is quantitative (special case).*

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1075.12, 27 Dec*74

Energy Integrity:

See Tetrahedron, (1)

"Though having no one common component part identification, the difference between the 1904 Wright Brother#* biplane and the 1963 superjet, supersonic, stratosphere monoplane is only a group difference of a minor complex of almost 60 packed years of experience with the same body of experience called airship: which, in turn, only specialised in a few of the greater body of principles called ship: which specialised in a few of the greater body of principles called Earth:

which specialised in a few of the greater body of principles called motion: which specialized in a few of the greater body of principles called energy: which specialized as an original function for the comprehensive Universe. The first derived coordinates of Universe would seem to be functions of energy variant in respect to Intellect."

- Citation and context at Periodic Experience, (7), Fay'49

See Intellect: Equation Of Wealth: Equation Of Coordinates of Universe Intellect in Physical Universe Equation: Riilosoph!cal Equations

HbF JhFIh!TIOhb

Energy Slower Than Intellect:

Mathematics implements man's calculations within minutes regarding energy actions requiring eons of time. Kan's intellect masters energy's fastest behaviors. Energy light years are calculated in intellect seconds. Omniscience is evidently of <omprehensively transcendental alacrity to the speed of light. . .**

- For citation and context see Intellect: Intellections , 1960

Enerrr Slower than Intellect:

See Intellect: Speed Of

Involvement of 92 Elegants: (1}

"The physical Universe is an aggregate of frequencies.

"Each chemical element is uniquely identifiable in the eldFo- magnetic ppectrum by its own unique set of separately unique frequencies. None of the chemical-element sets or individual frequencies is the same as those of any iHl of the other chemical elements' frquencies. The different frequencies of one element's set produce unique cyclic-frequency interactions whose resonances are similar to musical chords.

"The electromagnetic spectrum of physical Universe embraces the full spectrum range of as yet discovered and identified radiation frequencies of all the first 92 self-regenerative, as well as the only split-second enduring elements beyond the 92 self-regeneratives thus far discovered by experimental physics. The macro/micro-cosmic electromagnetic spectrum chart discloses a cosmic orchestration that ranges from those of the microcosmic to the very complex macrocosmic-embracing whole celestial Universe nebulae. The human senses are able to tune in no more than one-millionth of the total known frequency range limits of the presently known electromagnetic spectrum."

- Cite SYNERGETICS text at Sec. 515.21, draft of Jul'71

Energy Involvement of 92 Elements: (2)

"Whether expressed in foot-pounds per minute or kilowatt- hours, the total physical work done by all the muscles of all humans in all the two and one-half million years of known presence of humans aboard our Planet Earth, amounts to less than the energy released in one second of time by one hurricane; one hurricane's released energy equals the total energy of the combined atomic bombs thus far produced and stockpiled by the Russians and the U.S.A. In contradistinction to this minuscule energy involvement of all history's human muscle, the invisible, weightless, but cosmically magnificent minds of humans have thus far discovered, quantized, and catalogued the relative abundance of each and all of the 92 regenerative chemical elements occurring on all the visible stars of known Universe. Thus emerges human awareness of the physical-energy-mastering potential of the metaphysical mind's extraordinary information sorting and -analyzing capability."

- Cite SYNERGETICS text at Sec. 515.21; draft of 25 Jul'71

Energy Involvement of 92 Chemical Elements;

"The physical Universe is an aggregate of frequencies. Each chemical element is uniquely identifiable in the electromagnetic spectrum by its frequencies. None of them resemble each other and their interactions bring about other unique cycles of frequencies which act like great musical chords. We have a great orchestration which grows from the micro which are absolutely undetectable by human senses, to the very complex which are in terms of the whole galaxies. In fact the human senses are only able to tune in about a millionth of the total known realm of identities of phenomena. Thus comes the awareness of the physical giving the metaphysical employment--- to apply its extraordinary sorting capability."

- Cite Draft Preface to Francis Warner, circa 1970 (Later version at same citation (1)(2))

Energy Involvement of 92 Chemical Elements:

See Atoms: All the Experiences with All the Atoms

famxr IAV

See Seoultent, 22 Jul*71

Ermrrr Laaki

See Tetrahedron: Leak in its Corners Vertaxial Connections

Rlgrgr HftgnltUdOB: Order Of:

As a consequence of discovering that the 'environment' could be effectively analysed by quantum mechanics, it then became clear that what man had been designating as 'typhoons' or 'dew*' fell into a table of abstract numbers elegantly arrangeable in an ardor of energy magnitudes."

* Citation at Quantum Jun'66

See Environment Events Hierarchy Fast & Slow Hierarchies

See Vectorial Model of Interference, Apr*71
Series VB, Parallel Circuitry, 11 Dec'75

**See Octahedron, 23 Jun*75 Technology: Enchant® ent re. Dlaenchan-
taent, (3)**

See High Voltage Power Transalssion

Railroad Tracks: Great-circle Railroad Tracks Or Energy

5alo?d Tr*!t»: Triangular Sgsten of Energy Networks World Power Grid

Bounce Patterns

Holding Patterns

hbF DaFIMITIONS

Energy * • **Number;**

"Since physical Universe is entirely energetic, all dimension must be energetic. Synergetics is energetic geometry since it identifies energy with number. Energetic geometry employs 60-degree coordination because that is nature's way to closest-pack spheres."

- Cite SYNERGETICS text at Sec. 200.03, Oct'71

See Unit, Jul*71

*« . . Energy packaged aa natter and rodiatrlbutod aa radiation

- Citation and context at Boltanarm Sequence (2), De o'72

See Photon

**See Boltzmann Sequence (2)* Tetrahedron, 14 War*71 Thinking, (II)
Fourth-dimensional Synergetics Mathematics, 14 Dec*76**

Energy Proclivity Model:

Se© Sadiation-gmviatlon Model, 26 Sep'73

See Teneegrly Model of Self-Interference of Energy 25 Mar*75

W WIWITluKS

Energy Quanta Values: (1)

"If the tetrahedron's volume is taken as unity, the octahedron's volume is four, the cube's volume is three, the rhombic dodecahedron's is six, and the vector equilibrium's is 20.

"This is the hierarchy of rational energy Quanta values in synergetics which the author discovered in his youth when he first sought for an omnirational coordinate system of Universe in equilibrium against which to measure the relative degrees of orderly asymmetries consequent to the cosmic myriad of pulsatively propagated energetic transactions and transformations of eternally conserving evolutionary events.

"Though almost all the involved geometries were long well known, they had always been quantized in terms of the cube as volumetric unity and its edges as linear unity which, when employed in evaluating the other polyhedra produced such a disarray of irrational fraction values as to imply that the other polyhedra were only side-show geometric freaks and, at best, 'interesting aesthetic objets d'art.*"

"That second powering exists today in academic brains only as •squaring' and third powering only as cubing is manifest in"

- Cite SYhh.RGt.TICS draft. Sec. JrQ2-, 6 Oct'72

Energy Qtfap VfljMW (2)

"any scientific blackboard discourse as the scientists always speak of the X^2 which they have just used as ³⁶ X squared' and likewise always account X^3 as *1 cubed.*"

36 Cite SYNERGETICS draft. Sec. 454.02, 6 Oct'72

See Energy Accounting
Quantum Values

See Frequency, JilFPftfc- k Wave. Jun*66 Metaphysical Disconnect,
<9 Jun*71 Synergetics, (A); 17 Oct*77 Universal Integrity: VE &
Icosa, (2)

Energy Snrlncc Account a
See Energy Capital
Energy Has Shane:

Energy has shape* Energy transforms and trans-shapes in an evolving way. Planck's contemporary scientists were not paying any attention to that. Science had been thinking shapelessly. The predicament occurred that way. It's not the size of the bucket--- size is special case--- they had the wrong shape. If they had had the right shape they would have found a whole rational number constant; and if the whole number found was greater than unity, or a rational fraction of unity, they would simply have had to divide or multiply to find unity itself."

- Cite RBF rewrite of dictation to EJA, 24 Sep'73
- Incorporated in SYNERGETICS text at Sec. 223.89

Energy Has Shape:

"Energy has shape. And they're not paying any attention to that. Science has been thinking shapelessly. The predicament occurred that way. It's not the size of the bucket--- site is special case--- they had the wrong shape."

- Cite RBF to EJA, 3200 Idaho, WalDC, 24 Sep'73

faergr faa Shape?

See Modules: A & B Quanta Modules

Energy Slave:

"In energy slave is an inorganic energy-processing device which is an externalisation of one of the internal functions of nan. It is a composite measure of the level of industrialization; it is found by taking the total amount of energy consumed and converted to effective work by nan, and dividing this by the amount of work one man is able to do in a year, this gives the man-year equivalents of work being done for man by his inanimate slaves.

"In 1970: One energy slave ` ` 37,500,000 foot-pounds One energy slave - 14.1232 kilowatt hours One energy slave - .0017654 tons (metric) of coal equivalent

- Cite World Game Series, Doc. #1, p.99, 1971

Energy Slav: (1)

"May I mention energy? The mrrv slave . . . had its roots

- . . when I was with Fortune Magazine doing its Tenth Anniversary issue of 1940, we calculated what percentage of the energy of the planet each person has,

"Just 1810, a hundred and fifty years ago, the United States Treasury made the first economic census of America. We had one million families in America in 1810. Shocking figures. We also had one million human slaves in the United States; that is, one per family. There were very,very few families who literally owned those slaves. At that time the Treasury valued the homestead, the average homestead at \$350 and the average man slave was worth \$400, or \$50 more than the homestead. The machine could do some work for you. But there were no tractors, and nothing coming over any wires yet, in 1810. When we talk about energy we mean the ability to do work, the ability to lift one pound one foot and then have foot-pounds per minute. You are trying to describe something acting directly against gravity and mass attraction. So we have the armies of the Earth measuring the capabilities of young human beings to carry loads up mountains, or whatever. Foot-pounds of work for a given amount of energy intake."

- Cite World Game, Jun-Jul'69

Energy Slave; (2)

"If you take the work that a young healthy man can do in a year, and once you get the foot-pounds you can get the decimal units or kilowatts, or anything you want from kilowatt hours. We have manpower years. And we can rate those as if we were talking about horsepower years.

"I found that the way we use our energy, either as matter--- the way we design an engine, the relative efficiencies, and use up a whole lot of energies in some kind of engines, or reciprocating ... our automobiles are only 15 percent efficient. They were actually not designed right because you have the explosion on top of the piston, and the piston connecting with the connecting rod and the crankshaft center--- it contradicts you immediately--- 15 percent is all you get out of it. In the turbine you have the explosion on the side to go, with a 90-degree restraint instead of a 180-degree restraint, and you get 30 percent efficiency. In our Jet engine without any connecting rod at all, you get 60 percent efficiency. Increments each time of 15, 30, and 60 percent. It is interesting to understand these things we are doing."

- Cite World Game, Jun-Jul'69

Energy. Slave; (3)

"Now, I found that our overall use of our energy, our design, is very bad. We have in America--- and it's beginning to be that way around the rest of the world--- but at all times in America there are over a million cars standing in front of red lights with their engines going, averaging 100 horsepower, and going nowhere¹. And we try to get the Russians

and Americanstogether with the Arabs and Israelis fighting over Arabia just to do that kind of nonsense.

"So I find that our overall efficiency is only about 4 per cent, therefore, taking the total energy consumed in what they call a network economy. . . If you are on the Eastern seaboard here, and the amount of energy we take in per year, of food and water and power and coal and fossil fuels, and divide that up by 25 you get 4 percent which we are realizing. Then you come out with so many kilowatt hours and you can put that into manpower, and I call that one energy slave."

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul*69, from Saturn Film transcript, Sound 1, Take 1, pp.11-14*

Energy Slave;

"It is a very extraordinary kind of a picture, looking at those energy slaves / `` plotted on the Dymaxion Airocean World raap_7. Notice that America then is really quite white, . , When you get out to the West Coast the number of energy slaves per individual is fantastically high. China is beginning to show much more white. When I dUthis in 1940 China, had practically no white. India is till very,very red. And you get all those reds in Africa with just a few little whites scattered around. In South America notice all reds and very little whites. Nothing could give you more quickly the fundamnetals of man's being successful and unsuccesful for a generation of life,"

brief picture of the external

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul³⁷ 69» from Saturn Film transcript, Sodnd 1, Take 1, pp, 15*16, rbf definitions

37 This in a sense is a metabolics,"

Energy Slave:

"One energy slave is the amount of foot-pounds of work per day that a healthy human being can perform.' "

- Cite RBF Glossary of Terms bound in "The Live Book Squad

1967

Energy

"Energy slaves are determined as follows: In an eight-hour day one man can do approximately 1\$0,000 foot-pounds of work (the energy required to lift one pound one foot vertically). Consumption of mineral and water energy in 1950 is estimated at 80-1/6 quintillion foot-pounds. Ilan's efficiency converts only a rough four percent of these into work, or about 3-1/5 quintillion foot-pounds. Dividing this by 250 work days' (one year) energy output of one man (37\$ million foot-pounds), the result is 85\$ billion man-year equivalents of work done by machines and structures. These equivalents are called energy slaves."

McHale, R. Buckminster Fuller, 1962

- Cite Caption, Figure 31,

Energy Slave:

See Capital Worth of U.S, Econocalc Accounting Sy a ten Tools: Extern-
nalised Tooling Per Capita World Game

See Artificial, (2)

Gravity, (A)

See Experiences as Local Instances, 1970

KtlaUonahiMi

Sea Ti*a & Energy

See Railroad Tracks: Great Circle Energy Tracks On The Surface of a Sphere

Energy Traps:

See Fly's-eye Donee, 21 Jun'77

HBf DEFINITIONS

EdWKT VnAV

"The unit of energy is the t yah edr on with its six-degrees-of ainiauaTreedoais vector edges...*

- Citation 4c context at Unit Radius_t 17 Jan*74

Bnercr Unlv«r»«:

See Heelprocity, (1)

Energy Vector*:

See Hexagonal Vector Pattern, S Hey'72 Tine, 27 May*72

BB? DKFINITI01IS

□The larger the energy-wealth eyeten, the more efficiently does it operate. Conversely, as energy systems grow larger they lose energy more slowly."

- Cite RBF quoted by William Kuhns in "The Post-Industrial Prophets* (Harper-Colophon), New Tork, p.234. 1971
Inhibits

See Energy Capital (1)

(U)

Energy;

See Absolute Energy

Absolute Network of Energy

Available Energy

Bounce Patterns of Energy
Centers of Energy Rebirth
Conservation of Energy
Cosmic Energy
Free Energy vs. Structure
Frequency - Experienced Physical Energy
Grand Central Station of Energy
Holding Patterns of Energy
Hot Valve of Absolute Energy
Inanimate Energy Power
Income Energy
Impounding Sun Energy: Nature's Kost Important
Trick
Lost Energies
Mass-energy Relationship
Matter
Matter vs. Radiation
Multienergied Complex
Kind vs. Energy

See Ninety-two Elements as Cargoes of Energy Ninety-two Tendencies to Self-impoundment Of Energy

Physical Universe
Radiation
Railroad Tracks: Great-circle Energy Tracks
Sun Energy
Tensegrity Model of Self-Interference of Energy
Time 4 Energy
Time vs. Energy
Thought 4 Energy
Universe as Energy & Information

Volume-energy Ratios

Wealth: Equation Of

Zero Energy

Unit Cosmic Energy

No Energy Crisis

Eternity vs Energy

Total Energy

Energy:

(2}

See Change, 9 Nov*72

Energetic-synergetic, 1960* Integrity of Universe, 23 Sep'73 Man as a Function of Universe (A)* Mass, 14 May»73 Powering: Fourth Powering. 15 Oct*72 Reflection Sequence: Apple (1) Regenerative, 1960* Rotate, 6 May'48* Shunting: Relative Motion Pattern, 1955 Synergetics, 1y Jan*71* Tetrahedron, Jun¹66* Vector, 22 Jul»71 Vector Equilibrium (1) Wealth, 1y47, Kay*70; 20 Sep*76 Universe, 1944 Time, 27 May*72 Quantum Mechanics: Grand Strategy, 10 Apr*75 Human Unsettlement, (2)

See Energy Accounting

Energy Advantage

Energy Capital

Energy Centers

Energy Crisis

Energy Event

Energy Field

Energy-as-H eat

Energy Holding Pattern

Energy Income

Energy Inhibited as Zoology or Vegetation

Energy Integrity

Energy *□□□□□□ k Intellect

Energy Slower than Intellect

Energyless

Energy Lag

Energy Leak

Energy I'agnitudes

Energy Network

Energy & Information

See Energy Package

Energy Proclivity Model

Energy Quanta Values

Energy Savings Account

Energy Has Shape

Energy Slave

Energy Systems

Energy-time Relationship

Energy Trajectories

Energy Unit

Energy Universe

Energy Vectors

Energy Wealth Systems

Energy-as-radiation

Energy &. Number

Energy Behaviors

Energy Flow t Discontinuity

Energy Involvement of 92 Elements

Energy &. Volume

See Energy Harvesting

Energy Environment-harvesting Machines Energy-harvesting
Dwelling Machine Devices Energy Traps Energy Design

See ZewEnergy

See Metaphysical, 13 May'73

EnMndwlniP

See Fertilisation, 27 Dec'74

See Automobile Engine Electric Motor Gas Turbine Efficiency of En-
gines Machine Methane Gas Engine Reciprocating Engine Steam En-
gine

See Energy Slave, (2)

Engineer-Saint:

See Fuller, R,B: Described as Engineer-Saint

Engineering:

"Engineering really started at sea: It had to float--- and you couldn't
do it with stone."

- Cite RBF to Tale students, New Haven, 9 Dec'73

EfKUiEwIJUP

"Until the Introduction of geodesic structures, structural analysis
and engineering design strategies regarding clear-span structural
enclosures in general, and domical structures in particular, were
predicated upon the stress analysis of individual beams, columns,
and cantilevers as separate components and thereafter as a solid
congressional shell with no one local part receiving much, if any, aid

from other parts. Their primarily compressions! totality was aided here and there by tensional sinews but tension was a discontinuous local aid and subordinate. As academically constituted in the middle of this 20th century engineering could in no way predict, let alone rely upon, the synergetic behaviors of geodesics in which any one, several, or many of the components could be interchangeably removed without in any way jeopardizing the structural integrity cohering of the remaining structure. Engineering was therefore, and as yet is, utterly unable to analyze effectively and correctly tensegrity geodesic structural spheres in which none of the compression members ever touch one another and only the tension is continuous."

- Cite "Tensegrity," Portfolio-Art News, p.116, Dec'61 as rewritten by RBF in SYNERGETICS at Sec. 640.02, 3 Oct'72

Engineering;

"Engineering holds that the prime difference between the point of view of laymen and engineers is that the layman does not recognize, anticipate, and pay heed, as do engineers, to the experimentally demonstrable fact that every action always has an equal and opposite reaction. But the engineers have not modernized their concept to accommodate and adjust refiningly to two of the scientists' recent physical discoveries and measurements--- first; of light's speed, as well as the speed of all electromagnetically propagated radiation; and secondly, the phenomenon known as precession. The approximately one billion kilometers per hour speed of all radiation being too fast for human sense apprehendability, the engineers have not yet been constrained to recognize, as must the physicist, that there is no instant Universe, as was misassumed by all pre-twentieth century scientific cosmologies and cosmogonies--- before the knowledge

that light had indeed a speed. Engineering must now acknowledge realistically and accommodate analytically the experimentally demonstrable fact that every action has not only a reaction, but also a nonsimultaneously, but immediately subsequent, resultant."

- Cite NEHRU SPEECH, p.22, 13 Nov'6?

Engineering;

"Unfortunately engineering has connitted itself in the past exclusively to locally infinite and inherently indeterminate systems and have had to rely essentially on the test proven, local behaviors of snail systems wuch as columns, beams, levers, et. al., opinionatedly fortified with 'safely gueslimated' complex predictions.

- Cite RBF Ltr. to Shoji Sadao, 15 Feb. '66, p.5.

RBF DEFINITIONS

"The processes of engineering

up to the moment of my invention of geodesic structures, are predicated upon the stress analysis of individual beam and column behaviors, as separate components

and thereafter upon comprehensively organised beams, columns and cantilevers as a solid compressions! over-all integrity of cohesion, aided here and there by tensionally exaggerated sinews--- tension being suobordinate and local.

The reforest, engineering--- as academically constituted" can" in no way predict the associated behaviors of Geodesics in which any one, several or many of the components could be removed without, in any way, jeopardizing the structural integrity cohesion of the remaining primary structure."

- Cite "Tensegrity," PORTFOLIO + ART NEWS, p. 116, D«c, *<1

Engineering:

"The behavior pattern of engineering indicates that it functions not at the original design level, but as an inverted phase of science. Engineering is the judicial authority that never assumes the initiative but decides and proves the assertions of science and design. Engineering thus establishes reliable data on the failure limits of complex associations and also measures the new synergetic behavior characteristics discovered by design initiative. Thus, engineering rapidly places on inventory comprehensive data pertaining to the known behavior characteristics of complex associations previously undertaken by design. These complex associations may be broadly defined as alloys, structures, mechanics, processes and services. It is a function of engineering to provide society with reliable predictions as to the behavior characteristics of complex designs predicated on competent experience. Engineering, then, consolidates the net gains of science and design in the industrial complex. Gains are design intuited synergies."

- Cite DESIGN FOR SURVIVAL— PLUS, Chapter 10, Ifcl, p.191, Jan'49
See Dome: Rationale For

Industrial lag

Mechanics

More with Less

Prediction: Socio-economic ts. Engineering

Electrical Engineering

See Airplane Flight as Lift, 4 Oct*72 Anticipatory, 3 Nov*64 Future:
Han Backs into His Future, Nov*71 Poetry. 1962 Wind Stress & Houes,
(S) Cocnunications Hierarchy, (3) Structure, 23 Jan*76

Architectural Schools, 7 Oct*76

Zeiss Done, 14 Oct*76

Geodesic Domes, 12 May*77

See Action-reaction-resultant, Jun*66 ; May*71 Assumptions, 1946
Octet Trues in Tale Art Gallery. 6 Jan*\$5 Resultant, 22 Jul*71 Tech-
nocracy, 1947 Everybody* s Business, (1) Architecture, Nov*66 Ko
Opposites, 12 Nov*75 Universe is Technology, (1)

See Antorg Engineers

Sculptor vs. Engineer

English:

"English should not be called English; it should be called People's Lan-
guage because the Vikings, Jutes, Celts... Sanskrit it's all in there. It
has a lot to do with how tongues tend to behave. It's a pretty well
tested way; almost anybody can say it.*

- Cite KBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

English:

See Anglo-Auerican

People's Languag

See Succеее. 2 Mar'68 Survival, May'65

Eollthtfinwl SoiristmflBa”

Seo Perceptual Peephole as Fraction of Reality, Doc*69

Enough to Go Around: (1)

"To speak about the next 30 years of humanity on Earth in only 30
minutes leaves only about a minute per year. But the next 30 years
will be a period of extraordinary challenge in our time.

"There has been no other time in the history of human beings upon our
planet where so any hum ns have had knowledge of the existence of so
many other humans...the vast increase in knowledge has the potential
of liberating mankind from the clutches of poverty, pestilence, and
war....First human beings have to learn to deal with the totality of their
planet and the needs of the rest of their fellow beings.

"Man gradually survived the evolutionary process by learning how to cope with his environment. The vast know-how accumulation that has taken place in our time has given us the ability to take care of everyone on this planet, the world is rapidly becoming integrated, not isolated. Sixty percent of humanity now experiences a higher standard of living than the richest king did when I was a child."

- RBF quoted by Bob Swetnam in Pomona, CA., Progress Bulletin, 17 Apr¹'77

Enough to Go Around: (2)

"We are learning to do more things with less materials.... Twenty-three years from now all humanity could enjoy very high standards of living, if we would stop our outmoded thinking of national, local, and personal survival.

"We should begin to look out for one another. There is enough to go around for everyone. It is just a matter of realising how we can use the total....We can begin to put our highest hope in our young, for they are the ones who are receptive to the new knowledge, the rapidly changing world. The young are ready for the new leadership."

- Cite RBF quoted by Bob Swetnam In Pomona, CA., Progress Bulletin, 17 Apr'77

See Air le Socialised, Feb'67

Scarcity: Not Enough to Go Around, May *70

Everybody's Business, (3)

Success, 10 Sep'75

fOfiUSU: Hot fapltfh tfl 9Q Arguns

See Scarcity: Not Enough to Go Around

Enterprise:

"The word comes from 'to break in* and take the 'prises'. It came from the corsairs in the Mediterranean, the great pirates,"

- Cite RBF to EJA, Wash DC, 28 Nov'72

Enterprise:

"Enterprise as the drive to do something well is quite different from the drive just to make money. . . , Man going after his money gave him the kind of drive by virtue of which he would survive--- like a bee programmed to get his honey. But now we're coming out of that kind of an era,*

- Cite RBF to American Enterprise Institute lunch Mtg., Wash., DC, 28 Nov'72

"The high seas sailormen were inherently 'outlaws*--- therefore pirates. When one high seas crew seized another ship, she was called a prise into which they entered--- ergo, enterprise. Because the greatest pirates were, literally speaking, 'privately enterprising outlaws,' Bucky used the contracted form of this term, which is simply 'pirate,' to identify them.

- Citation and context at pirates: Great Pirates (1), 1968

Eatfirlac:

See Capitalism

Individual Economic Initiative Pirates: Great Pirate# Private Enterprise Free Enterprise

KBF UoFliilThubb

Entity:

"Whenever we refer to *n entity it has to be a naturally valid and therefore it -bee to be triangulated.*

- Cite R8F to SJ*, 3200 Idaho, DC, 20 Feb *72, re-written 22 Feb.

EBF DEFINITIONS

Entity;

”what we call an object

or an entity

is always an aggregate

it is never a solid.*

- Cite RBF to i-JA Beverly Hotel, New York 2fi February 1971

See Conceivable Entity Conceivable Entity - Prine Interentity Some-
thingness Subentity Thinkable Entity Reaemberable Entity

Entity;

(2)

See Cube. (1)

Dictionary, 1960 Direction, 2J Aug*71 Entropy, 28 Feb*71 Machines,
1970 Otherness Point, 24 Sep*73 Prine Otherness, 24 Sep'73 Thirty
Minimum Topological Characteristics, (1) Vector Equilibrium, 8
Sep'77

EatresU PUffritri

See Eternity, (1)(2) Radiation: Speed Of, Oct*71

Entro Pic ~Bvnt.ro ole:

See Syntropy & Entropy

RBF DEFINITIONS

Entropy;

”R - Entropy; Enei> as radiation; energy dleaeeciatlve.*

- Cite SYNERGETICS dz>ft at Sec. 1056.20 (Iten #30), 13 May*73

Entropy:

"For the obviously inanimate, Nonbiological, physical phenomena Are all, always, giving off energies In ever more diffuse, expansive And disorderly ways, Which impose complex intertransactions Upon all the intertransforming systems. This was only half anticipated In a generalized way By the late eighteenth-century scientists* Academically hailed Great 'Second Law of Thermodynamics,' Which discovered and recognized only The energy-exporting phase called entropy."

BRAIN & MIND.

- Cite p.85 May '72

Entropy:

"The sum total consequence of entropy is
An omni-expanding physical Universe
And an only 'apparently increasing) di Borderlines*.

This does not mean absolute disorder It means the superficial appearance Of less order than symmetry

And the disorder is only relative
To the majority of individual cases,
For each system

And its particular entropic exportings, Is orderly within itself

And the disorder is a false conclusion

Of too myopic and Short-term observing."

- Cite RBF Draft, BRAIN k MIND p. 9

- Slightly revised as BRAIN 4. MIND, p.90 May *72

"Entropy is not random PERIOD. People are just not waiting for the next □Wow,¹ Seen from a span of 10 years--- or 100 years--- the cycles appear not to fit. But if you wait long enough the cycles all reoccur. They are not at all random!**

(This is in the context of showing RBF a copy of EJA's letter to Hugh Kenner of 12 Fay *72, wherein RBF is quoted, 'Entropy is not random; it is always one negative tetrahedron.' RBF shouted the 'Period*' in fullcaps and italics.- - EJA.)

- Cite RBF to EJA, Royal Scots Grill breakfast, NY, 16 Fay '72

Eptropy:

"And it was mind alone that determined to identify semantically

The exporting of energy

By inventing the abstract name entropy."

- Cite BRAN &. MIND, P.gl May '72

R&F DiFIKITIOhS

Entropy:

"The leak in the tetrahedron's corners is the essence of entropy."

- For citation and context see Tetrahedron: The Leak in the Tetrahedron's Corners. 28 Feb '72

Entropy:

"Entropy means the initially disorderly Disengagement behaviors

Of seemingly random energy cone-apartness

Of only locally dying

Individual integral systems Of the cosmically eternal totality Of interminable Scenario Universe,"

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH Jan '72, p . 7.

Entropy;

"And it was mind that determined To identify the exporting of energy
By the abstract name of entropy."

- Cite RBF Draft, BRAIN & MIND, p. J, 1971

Entropy:

"Because of entropy

The lifeless environment

Is forever altering itself •

All living creatures,

Being both entropic and anti-entropic, Are, as Professor Waddington
points out. Forever altering the environment

At a faster rate than it alters itself*"

- Cite RBF Draft, BRAIN & MIND, p. 4

1971

Entropy:

. « The second Law of Thermodynamics • • • Discovered and recognized

Only the exporting phase of entropy,

"Entropy's behavior may be modernized to state That every separately experiencable And generalizably conceivable A System in universe Is continually exporting energies `./hile also always importing energies At concurrently accelerating and decelerating Local system rates."

- Cite RBF Draft, BRAIN & MIND, p. 5

1971

MT9PY*

"It is scientifically shown that every local system is continually giving off energy in disorderly and irreversible ways. This is called entropy. The energies that are given off alter the environment irreversibly. . . the biologicals take on and give off more energy than the nonbiologicals.*

- Cite Museum Keynote Address Denver, p. 3, 2 Jtm'71

Entropy;

"And the transition from being an entity to being a plurality of entities is precession, which is a peeling off into orbit rather than falling back in to the original entity.

"This explains entropy intimately.

"It also explains intimately the apparent energy losses in chemical transformations, associations and disassociations and high-order element disintegrations into a plurality of lower-order elements and nothing is lost.

"Entity has become invisible. The switch is precessional."

- Cite RBF to EJA, Beverly Hotel, NYC, 28 Feb*71

Entropy:

"The physical is inherently entropies it gives off energy in ever more disorderly ways."

- Citation at Physical. 13 Nov'69

Entropy:

"Entropy in the measurement of disorder within a closed system. Entropy measures the lack of information about a structure in a system."

- Cite RBF glossary of terms, SYNERGETICS draft, 19b 7 f C, 3 4 f)

RBF DhFBMITIOKS

Entropy;

"Th[®] physical universe as we have seen it is entirely characterised by entropy-- an ever increasing randomness, an ever increasing diffusion as all the different and non-simultaneous transformations and reorientations occur."

Mici fi, H?_ Jun*66

- Citation and context at ComBrehensive Universe (1), Jun'66 **srurKWTics-v»6vFRrr j?3)**

Entfgpx?

"At the turn of the century • . . scientists experimenting with entropy diecovered that while energy left one local system after another, it always did so only by joining other local systems. The scientists found that energy was always 100 percent accountable."

- IH I ii lllM_apeooL; p»'UnJMj

- Citation 4 context at Energy. Jun'66

j>r*'«er/<4 sec. 33)

Entropy:

Entropy frustrates perpetual autonomy of all local systems."

-Cite HOW TO MAINTAIN MAN AS A SUCCESS Utopia or Oblivion, p. 253

T9 Mar'65

Entropy;

The "discovery that all the differences between definite conceptual systems and finite, yet nonconceptual total universe seems to provide a fundamental means of identifying the physical phenomena entropy. Entropy no longer means Inherent escape of energy from any local

system or decrease of local order or Increase to disorder. Entropy now means the invisible extraction from any local definitive system of the negative conceptual entity, i.e.. one negative tetrahedron deposit*ed into universe balance of energy MBSHSSSBCBI conservation permitting the local extraction of any visible orderly conceptual system. Entropy is not random; it is always one negative tetrahedron." •
 . "it caa account finitely for any discrete rate of energy loss."

- Cite OMNIDIRECTIONAL HALO, p. 157. i960

Entropy:

"Entropy is not random; it is always one negative
 tetrahedron."

(Cited in Arthur Loeb's preface as "worthy of a place in American Literature next to" Gertrude Stein's.)

- Cite OMNIDIRECTIONAL HALO, p. 157, i960

• Incorporated 1* SYNERGETICS at Sec. 345 •

Entropy:

"Entropy la the effect of constant energy displacement between micro-macro of any system reciprocally accommodating locally permitted evolution and permeations and precessions inward."

- Cite RBF holograph in Synergetic notes, 5 Mar'55

Entropy aa Lack of Information:

"Entropy measures the lack of information about structure of a system,"

- Cite DBF rewrite, 3200 Idaho, taah. DC, 10 Sep'74

Eptropy ag LflcK Of fOFFVlQn-

□Entropy measures the lack of information about a structure in a system.**

- Citation **k** context at Entropy. 1967

See Order Finds Itself

Information TS. Entropy

(D

Saa Entropy, 1967*

Entropy * Randomness;

See Entropy, 16 May*72

Entropy Unpredictability:

See Reaction, May'65

See Antientropy

Eternal Slowdown

Expanding Universe Meshing Metaphysical Entropy Radiation as Entropy Random Element: Law of Increase Of The Syntropy Syntropy & Entropy Radiation Sequence Thermodynamics: Second Law Of Ultimate Entropy Wow: The Last Wow Information vs. Entropy Lost Energy

See Biologicals vs. Nonbiologicals, 2 Jun'71 Comprehensive Universe, <1)□ Conservation. Jun'66 i 22 Jul'71 Energy, Jan'66* Heisenberg-Eliot-Pound Sequence, 26 Jan'69 Local System, i960 Man as a Function of Universe. (A)-(D) Nucleus, (2) Physical, ij Nov'69* Tetrahedron: Leak in the Corners, 20 Dec'73; 28 Feb*72* Tidal, May*72 Universal Integrity: Principle Of, 8 May*72 Radiation, 11 Feb'76 Custom: Let One Good Custom Corrupt the World, (A)

See Entropy as lack of Information Entropy f Randomness Entropy - Unpredictability

See Surface, 2 Mov'73

RBF DEFINITIONS

Enxlcemfini:

(A)

"While environment plus me Equals Universe, Universe minus me
Does not equal environment.

"Environment does not exist without me. I an the living human experience.

Life is the present experience. Experience begins with awareness. No otherness: no awareness.

"I an one of the two prime othernesses: I an the single otherness, Environment is the plural otherness.

"I am the present otherness;
Environment is the past otherness.

"By the time I have become aware
Events have transpired,
Environment is inherently historical."

Envlrg.iWMV

"Environment is the complex of all Observed experiences of all life. Environment is the present scene And all the remembered scenes. And all the scenes remembered by all other scenes, »/hich I cannot remember, but memories of which are all registered in the environment To be disclosed from time to time."

- Cite RBF holograph rewrite; 3200 Idaho Avenue; 5 Feb'78; incorporated in SYNERGETICS 2 at sec 264*10.

EnvJ.n?njifint»

"The environment is not an aggregate of things but an aggregate of events to be intercepted and valued. . . . That's the trouble with insulation because it is just designed to shut in or shut out instead of valving the differentials for useful purpose,"

- Cite RBF to USAID conference, Foreign Disaster Assistance Conference Room, State Dept, Wash, DC; 12 May*77

Environment:

"The total complex of otherness is the environment.

- Citation in context at Self It Otherness. 28 Apr* 77

E_nYln?nnnV

"Environment is an aggregate of energy events---to each observer and external aggregate and an internal aggregate of energy events---energy events as radiation, as gravity, and energy events as chemical substances....

"The energy as internal and integral matter, which interimpinge and altogether constitute... the actual observer who may shuntingly impound the external energy environment events and shunt them into actions with which the internal energy as matter aggregate may alter the external aggregates of energy as matter... shunted into structural and mechanical interactions with energy-as-matter produces articulate (automated) or (nonarticulated automated) technological, biological, and mechano-structural organisms.

"The internal microcosmic and external macrocosmic environmental energy events as radiation impinge upon our biological organisms (structurally and metabolically automated) and upon mechanical and structural organisms at various rates and magnitudes of severity and gentleness. The milder the more frequent and the larger the less frequent; mosquitoes are more frequent than volcano eruptions, as controlled by unit cosmic energy's quantum mechanics wave-frequency laws.

- Cite R3F rewrite of 28 Par* 77 citation at 3200 Idaho, 29 May'77
Environngnv

"Environment is an aggregate of energy events."

- Cite RBF to White House Fellows, Watergate Hotel, Wash, DC

EaTIFPDPIPnt: 'System + environment « Universe Universe - system - environment.*

- Citation & context at iyatfln: Equation Of, ?7 Dec'74

gflTirgnpigat«

"Universe to each mat ba AU that is, including do. Environment in turn mat be All that is, excepting m."

- Cite Universal Requirements of a Dwelling Advantage, 31
---Incorporated in SYNERGETICS 2 at Sec. 100.012; 28 Apr*

Environment;

"The human is the nucleus of environment. He has named it

- Cite RBF cement on reading Environment entry cited to Edward Nm-
man, Feb*73 --- 22 Sep'7J

EnTirsnRwtt*

(D

"If I am only going to work on the environment and not on the individual, then I said, Number One: What's the environment? You've got to have a definition of the environment. So I have a definition of the environment which I've made into a little jingle:

Environment to each must be All that is, that isn't me. Universe in turn must be All that isn't me, and me.

"The only difference between Universe and environment is me, the observer, the transforming center where we can really convert information to action.

"The environment is an aggregate of events, not things. Some of the events are of long duration and others are short. And I saw that all the things that could happen to you and me, the events that could affect us, have two origins: the macrocosmic that impinge upon us from outside; or all the events that impinge upon us from inside of us. Whenever I can I always try to make a comprehensive prime definition and then break it into the main parts. So here are the macrocosmic and microcosmic - Cite RBF lecture at Wistar, Inst. EJA transcript p.9, 19 Feb'73

Environment:

"macrocosmic impingements upon us. And I saw that many of the macrocosmic, very large and very infrequent, would not impinge very often."

- Cite HBF lecture at Wistar Inst. EJA transcript p.9, 19 Feb'73
Environment:

"The only real difference between Universe and environment is me. So I find that the environment is not, of course, things; they're events. We find that the environment is really a pattern of events which occur and impinge on the individual from outside and from inside. Some of them occur very frequently--- the infrequent usually in larger magnitude and the frequent of fairly low magnitude. Man is the focus of these impingements and you can't stop any of them. ... And so, comprehensively, geometrically, outwardly and inwardly, at 1 y and

microcosmically, I find that man is really in the middle."

— Cite RBF in Edward Newman TV Interview, Feb'73
Environment:

"It was clear that environment is not a lot of things around us but consists of all the events of the Universe, I have since written a defining jingle:

Environment To each must be All that is That isn't me.

Universe

'In turn must be All that is Including me.

The only difference between Universe and Environment is me--- The experiencing observer."

- Cite RBF in Michael Ben-Eli interview, AD, Doc'72

"Real Universe probability accommodates the omnidirectional inter-accommodating transforming transaction of universal events which humanity identifies superficially as environment*

- Citation and context at Probability (1), 26 May'72

Environment;

"Environment to each must be

All that is that isn't me.

Universe in turn must be

All that isn't me and me."

(RBF Comment: "I had to get rid of the 'thingness' There are no things.")

Cite RBF to EJA, 3200 Idaho, Wash. X, 25 May'72

Environment:

"ENVIRONMENT to each must be EVERYTHING That isn't me.

"UNIVERSE

in turn must be ALL THAT ISN'T me AND me."

- Cite RBF over his signature dated, 30 Mar'72

(This version is frontispiece to BUCKMINSTER FULLER TO CHILDREN OF EARTH, compiled by Cam Smith, Doublet, NY, 1972)

Environment:

"Environment to each must be Everything that is not me. Universe in turn must be All that is not me and me.

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH Draft as of March 1972.

Environment:

"To each environment must be

All Universe excepting me. The Universe in turn must be All that isn't me plus me."

- Cite A DEFINITION OF EVOLUTION, 3 Oct »71.

Environment;

"To each of us environing nt. must be All that isn't me.

To each of us Universe must be All that isn't me plus me. Physics having found no things, There are no nouns.

Universe is a scenario of events, The regenerative interactions Of all otherness and me."

- Cite A Definition of Evolution, p. 1. 28 Sep *71 •

Environment:

"Environment is the whole raison d'etse of man's existence. . . This is why I became preoccupied with environment: how do we protect the infant, being born 4 genius, from being de-geniused by his environment."

- Cite RBF to Students International Meditation Seminar - U. Kass., Amherst, 22 July 1971.

κBF DuFlhlTIuhb

Environment:

"I would like to develop an environment where the parents would not be in any jeopardy we could possibly avoid. We have to consider the parents because to each human being environment is everything that isn't me. Environment is not just things, it is the whole behavior of nature and particularly it is the behaviors of the human beings around us."

- Cite KBF at blhb U. f>ass. Aahespt. 22 July *71.

Tala, 12, p. 46 ^{n v} >

&BF bEFL'.ITICHs

HwirpngjeRt:

"To each human environment is everything that isn't me.

And Universe is 'everything that isn't me' and me--- environment and me.**

- Cite RrF to EJA

Beverly Hotel, New York 15 March 1971

Environment i

"Environment plus self events Compound as Universe.^{1*}

- Citation and context at Universe_f pencil '71

Environment;

"• • • Envirnw---». ..ig_an the non-self."

"All the non-self is the environment Both the self and the non-self Consist of complex event evolvments. Environment plus self events Compound as Universe."

- Cite RBF Draft, BRAIN A, MIND, pencil, 1971

Environment:

•To each human being,environment is 'all of Universe that isn't me.*
Our macrocosmic and microcosmic 'isn't-me-ness* consists entirely
of diasynchronous frequencies of repetitions of angular changes and
complex interactions of waves of different lengths and frequencies of
repetition. Physics has found a Universe consisting only of frequency
and angle modulations. Our environment is a complex of frequen-
cies and angles. Our environment is a complex of different frequen-
cies of impingement--- from within and without--- uponthe individ-
ual 'me-nesses.' We are in a womb of complex frequencies. Some of
those frequencies man identifies ignorantly as 'sight, sound, touch,
and smell.' Others he calls 'tornadoes, earthquakes,neAe; ' Some he
ignorantly looks upon as static things: houses, rocks, and human-like
manikins." /

- Cite RBF's Introduction to CINEMA, p. 25. Oct*70

Gene YoJJgblood's EXPhNDED

KBF DEFINITIONS

environment:

"All animals except man adapt according to their environment.

Fan changes his environment, making it adapt to him."

- Cite I SEEM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Environment:

"To each of us environment is everything that isn't

- Cite I SEEM TO BE A VERB, Bantam, 1970

Enylrcwny

"To each of us environment naans: Everything that ia not no. Environ-
ment ia subdivisible into two parts, physical and setaphysical. The
metaphysical environment consists of human thoughts, generalised
principles, and custona."

- Citation and context at Bridge. 13 Nov*69

Environment:

"By environment I mean all of the Universe that is not self."

- Citation & Context at Genius: Children Are Born Geniuses. 1966

Environment:

"In attempting earnestly to think about our environment

we realise gradually that it is not a static stage set. It is the continually changing sum of all our external experiences. It is omnidynamic. It is a complex of events. Environment is all else of universe but self. Sometimes it feels superbly synchronous--- at others, discordant; 99.999/% of the events which constitute the physical and metaphysical universe are undetectable directly by our senses."

- Cite WHAT QUALITY EKVIROKKEKT, 24 Apr'67

Environment:

"The whole complex of everyday reality which compounds to constitute the environment continuity . . . is altogether identifiable as pure quantum mechanics.

It can therefore be treated with rigorously as a design science."

(Adapted.)

--fttE6~rHASA Speech, p_ 36, Jun'66

- Citation at Quantum Mechanics. Jun'66

FfYirDMfflt-

"As * consequence of discovering that the 'environment' could be effectively analyzed by quantum mechanics, it then became clear that what men had been designating as 'typhoons' or 'dew' fell into a table of abstract numbers elegantly arrangeable in the order of energy magnitudes."

- Citation at Quantum Jun*66
Environment;

, Man's control of his dynamic environment involves his recognition that environment is not static and does not consist of things. He must learn to think of the environment 'realistically' as the impingement on each individual and his receptor tuning-in of those impingements of a complex program of variously overlapping non-simultaneous events, occurring in a wide range of wave frequencies and energy magnitudes both within the non-sensorially tunable and visually tunable frequencies of the electromagnetic spectrum as well as within the wave and frequency patternings of the crystallineliquid and gaseous states of energy known superficially (and misleadingly) as matter.

"Each individual's environment of the moment is different from the next moment and from that of every other individual, though two or more individuals may think that they are mutually experiencing the same environment, 'this is because our environment is the consequence of our response to and employment of only a few of the operative factors present."

- Citation t context at Environment Events Hierarchy (1), Jun*66
fc-n¥j.rpn°ent ?

"The fate of humans on Earth will most probably be determined by whether humanity commits its competence primarily to transforming man or to transforming man's environment« If the former predominates humanity on Earth will probably lose; if the latter, humanity will probably win."

- Cite RBF Ltr. to Shoji Sadao, 15 Feb. '66., p. 6.
Environment:

"It is possible to design environments within which the child will be neither frustrated nor hurt, yet free to J

develop spontaneously and fully without trespassing on others. I have learned to undertake reform of the environment, and not to try to reform man. If we design the environment properly, it will permit child and nan to develop safely and to behave logically."

- Cite AAUW JOURNAL, May 1965, p. 174

Environment:

"... The comprehensive and complex interactions of Universe" which man "alludes to locally as environment."

~~* G+t.w TCITAI, IH IW1 mi-, y, M.t. 1 P't? r-~~ Citation and context at Free Will, May'49

Environment:

"I figure that when the environment la scientifically conceived and rendered, that the human occupants can then divest themselves of the necessity of onerous and puritanic hardship of conduct and yet accomplish successful and happy living in naturally engendered sanity."

Cite: Statement by RBF to EJA Wichita Kansas, 1946

•Man is nbt unique in having altered hie environment. All living creatures alter the environment in one way or another, and then the altered environment altera then back. Their is a chain reaction that goes on, giving rise to what we call evolution. And not only living creatures but every physical system gives off energies entropically, and thereby alters the environment. The Universe is a very complex environment

altering local processes, but there are creatures that alter their environment in discrete ways, and we find that when they do so, in as much as all creatures are processes, the altered environment, in its discrete way, carries out some function of the success of that creatures process."

(For follow-on text s«Bird*s Nest As A Tool (A)

- Cite RBF in Franklin Lecture, Auburn, Ala, 1970

See Epigenetic: Epigenetic Landscape Rearranging the Environment
Rearranging entries

See Berry Picking, (B) Biologicale ra. Nonbiologicale, 2 Jun¹71 Food
Production, 12 Jun'o9 Industrial Lag, 22 Jul*71 Politics: Acceeory af-
ter the Fact, 12 Aug*70 Syntropy A Entropy, May'72 Technology, (2)
Tool, 12 Jun'69 Telephone, (1) Industrial!eation, (A)

Environmental Cloae-up:

See Thought, May*49

Harmonic Interval, May*49

"All environment controls deal with the locally convergent events of
Universe

which impinge upon you from outside you and all the events which
impinge upon you from inside. There are all kinds of magnitudes and
frequencies.

The bigger ones are least frequent and the lesser ones more frequent.
They are on a quantum wave basis of absolute regularities.

I want to be able to provide what you want when you want it.

*I don' try to insulate;

I provide automatic means of intercepting and shunting angularly into holding patterns for further usability;

The intercepted energy or materials to be valved by you into your presence in the magnitudes and frequencies most favorable to you while being effectively considerate of all the ecological sustaining contingencies.

Environment controlling artifacts consist essentially of Structures and machinery."

- Citation & context at Trespassing: Not Trespassing (d), 31 May'74

"Mechanical advantaging environment controls consist of lever complexes.

Gear trains and turbines are lever complexes.

"There are optimally efficient structural strategies for providing the most advantageous environment control.

We must be able to let whatever we want in from any direction.

We must think of our controls as omnidirectional.

We must be able to get in and out in any direction we want.

We need an omnidirectional shutterable sieve

where we can increase or reduce the magnitudes of our omnidirectional environment valve openings.

"Since we wish to be able to see in any direction and likewise be able to obscure in any direction, we recognize that it is difficult to make an opaque wall transparent but it is very easy to opaque a transparent wall by curtaining and shuttering.

"Our structures must be considerate
of all human requirements

from those of the newly born child to those of the most aged.”

- Citation 4 context at Trespassing: Not Trespassing (f), 31 May*74

MBF D&Fli.ju'Iu;.S

Environment Control:

"The tetrahe .ron gives one unit of environment control per structure.

The octahedron gives two units of environment control per structure.

The icosahedron gives 3.7 units of environment control per structure."

- cite SIME.1GET1CS sec. frte.-yr, 3 uct'72

But geodesic structures. automobiles. B-47 jet bombers.

and ocean liners, are alike in that thee are all energetic and synergetic
environment control valv'em-»rlthi«-»....-i- aerices."

- Cite RBF draft Ltr. to Jim (fitsgibbon?) , Haleigh, NC, 1954-59

Environment Controls:

Univ, of Alaska Address, p.28ff, 20 Apr *72 •

612.10

612.11

See Environment Events Hierarchy Environment Valving Universal
Requirements of a Dwelling Advantage Airspace Technology Envi-
ronment Controls Units of Environment Control Dwelling Machines
Dwelling Device Energy Environment-harvesting Machines

See Architecture, Nov*66

Desovereignisation Sequence, (1)(2) Dome, 3 Jan¹71

Dymaxion Artifacts, (1)

Pathology: Preventive vs. Curative, (2)

Squatters, (2)

Umbrella, 29 Jul'76

Now House, (1)

Human Unsettlement, (2)

BBF DEFINITIONS

Environmental Designing;

"it that time /~1930_7 I also fait that the word 'architecture tended to sake huasna think only of classical orders rather than solving total humanity's evolutionary shelter problems by competent and comprehensively adequate anticipatory design of tools with which humanity could cope intelligently in solving their problems to everyone's progressively highest advantage and satisfaction. I then decided to rename 'architecture' and called it 'Environmental Designing.'"

* Citation and context at Ecology. Dec*72

Environment Enclosing Arts?

See Walls vs. Airspace Technology, (2)

gnylrsmnCTlt = Equation Of:

(1)

Seo Equation: Philosophical Equations

See Environment. 1971; 3 Oct¹ ?!; Mar'TZ; 25 May'72;

Dec'72; (1); 31 lay 74; 27 Dec'74; (A)

"In 1927 I put the physical and economic success of all s*n on the highest priority as a tactical objective, I felt that mn'a control of his dynamic environment involved his recognition that environment is not static and does not consist of things. He must learn to think of environment realistically as the impingement on each individual and his receptor tuning-in of those impingements of a complex program of variously overlapping nonsimultaneous events, occurring in a wide range of frequencies and energy magnitudes both within

the non-sensorially tunable and visually tunable frequencies of the electromagnetic spectrum as well as within the wave and frequency patternings of the crystalline, liquid, and gaseous states of energy know superficially (and misleadingly), as matter,

"Each Individual's environment of the moment is different from the next moment and from that of every other individual, though two or more individuals may think that they are mutually experiencing the same environment. This is because our environment is the consequence of our response to and employment of only a few of the operative factors present,"

- Cite NASA Speech, p.33» Jun'66

- At almost any spot anywhere around the Earth there are always thousands of different radio or TV programs silently and invisibly present. With a wideband radio set we can tune any one of their •twelve* components of the environment, in the same way* the other factors tune in or out.

"It seemed evident to me in 1927 that if these local metaphysical and physical event patterns could be realistically conceived that they then could be brought under control by design science to an ever increasingly satisfactory extent. This would permit the new life growing and developing within a favorably organized environment to do so without having its faculties damaged, its drives frustrated, its information storage system overloaded with false information, and its reflexes and subconscious coordination illogically coupled.

"In 1927 I said to myself: 'What do we know about the metaphysical and physical events that impinge on man?' I saw first that all the things that could happen to humanity came either from outside or from inside themselves and that I must catalogue them all in two main groups--- those of inside origin and those of outside origin, i.e., of microcosmic and macrocosmic origins."

- Cite NASA Speech, pp.3-34, Jun'66

"I decided next to start writing a list of everything I could remember as ever having happened to humanity. It rains on him_ It snows on him. People smile at him and people stick (their/butl tongues at him.

"I listed everything I could think of that could possibly happen to nan. I thought this listiikg might go on for months or years. I therefore was amaxed that in a few days I had written down everything I could recall ever having happened to anyone, either from inside himself or from outside himself. I compiled that list in 1927-28. In 1929 I showed my list to some engineering magazine editors. They were interested in it. They liked the idea of a checklist of all the things a design scientist has to cope with. Over a periomd of two years they made a few additions to my list and made it part of society's knowledge. This gave me perspective upon the list as does the spider gain a perspective view of the webbing it has extruded from itself.

"I said, 'Now that it is published, I see something about this list which is ridiculous. I see "hurricanes" nect to "mosquitoes."' I set about immediately to rearrange the list in the order of relative severity of vital threat to the human individual of the gamut of events that impinge upon man both" - Cite NA1A Speech, pp.34-35, Jun'66

Environmental Events Hierarchy:

<4)

"from outside and from inside himself. I rearranged all my environment items under headings of relative severity starting with »cataclysmic--- which contained novae, that is, exploding stars. Next came 'very dangerous.' Next came 'disturbing.' Next came 'annoting.' I ended with innocuous. When I had all the events distributed under

those headings, I then took the groups of Itemized events within the separate categories and arranged them in order of relative severity. None defied placement within this order of severity magnitude. When I had finished a truly surprising realization occurred.

"What I saw as that the more severe the event, the less frequently did it reccur. Earthquaked were far less frequent than bugs.

"I saw that the *iiole complex of everday reality which compounded to constitute 'the environment' continuity was altogether identifiable as pure quantum mechanics. It could therefore be treated with rigorously as a design science."

"Furthermore, its discovery as constituting quantum mechanics"

- Cite NASA Speech, pp.35-36, Jun*66

E.nrlrpnpentai Eygng Hierarchy; (5)

"'was a 'second derivative' realization as that phenomenon occurs in the calculus. This was a second derivative because it was a pattern realization that could not be apprehended until the first order of differentiation had been accomplished. The second derivatives are the mountain ranges which lie, unbeknownst to us, beyond the mountains that we first ascend,

"As a consequence of discovering that the environment could be effectively analyzed by quantum mechanics, it then became clear that what men had been designating as 'typhoons' or 'dew' fell into a table of abstract numbers elegantly arrangeable in an order of energy magnitudes.

"This experience told me how brilliant was EddirKon's definition of science: 'The earnest attempt to set in order the facts of experience. Only through such a second derivative experience regarding the science of treatment of experiences do we gain new insights. ThAt is all that the calculus does--- gets things in order. That is science.

"Ernest Mach, the great Viennese physicist whose name is used to designate ascending increments of supersonic speed, known as"

- Cite NASA Speech, p.36, Jun'66

Enylrgncientftl EYonta Hierarchy: (6)

"»Mach numbers/ said, 'Physics is experience arranged in most economical order.' To define the special case of science known as physics Mach added only the two words 'most economical' to Eddington's definition of generalised science. Mach made this qualification because physicists have found that nature always behaves most economically.

"Experiments show that there are six positive and six negative degrees of fundamental transformation freedoms, which provide twelve alternate ways in which nature can behave most economically upon each and every energy event occurrence.

"Eddington's generalized science could look with equal validity for less economical orders. Thus was Boolean algebra discovered by deliberate employment of the absurd, i.e., nonexperience, which would mean the deliberately noneconomical. Reductio ad absurdum is often a powerful tool of scientific exploration."

- Cite NASA Speech, pp. J6-J7, Jun'66

Environment Events Hierarchy:

"Just as it may be verified that the larger the magnitude of nature's environment events, the more energy involved, and concomitantly the lesser the type of event, the lesser the magnitude, the more frequent. This is basic to quanta and wave mechanics; and therefore, to teleological design strategy.

"It is a corollary that the more frequent and the more universal the events of environment--- and therefore the more universally adaptive the tool--- the simpler of its solution; for example, the simplicity of the biological cell nucleus which valves universal teleological problems; or the simplicity of the solar system's chemistry and that chemistry's transformation upon the solar system, and its checks and balances including VB its support of life on Earth, all done with the interplay of a few of the simpler atoms, and most universal of all and accounting for 99 per cent of the physical Universe are a few types of parts of the simplest structures of all: the atoms."

- Cite RBF draft Ltr. to Jim (fittgibbon?), Raleigh, NC, 1954-59

See Universal Requirements of a Dwelling Advantage Energy Magnitudes: Order Of Human Tolerance Limits

See Divide 4c Conquer Sequence, (1)

Social Adjustment, Feb*72

Quantum Mechanics: Grand Strategy, 30 Jan*75 Bauhaus School:
Remoteness Of, 24 Jan'58 Environment, 29 Mar*77

Environmental Inventory;

"Life begins only with otherness. Life, begins with awareness of environment. In percival W. Bridgman s identification of Einstein's science as ggjeim

the comprehensive inventory of environmental conditions is as essential to 'experimental evidence' as is the inventory of locally-focussed-upon experimental items and interopera- tional events."

- Cite SYNERGETICS 2 draft at Sec. 100.013; 28 Apr'77

"Dwellings are environment modifying machines: so are automobiles. Automobiles are little part-time dwellings on wheels. Both autos and dwelling are complex tools within the far vaster tool complex of world-embracing industrialisation."

- Citation & context at Newton Vs. Einstein. (2)_t16 Aug¹70

See Dwelling Machines

Energy Environment-modifying Machines

EmrlrMaMDtal T_{TO}MM:

See Cosaiic Inherency, (2) Conception-birth, 27 Dec¹74

"The patent examiner's actions of one-third of a century call for subdivision because there is no comprehensive dynamic class of functioning environment valve."

. Citation and context at Patent _r circa 1955

Environment Valving:

(1)

See Done: Rationale For Environment Controls Geodesic Dome Satellite Environment Controls

See Aesthetics, Dec*67

Berry Picking, (2)

Invisible Architecture, (D)(E)

Ninety-two Elements: Chart of Rate of Acquisition, (3)

Patent, 1955

Radome Sequence, (4)

Water, May'65

TEXT CITATIONS

Environment:

Chart: 'Teleological Schedule of Universal Design Requirements.

Oregon Lecture #2, pp, 62-65, 2 Jul*62

538.01	si 82
826.03	
	81073.12
	s1075.24
	si00.011
	8100.012
	8100.013

See A Priori Environment

Epigenetic

Epigenetic Landscape

Metaphysical Environment

Omnidirectional: Physical Existence Environment Surrounds

Rearranging the Environment

Reform of Environment Rather than Refor of Man

Self & Nonself

Life Alters Environment 4 Environment Alters Life

Energy Environment-harvesting Machines

Behavior 4 Environment

Equation: Philosophical Equations

See Bridge, 13 Nov*69*

Comprehensiveness, 3 Nov*64 Consciousness, Jun'66 Free Will.
Fay'49* Industrial Lag, 5 Jul'62 Intuition, Fay'72 Probability (1)*
Quantum Mechanics, Jun'66* Structure, 1 Oct'49 Universe, Mi Oct'71
Wholeness, 1954 System: Equation Of, 27 Dec'74*

Genius: Children Are Born Geniuses. 1968* Self i Otherness, 28
Apr'77*

Sensings & Eventings, 28 Apr*77

See Environment: Altering the Environment Environment Controls
Environmental Designing Environment Events Hierarchy Environment
Modifying Machines Environment Valving Environmental Twoness
Environmental Close-up Environment Enclosing Arts Environmental
Inventory Environment: Equation Of

Enxvoa x

•...Enxjmes are Molecular event integrities and involve electron bind-
ing proclivities.*

- Ci £5ⁱpJL?2^dc5^aXJ4^t frtrrtTMW In Magfl Ratio Bloctroa Bad Proton, 2
oct'72

bnzvmes:

"In connection with the 20 enxyme system indestructibility we
intuitively sense the necessity of consideration the possible interre-
lationships of all 20 of the enzymes' indestructible pattern integrities
with the minimal twenty- foldness of the icosahedron's 20 equiangu-
lar, triangular (ergo structural) pattern integrity as well as the Magic
number twentyness in the relative cosmic abundances of all tfce
atomic element isotopes which we have identified with mathematical
exactitude as existing in the icosahedrontetrahedron shell frequency
symmetry; and in particular with the inherent minimum energy twen-

tyfoldness of the tetrahedral volume of the subfrequency vector equilibrium's energy content whose fractional integrity subdivided by the complex of A and B Module reorientations is in the order of number of the enzymes' interrelationship permutations."

- Cite RBF holograph, 3200 Idaho Ave, rflash DC 25 Sep'72 later expanded as Sec. 105j5 SYNERGETICS draft 2 Oct'72

Enzymes:

"There are 20 enzymes and they can all be made in the laboratory They always reorganise themselves in geodesic tensegrity patterns. (~~~lnaⁿniraumrr-L,Hlil|||| lij-Ittrn-1 ir-~~

'That's why you can pull all of the liquid out of an egrf homogenize the contents † &nd then put it back in the shell and the embryo will reorganize itself--- even after the egg is a week old and the embryo has started to form. The enzymes themselves do this."

through a tiney needle-like hole

- Cite RBF to EJA. 3200 Idaho, 24 Sep*72

ffutiietiic fft&MMtr io \$S.6i

En»imwa:

(1)

See Amino Acids

See Icosahedron, 2 Oct*72

Ephemeral:

means conceptual but weightleeB—

"Enhmral

ae is for instance the concept of circularity."

- Cite HOW LITTLE, p.2, 0ct»66

EphrnWlimUB:

. the design science strategy of doing ever more with ever less."

- Cite WORLD GAME (3), Oct¹69

"This process of doing more with less may be encapsulated as ¹ ephemeralization.¹ The more ephemeralization advances, the more it is likely to become any one thing. The trend of the Airocean World is toward an entirely airborne technology. Cities and towns will tend to become Airocean bottom cloverleaves integrating highways and airways will become a unitary world network. Sea and waterfront cities will trend to diminishing cargo interchange significance and increasing recreational and abstract process significance."

- Cite Caption to Figure 182, Synergetics draft Chapter Dymaxion Circa 196? Airocean World.

"Doing vastly more with vastly and invisibly less is known technically as ephemeralization. The mass production of electronic controls inaugurated automation. With automation has come--- just now--- a dawning awareness of the invisible avalanche of ephemeralization.

"A key part of ephemeralization's acceleration has been played by the return of approximately all the world's metallic scrap into complete reuse. This scrap recirculation released by progressive obsolescence of earlier inventions by newer more efficient ones . . . constitutes a fundamental factor in the doing-more-with-less process."

- Cite GEOSOCIAL REVOLUTION, pp. 184-186

16 Sep*67

""Ephemeralization Is the doing of ever more with ever less, per given resource unit of pounds, time and energy.**

"Ephemerization Is accelerated by ever Increasing quantities of Invisible energy events of universe, detoured by human intellect from their previously only cosmically flowing patterns to flow through engineered channels and impinge upon intellect-invented levers and thereby to vastly augment the work accomplishable by mankind's muscles in rearranging the energetic environment events to more effectively sustain the metabolic regeneration of human life.

"Ephemerization, which constantly does more with visibly less--- as does, for instance, the one-quarter-ton communications satellite outperform <50,000 tons of transoceanic cables--- has not yet been formally isolated, recognized and discussed in print as such by any economists.

- Cite CITIZEN OF THE 21ST CENTURY (U or O), Pp.3-4, 1 Apr'67

Ephemerization;

(2)

"Until economists recognise it, ephemerization cannot be popularly comprehended and be adopted in public policy formulations."

- Cite CITIZEN OF THE 21ST CENTURY, (U or O), pp.3-4, 1 Apr'67

Ephemerization:

"Not only is man continually doing more with less--- which is a principle of trend we will call ephemerization--- a corollary of the principle of synergy-- but he is also demonstrating certain other visible trends of an epochal nature. Not only does he continually increase literacy but he continually affords more years of more advanced study to more people. The man becomes master of the machine and machines are introduced to carry on every kind of physical work with increased precision, effectiveness, and velocity. His skilled crafts, formerly intermittently patronised, graduate

from labor status to continuity of employment as research and development technicians. As man is progressively disemployed as a quantity production, muscle-and-reflex machine, he becomes progressively re-employed in the rapidly increasing army of research and development--- or of production-inaugurating engineering--- or of educational and recreational extension, as plowed back increment of industrialization.**

- Cite COMPREHENSIVE DESIGNER, pp.3-4, 1 Jun*49
Ephemeral!tation:

"The history of measurement exemplifies the trend progression factor which I have entitled ephemeral!tation. This progression evolutiBng from compression-* tension- visual-> abstractelectrical, is typical of all evolutionary trends: from might makes right to right makes might, to technology, to science, and to pure mathematics, the latter being contactable only through mind-functioning."

- Cits NINE CHAINS TO THE MOON, p.253, 193«
Ephemeralization:

"The very character of simple arithmetic of mathematics indicates that all progressions are from material to abstract, by which we mean intangibility, nonsensoriality ephemeralization."

- Cite NINE CHAINS TO THE MOON, p.256, 1938
See Ephemeral! zation, 1938

Process Relationships, 28 Jan*69 Truth, 30 Jan'75

See Invisible to Visible

Visible to Invisible

See Visual Symphony (1)(2)

See Design Revolution
Inventory of Djihwiltinciuu-Tranda
Invisibility: Trend To
More With Lesa
Tensegrity: Miniature Tensegrity Maato

Teasegrity: Unlimited Frequency of Gedesic Tensegritlea Measurement Trends

See Acceleration of Change (3)
Conversation Sequence (1)
Tg&mg.l.*- [£3
Gravity: Circumferential Leverage, (2)
Process Relationships, 28 Jan'69
Edeen etics;

"Because of the tidal fluctuations of syntropy-entropy Local environments are forever altering themselves.

Living phenomena, being both entropic and antientropic Are. as Professor Waddington points out, Foxier altering the environment

At a faster rate than the nonbiologicals.
And the ever-more-completely altered environment
Is, in turn, completely altering all the creatures.
Waddington identified this external modification
Of living morphology as epigenetics—
In contradistinction to the corporeal morphology
Of all living organisms' integral growth
Whose angle and frequency designing
Is governed by the internal DNA-RNA genetic codes.”
- Cite BRAIN & KIND, p.83 May '72
Epigenetic*;

"All living creatures.
 Being both entropic and anti-entropic,
 As, as Professor Waddington points out,
 Forever altering the environment
 At a faster rate than it alters itself.
 And the ever more completely
 Altered environment
 Is, in turn, continually altering
 All the creatures.
 This external modification
 Of living morphology
 Waddington calls epigenetics.
 This exponentially regenerative interplay
 Is describable in information theory
 As 'self-accelerating feedback*'
 And in nuclear physics it is manifest
 As chain-reaction
 And in an even more comprehensive way
 It is manifest irreversibly
 As a subfunctioning of universal evolution."

- Cite RBF Draft, BRAIN & MIND, p. 4, Feb»71

• The logistical evolution of human artifacts and their cumulative
 feedback transforming effects on human ecology's total environment
 transition and the latter's reciprocal modification of man's evolutionary
 patterning in Universe. . .

- Citation and context at Computer (A), 10 Dec'64
 Epigenetic Landscape:

All creatures, as with any systems including inanimate systems, give off their energies and thereby alter the environment by doing so. Living creatures alter the environment a little more as they give off more energies; they alter it much more than the inanimates. The altered environment requires alternation of the patterning of the living creatures. There is the

¹ epigenetic landscape.¹ the interplay of living creatures altering an environment and of an environment altering the creatures. This goes on and on and it is what we mean by evolution. It is inexorable and irreversible. Many creatures alter the environment in nondiscrete ways. Other creatures alter it in discrete and preferred patterns; as, for instance, the bird's nest."

- Cite COK.ITKhKT TO HUriAKITY, p.)2 , May'70

Epigenetic Landscape:

"There's continual evolution and change. Man tends to think of the great security of things. He feels that if he's familiar with it, he wants to hold on to it a little. • . just in fear. He's been afraid of change. But change is always there. But what we have unique about human beings in relation to other living species is the following • • •

*1 find when all the phenomena alters the environment, that its due to entropy, just as somebody would call a very inanimate system, as giving off energy. So in giving it off to the environment, it alters the environment. All the living creatures alter the environment a little more rapidly than the altered environment alters the cultures. So there's a feedback regeneration going on here, which brings about evolution."

- Cite RBF to World Game at NY studio school, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 1, Reel 1, pp.85-86.

RHF DdFIKITIuKS

Epigenetic Landscape:

"Professor Waddington the geneticist of Edinburgh IflBfilflBMHMMU-niversity points out that all biological species--- including humans--are continuum ally altering the environment and the altered environment in turn alters the biological lives. The process is regenerative. As genetics control the initial behaviors of the biological lives so too does the environment modify the regenerative phases of the biological lives. For this reason Professor Waddington speaks of the environment as the epigenetic landscape."

Cite UNESCO TIFLIS 1968, p. 1

RBF DiiFDiTIOTiS

"As no energy may be lost of Universe, and as all parts of Universe act, theoretically, upon all other parts, man may accomplish modification of his particular evolution only by relative modification of the aspects of the Universe. The picture is of Universe as a kaleidoscope Of sum-total symmetry only, the relative aspects of which may be dynamically and infinitely reordered without exemption of, or addition to. the component totality. Every shift (in the energy balance accomplished by man at Earth's crust) affects all Universe. Though fantastic, this is the scientific truth. If man seems frequently frustrated in his attempts at evolutionary modifications, all his failures and success may be truly evaluated in the scientific frame of total dynamic reference. It is an astronomical kaleidoscope--- the little fellow is shaking--- and from within. Even thinking about truth alters truth."

- Cite TOTAL THINKING, I&I, pp.225-226, May'49

Epigenetic:

Epigenetic Landscape:

See Environment: Altering the Environment

Evolution

Finite Furniture

Local Change

Organic /-odel

Rearranging

Scenery: Rearrange the Scenery Life Alters Environment Environment

Alters Life Human Ecology Trans, format ions

Charting Alternating Experiences of Man & Nature

See Computer, 1A)»

Environment, 24 Apr¹67

Individual Economic Initiative, (2)

EDieodes: Episodic:

See Scenario Universe, 19 Jul*76 Finite Event Scenario*, (2) Hunan
Beings 4 Complex Universe, (4)

Epjstenography:

StAfW/ "EpistesiQjB elucidates eplstenology. The word was invented
by E.J. Applewhite.*

- Cite RBF to EJA et. al, World Gone Workshop, Phila 22 Jul'75

TtJLT CITATIONS

Epistenography:

3260.00: 261.10-269.07

31044.14

Eplatemography:

(1)

See Thought Has Shape Conceptuality A a Polyhedral Conceptuality
A. Space Geometry of Thinking

See Invisibility of Macro- and micro- Resolutions, (2)

nBF uhFliUTluftS

Epistemological Accounting:

****».Epistemological Accounting consists entirely of rational tetrahedral quantation."**

NOTE: For the past year RBF has used the above term to describe the synthesis of the topological hierarchy and the quantum hierarchy--- or Euler and Gibbs. In the course of reviewing Chapter S, "Omni topology" RBF concluded that the term was not descriptive. Henceforth he will use "Synergetic Hierarchy."

See Synergetic Hierarchy.

* Cite RBF to EJA, U. liass., Amherst, 22 July 1971.

See Synergetic Hierarchy

Topological 4. Quantum Hierarchies

Epistemological Places:

See Cosmic Fish, 8 Feb*73

EfolatfBglQglfiffl StQMfl:

Nature employs only one or another of the acet equieconoeical relationships. The most economical relationships are geodesic, which Means most economical relationships. Ergo we have events and novents: geodesics and irrelevance."

- Cite RBF rewrite of Synergetics galley at Sec. 1023.15, 30 Dec»73

Epistemological Stepping Stones:

•We have event® and no-events. Events: novents: and relationships. These are the epistemological stepping stones."

- Citation and context at Tetrahedron. 20 Feb*73

See Connections 4 Relatedness

RBF DcTDirriOMS

Epistemology:

"That's the only kind of philosophy that matters: the philosophy of
How Do You Think?"

- Cite RBF to EJA a propos of something one of O.B. Hardison's sons
said to RBF, 28 May*75

Epistemology:

"Epistemology discovers intuition."

- Citation <k context at Prime 26 Dec'74

Epistemology:

"How we think is epistemology and epistemology is modelable; which is to say that
knowledge organises itself geometrically; i.e., with models.*

- Citation and context at Oaonatr pt TMnHn. 1b Dec'73

Epistemology:

In synergetics the 'line' is "the axis of intertangency of unity as plural
and minimum two. Awareness begins with two This is where episte-
mology cones in. . . •

- ta • *Jt7~i»WrTXzgpoelj New foife, ~!9"June-lg1.

- Citation and context at Unity. 18 Jun*71

Epistemology:

"Heisenberg Mid that observation alters the phenomenon observed.
T.S. Eliot Mid that studying history alters history. Ezra Pound Mid that
thinking in general alters what is thought about. Pound's formulation
is the most general, and I think it's the truest."

- Cite Hugh Kenner, "Wie Rope and the Knot," Kentucky Review, Au-
tumn 1968, who attributes this quote to * RBF

Epistemology:

"... The weightless process of human thought development is known to scholars as epistemology. ... Such words as epistemology stop most of humanity from pursuing such important considerations as the development of the thought processes."

- Cite HORF LITTLE, p. 2. Oct*66

"I don't know any man who really knows anything about himself. I don't think any man in this room can stand up and tell me what he's doing with his luncheon. And no one can stand up and say that he's consciously pushing each of his hairs out of his head in preferred shapes and colors, and I doubt that anyone even knows why he has hair. In fact, I don't know anybody who really knows anything. But it's very important to recognise what we don't know, and to realize that so far man has been moderately successful in his environment despite his ignorance."

- Cite Calvin Tomkins, *The New Yorker*, 8 Jan, 66, p. 62.

Epistemology;

'Omnidirectional Halo' is "the consequence of my deep and continuing urge to describe our thought processes and thereby to discover the fundamental generalised mathematical principles governing subjective comprehension and objective realisations by man of his conscious participation in evolutionary events of the universe."

- Cite Introduction to "NO MORE SECOND HAND GOD," p. xii.
foiateBglttCTi

"The useful but infrequently used word epistemology

means science of the thought processes.”

- Cite INTRO to OMNIDIRECTIONAL HALO, 1959

First sentence, p. 118

EpiatBaolMY gf Qwintua Mchanlci-

"The dynamic vs, kinetic difference is the sane difference as that of the generalised, siseless, metaphysically abstract, eternal, constant sixness-of-edge. fouraess-of-vertex, and founness-of-void of the only-by-mind conceptual tetrahedron vs. the only-in-time-sised, special-case, brain-sensed tetrahedron.

"This generalised quality of (filing dynamic, as being one of a plurality of inherent systemic conditions and potentials, parts of a whole set of eternally co-occurring, complex interacconno- dations in pure, weightless, mathematical principle spontaneously producing the minimum structural systems, is indeed the prime governing epistemology of wave quantum physics.**

- Cite SYNERGETICS text at Sec. 905.41, 16 Dec'73

See Multiplication by Division, 20 Jan*77

See Geometry of Thinking How Little I Know Knowledge Relationship Analysis Thinking Irrelevant;les: Dismissal Of Prime Epistemology Epistenography

Mo Mechanical Mind Reciprocal Involvement of Experiences k Principles Conceptual Limits

(2)

See Equanimity Model, (1) Geometry of Thinking, 16 Dec*73* Nature, 8 Mar'73 Unity, 18 Jun'?1* Intuition, 26 Dec'74 Principles, 1 Feb'75 Periodic Experiences, (3) Computer Progranining, May' 49 Minimum Limits, 23 Jun'75

EQUALS: CHECKLIST

Equals: Checklist:

See Amorphous « Unstable Areas `` Openings Axiomatic `` Obvious³⁸ Accounting: Vertexial - Spherical* Allspace Filling - Scenario Available - Vacant* Artifact □ Idea* Angular Shunting - Focus * Apprehension + Comprehension • Awareness Answer - Interrelationship
See Brain to Mind - Physical to Metaphysical* Beanable - Focus `` Wirable* Boundary □ Measurement* Beautiful - Most Efficient Book - Tool

« Indexed under other formulation

See Conceptuality □ Topology* Circuit " Orbit* Confusion □ Fusing Convergnece - Tunability* Crossings `` Vertexes* Conceivable Entity □ Prine Conceptual - Imaginable Comprehension - Rearrange Locally Circle - Polygon Cosmic Regeneration - Local Conservation* Crystal " Minimum Set - Tetra* Circuitry - Mechanism* Capabilities `` Vectors* Central Angles - Edges*

Indexed under other formulation

ID)

See Da-structuring Inside-out

Density - High Frequency Direction `` Perfect DinqjJionality `` Radial Depth □ Frequency

See Eternal Transforming

Experience `` Infarmation

Equiinterval » Tuned

38 Indexed under other formulation

Equations - Pattern

Exact - Ideal

Eternity - Inatantaneity³⁹

Entropy » Unpredictability

Empty - Face Congruence with Opposite Vertex - Zero*

Efficient - Beautiful*

Experienced Physical Energy - Frequency*

Expensive - Nonthinking

Eternally Regenerative □ Infinite*

Edges - Central Angles

See Finite - Inexhaustible⁴⁰

Four Triangles - Spherical Triangle on Earth's Surface*

Focus “ Seamable ” Wirable

Fusing - Confusion*

Frequency “ Radius

Frequency - Measurement*

Frequency • Dimensionality - Radial Depth*

Form - Sensorial!ty

Face Congruence with Opposite V_ertex - Zero - Empty

Frequency - Experienced Physical Energy

Focal Event Infratunable System

Frequency = Infinity*

Focus - Angular Shunting

See Genetic - Instructions

Gravity Importing

Generalization Mathematics*

39 Indexed under other formulation

40 Indexed under other Formulation

Genesis of Modelability • Vector Equilibrium

Gensis of Bow Tie - Hexagon*

Indexed under other formulation

See Hexagon - Geijis of Bow Tie High Frequency - Deneity⁴¹ Half the
Story • Me* Hypotenuse □ Wave Heat □ Pressure*

Equals: Checklist:

See Inadvertent • Sideways Inexhaustible *` ` Finite Information □□
Exhaustible* Instructions □ Genetic* Invisible ` ` Novent - Vacuum*
Inadvertence - Random Element Inhibit ` ` Omnidirectional Indrink-
ing Instantaneity • Eternity Inside-out « De-structuring* Intellectual
□» Remote* Importing □ Gravity* Ideal - Exact* Imaginable - Con-
ceptual* Intertruss - Intertriangulate Intellect Seconds • Light Years
Irrelevancies, Dismissal Of □ Tuning* Infinity - Nothingness Image-
ination - Pretending

Indexed under other formulation

See Incompetent = • Ugly*

Inexpressible Zerophase*

Idea « Artifact

Inftatunable System Focal Event*

I - We - Us

Infinity « Frequency

Interrelationship - Answer*

Icosa - Sphere*

Infinite « Eternally Regenerative

Inexactitude • Reality

Indexed under other formulation

See Lines - Trajectories

41 (Indexed under other foraulation

Light Years Intellect Seconds

Limit " Measurement⁴²

Local Conservation Cosmic Regeneration

Liquid - Nonform

See Mathematics * Generalisation Mathematics □ » Pattern Measure -
Boundary Measure □ Limit Keasurment - Frequency Minimum - Pat-
tern Kost Economical • Spontaneous Most Economical - Simplest Me
« Half the Story Module: 0 Module » A Quanta Module Minimum Set -
Crystal - Tetra Mechanism • Circuitry

See I

Nine • None - Zero Nucleus --- Nine • Nothing None - One*

Nevent - Vacuum • Invisible* Nothingness - Infinity* Nonexistent
`` Unremembered* Nothingness - Untuned Somethingness No
otherness: No awareness Nonredundance - Stable* Nonpolarized
□ Unrecognized Nonthinking - Expensive* Normal =□ Zero* Nuclear
□ Regenerative Nothingness - Silence Nature - Scenario Universe
Nonform « Liquid* Nontunability « Space*

Indexed under other formulation

See Oblique Sideways

Orbit - Circuit

One - None

Obvious - Axiomatic

Openings Areas*

Omnidirectional Indrinking Inhibit*

Operational - Physically Realised

Octahedron: Ha If-octahedron `` Pyramid* Otherness - Secondness*
Octahedron □ Universal Fabric Joint*

42 Indexed under other formulation

Indexed under other formulation

See Pattern Integrity - Phenomenon Without Name Pattern □ Equations⁴³ Powers - Volumes* Physical to Metaphysical « Brain to Mind Precession □ Tension Prime `` Conceivable Entity Physically Realized - Operational* Primitive - Virgin* Pattern `` Mathematics*

Parts: Reuniting of Parts `` Teleology* Perfect - Direction

Pattern ⁵³ Minimum*

Pretending ® Image-ination

Polygon - Circle* Polyhedron `` Sphere* Perfect `` Zero Pyramid = Half-octahedron Pronouns: I = We = Us

See Pressure “ Heat

Point « Eight Tetrahedra

Polyhedra - Systems*

See Remote Intellectual

Random Element - Inadvertence⁴⁴

Radius - Frequency*

Relevant Set - Thought

Radial Depth Frequency Dimensionality*

Rearrange Locally - Comprehension*

Rational - Relational

Regular - Uniangular

Rigid - Sized

Regenerative “ Nuclear*

Reality - Inexactitude

See Sideways - Inadvertent*

Sideways • Oblique*

43 Indexed under other formulation

44 Indexed under other formulation

Spun Frequency - Sphericity

Spherical Triangle on Earth's Surface - Four Triangles

Spherical Accounting - Vertical Accounting*

Scenario □ Allspace Filling* Sensoriality » Form* Spontaneous ``
Most Economical* Sphere « Polyhedron

Simplest • Most Economical*

Secondness " Otherness

Stable » Nonredundance Sized - Rigid*

Silence “ Nothingness*

Sphere - Icosa

Systems • Polyhedra

Scenario Universe • Nature* Space - Kontunability

• Indexed under other Formulation

See Topology - Conceptuality

Three Axes • Three-way Grid `` Three Vectors for Every Vertex

Transforming □ Eternal* Tunability • Convergence Trajectories * Lines*

Tuned □ Equiinterval* Tension `` Precession* Tuning - Dismissal of

Irrelevancies Thought □ Relevant Set Teleology - Reuniting of F&rta

Touch - tex of Vertex Temporality - Tempo-reality - Time-reality Tetra-

hedra: Point » Eight Tetrahedra Thermal « Tactile Tetra - Minimum Set

□ Crystal* Tunings - Vertexes* Tool `` Book*

*Indexed under other formulation

See Unstable - Amorphous*

Unpredictability □ Entropy* Unremembered • Nonexistent Unused An-
gle - Virgin* Ugly • Incompetent

Untuned Somethingness □ Nothingness* Unrecognized » Nonpolarized* Uniangular » Regular*

Universal Fabric Joint □ Octahedron

'Indexed under other formulation

See Vacuum - Novent * Invisible Vertexes - Crossings Volumes - Powers Virgin • Primitive Vector Equilibrium • Genesis of Modelability* Vertexial Accounting « Spherical Accounting Virgin • Unused Angle Vacant - Available Vectors » Capabilities Vertexes - Tunings

« Indexed under other formulation

See Wirable □ Focus - Beanable* Ware □ Hypotenuse

* Indexed under other formulation

See Zero Nine • None*

Zero - Perfect*

Zero - Face Congruence with Opposite Vertex « Empty* Zerophase - Inexpressible

Zero - Normal

• Indexed under other formulation

FILE INDICATORS

(2)

Equals: Checklist?

See Political Mandates: Inventory Of, 27 Dec*73

Modelability, 12 Sep'71

Covariation. 14 May*73

Event, Jun'o7

Equals; Equal Sign:

"Equals (") implies a parallel. But parallels never get you anywhere. They never meet. The interrelationship is best expressed by the "bow tie" symbol, which is also the convergent-divergent symbol:

See "Nine Challis tn the Moon" (1938)."

- Cite RBF to EJA; 3200 Idaho., Wash. DC; 24 Apr* 76

See Equation Symbol

BBF DEFINITIONS

Equality!

•There really 1# no equality. That's why I use the bow tie symbol."

- Citation at Teleology; Bow Tie Symbol. 26 Jan*72

See Interequalise

Nonequal Teleology: Bow Tie Symbol Equate: Equatability Equation
Parallel: Quasi-parallel Lines

Action-reaction: Equal & Opposite

See Minimum Effort, 9 Jul*62

EgHanlaltXJtgqfl: {1}

"In order to reduce the concept of vector equilibrium to a single name identify, we employ the word equanimity aa identifying the etrnal metaphysical conceptuality model that eternally tolerates and accommodates all the physically regenerative, intertransforming transactions of eternal, inexorable, and irreversible evolution's complex complementations, which are unitarily unthinkable, though finite.

"The equanimity model permits metaphysically conceptual thinking and permits man to employ the package-word 'Universe.* Equanimity, the epistemological model, is the omni-intertransfor- native, differential accomraodator and Identifies the direction toward the absolute, completely exquisite limit of zero- error, zero-time omnicompre- hension toward which our oscillatory, pulsating reduction of tolerated cerebrally reflexed aberrations trend.

"Humanity's physical brains' inherent subjective-to-objective time lag reflexing induces the relatively aberrated observation and asym- metrical articulation tolerated by ever more inclusively and incisively demanding mind's consciousness of the absolute exactitude of the eternally referential centrality"

- Cite SYNERGETICS draft at Secs. 443.01-03, 26 May'72

Equanimity Model:

(2)

"at zero of the equanimity model. Thus mind induces human con- sciousness of evolutionary participation to seek cosmic zero."

- Clta SINEROETICS draft at Sac. 443.03, 26 Hay*72

"In the equanimity model the physical and the metaphysical share the same design. The whole of physical Universe experience is a conse- quence of our not seeing instantly, which introduces time. As a result of the recall lags the physical is always imperfect."

- Citation at Time. 26 May*72

- fitter SYNERGETTcareftat—Sac J»43»O 26/3 May'72

SaaanAaUxJialal:

See Between: Vector Equilibrium aa Prime Between-neas Model

See Time Equanimity

(2)

fanawltv;

See Religious Edifices, 1954 Tension, (3)

EouaWbliltT of Gonartllliod Prlnclnl»»:

See Genetic, 14 Feb⁸72

BquataMllMr at ValHroa. * Powwai

See Covariation, 14 May*73

See Covariation Interequatabla

See Cognition, Fall'65 Dia-logUe, 14 Feb*72

EQUATIONS

Equation;

”Formulations and equations are pattern.**

Citation and context at Number Pattern. Ha lei <h NC, undated

BBF IkJINTIuHS

Equation: irntt/Hhili/HilM. AngJa£_iteBSX°aL. SjmSffiSllS. Principle
of.

}60°n_y - 180°n_t - 720°

where:

n_y □ number of vertices

n_t □ number of triangles

Pearce’s Inventory of Equations, June 1967

- Cite P.

Equation: Omnidirectional Closest Packing of Spheres:

”Omnidirectional concentric closest packings of equal

spheres about a nuclear sphere form series of vector equilibria of progressively higher frequencies, the number of spheres or vertices on any given shell or layer is given by the equation $10V + 2$, where V - Frequency. The frequency can be considered as the number of layers (concentric shells or radius) or the number of edge modules on the vector equilibrium."

- Cite ILLUSTRATION, / 51. caption. 1967

110ir«ttiwu °lc.st;c Packing of Spheres:

RBF DEFINITIONS

Equation:

"The number of vertices in the vector equilibrium, which are always the same as the number of the spheres in omni-symmetrical, closest packing, are always: frequency to the second power times ten plus two--- written as $10v^2 + 2$."

- Cite KEFES, p, b9, Fig. 3, caption 1965

Equation: Omnidirectional Closest Packing of Spheres:

"... One ball: nucleus 12 balls: first layer (radius 1); 42 balls: second layer (radius 2); 92 balls: third layer (radius 3): and so forth. Subtract common two from each total, then divide by 10; the remaining numbers (1, 4, 9, etc.) are the squares of radii. The number of balls in any layer - $(\text{radius}^2 \times 10) + 2$."

- Cite MCHALE, Plate 35, caption.

Ate 1962

See Synergetics, 29 Nov*72

Ten, 22 Jun'75

Vector Equilibrium: Unarticulated VE, 2 Nov*73

Concentric layering, 13 Nov'75

Nuclear Domain & Elementality, (1)(2)

Equation; Order Underlying Randomness;

"The number of telephone lines necessary to inter-equip various numbers of individuals so that any two individuals will always have their unique private telephone line is

2

always $\frac{N - 1}{2}$ where N is the number of telephones. This is

to say that all the special interrelationships of all experiences--- comprehension of which would be the key to what we call complete understanding of 'what everything is all about. . .

2

" $\frac{K - 1}{2}$ is also the number of balls in a triangular grouping such as that of pool balls grouped for the * break.**

- Cite PLANETARY PLANNING, p. 18 (Am. Scholar, p. 48) 13 Nov*69

Equation: Order Underlying Randomness:

$\frac{n - 1}{2}$

2

« number of connections to understand n points (stars).

- Cite P. Pearce's Inventory of Equations, June 1967

SfHPUQng JL. Paa gm:

See Equation, undated

Eqwiwwx ZrlBarr Sratoag:

"The formulas for the number of spheres In the outer layer of closest packed spheres in primary systems is as follows:

(a) tetrahedron: $X = 2F^2 + 2$

2

(b) octahedron: $X = 4F + 2$

2

(c) cube: $X = 6F + 2$

2

(d) vector equilibrium (icosahedron): $X = 10F + 2$

Where:

X - the number of spheres in the outer layer or shell of the primary system;

F - edge frequency, i.e., the number of outer-layer edge modules."

- Cite adaptation of RBF Ltr. to Dr. Robert W. Horne, 14 Feb*66 incorporated in SYNERGETICS draft At Sec. 223.22, 13 Apr'66

Equations: Primary Systems:

See Prime Hierarchy of Symmetric Polyhedra

Equation: Prime Number Inherency of Structural Systems:

"(minitriangulated symmetric systems are polyhedra whose vertexes derive from the external set of the closest packing of spheres and are rationally accountable in terms of the first four prime numbers (N), that is, 1 or 2, or 3, or 5.

$I = 2N(F^2) \gg 2$

Where:

I » number of crossings, vertexes or spheres in the outer layer or shell of any symmetrical system.

N - one of the first four prime numbers:

1, 2, 3, or 5.

F = edge frequency, i.e. the number of outer layer edge modules.

- Cite RBF to EJA

Hotel Beverly, New York

7 March 1971

Equation: FWH-er's ..Equation—«r Point System. Relationships

. . All omni-triangulated symmetric point systems are explicable in terms of the first four primes. This is a mathematical discovery that is significantly and uniquely Fuller's.

"The general statement in algebraic notation is:

$$P = 2 + (2 \times N) \times F^2$$

or, in words, 'the number of points in the outer layer (shell) of any symmetrical system is 2 plus 2 times a given prime number from 1 to 5 multiplied by the system's edge frequency to the second power.'

(See Fuller's Topological Equations

—Equation: Prime Number Inherency of Structural Systems.

* Cite MARKS, p. 46 f 1960

i ruFtr^C>Lnuttition^{UCtUral Sv8tt>ma:}

$2v^2(P) + 2 \cdot$ number of vertices (or spheres) where:

v frequency

P a prime number (1,2,3, or 5)

- Cite P. Pearce's Inventory of Equations, June, 1967

"The total number of vertexes or epheres in all concentric shells - 10
 $(V,^2 + V^2 + V^* + . v2) + 2 V + 1 * \bullet > n$

- Cite P. Pearce's Inventory of Equations; Jun*67

Equation: TetrahedrMal Mensuration:

Sure of face angles - n tetrahedra 7203

where:

720° one tetrahedron

- Cite P. Pearce's Inventory of Equations, June 1967

Equation for Volume of Vector Equilibrium:

"The volume Cdb of any series of vector equilibria of progressively higher frequencies is always frequency to the third power times 20:

Volume of VE - $20F^3$

Where, F - frequency."

- Cite SYNERGETICS galley at Sec. 222.32, Oct»73

aquation Sirabgli

"I felt that the equation symbol was false as I felt that parallel lines were inadequate to the exquisite transforming babices of inside-outing involved in the equations. I substituted the Bow Tie symbol.^{1*}

- Citation 4 context at Teleology: Bow Tie Symbol, 9 fey'60

Equation Symbol:

See Bow Tie Symbol

Teleology: Bow Tie Symbol

See Generalisation, 13 Mar*73 Scientific Generalisation. 13 Mar*73

Teleology: Bow Tie Symbol, 9 May'60* Calculus, 22 Jun*77

See Equation: Angular Topology

Equation: Omnidirectional Closest Packing of Spheres

Equation: Order Underlying Randomness

Equation: Primary Systems

Equation: Prime Number Inherency of Structural Systems

Equation: Shell Growth Rate

Equation: Tetrahedral Mensuration

Equation: Vector Equilibrium

Euler Topological Theorems

Gibbs phase Rule

Euler's Uncored Polyhedral Formula

Einstein's Equation: $E = mc^2$

LfuatXqni Philosophical Enuatlona:

See Energy Intellect Environment: Equation Of Intellect: Equation Of Wealth: Equation Of Coordinates of Universe Intellect in Physical Universe Biological Equation Eternity: Equation Of Industrial Equation Pattern Integrity: Equation Of Performance: Equation Of Trinity: Equation Of System: Equation Of Regenerative Intersupport: Equation Of Communications Theory

RBF DEFINITIONS

"Note that the seven axes of symmetry do not Include the equator nor any single great circle."

- Citation at Seven Axes of Symmetry. 25 Aug*71

- BRTTh I IT, II TelXHtt;-ai tnyilF

Equator:

"When systems are rotated on the axes defined by their vertexes, or the center of their faces, or their mid-edges, then great circle trajectories occur aa

* equators¹ of the respective axes of spin. These can be regarded as extensions of the interior planes of the system in respect to its nuclear center."

(Said specifically of a vector equilibrium)

- Cite MARKS, p. 137, Fig 1,4., caption, i960

See Dyraaxlon Equator Icosahedron: Equator Spherical Triangle:
Equator aa Square spin Equators

EquMgr*

(2)

See Seven Axes of Synaetry, 25 Aug*71* Climate 4 Intellect, May'49

Equiangularity:

"Equiangularity (60-degreeness) uniquely characterises the limits of four-dimensional systems.*

- Citation and context at Sixty-degreeness. 17 Noy*72

gqtiUnmWKT?

"Angular fractionation is absolute. Triangles can be equiangular--- i of a cycle, or 1/50th of one cycle of unity--- but they cannot be equilateral. Angles are constant and independent of else. Size is always special-case experience. Angles are generalised. Only eternal constants can be generalised.

"We do not know the length of the edges. Edges can be any length permitted by time. The length of the edges is frequency, while the angle is subfrequency•"

- Cite HBF tn EJA 3200 Idaho, 25 Sep*72 (as rewritten by RBF) F>eove*ici'-
iec.s-iS.i}

fOMUacOAEUx:

"Angular fractionation is absolute. The triangles can be equiangular---
1 of a cycle, or 1/50th of WHHMB ⁴ cycle--- but they cannot be equi-
lateral. How long the edges are we don't know. The length of the
edge is frequency, while the angle is subfrequency."

- Cite HBF to EJA, 3200 Idaho, Wash DC, 2\$ Sep*72

Equiangular; Equiangularity;

See Omniequiangularity Powering Uni-angular

Sao Avogadro, 12 Jul*62

Frequency, 15 Oct*72

Insinuatability, 6 Not*72 Sixty Degreeeness, 26 Sep'73; 17 Not*72*

Universal Vertex Center Model, 29 Apr*43

£auldl£Oulan:

See Geodesic Done, 12 Mar¹74

EqwlCCQMflgaXi

(1)

See Six Degrees of Freedom Twelve Universal Degrees of Freodoa

See Artifacts (1)

(2)

Epistemological Stepping Stones, 30 Dec»73

Physical 2 Jul¹62

Scheme of Reference, 24 Sep'73

Precession k Degrees of Freedom, (2)

Omniequilibrium, (1) *

Three: Number Function of Three in a Four-axial System, 24 Jan'76

Six Motion freedoms & Degrees of Freedom, (5)

Boul-odead Polyhedra:

See Platonic Solids Regular Polyhedra

RBF DEFINITIONS

Equi-eternal:

"The awareness we speak of as life is inherently immortal and equi-eternal."

- Citation and context at Awareness. 10 Feb*73

Kgui-integrity;

See Nine, 16 May*75

Equi-interval;

"Three linear events have two intervals which is the minimum set to invoke the definition frequency. But it is an 'open* circuit* The circuit is closed and operative when the triangle is closed and the same three events produce three equi-intervals, rather than two. Equi- interval `` •tuned'."

- Cite SYNERGETICS draft at Sec. 1011.32, 17 Feb'73

bqul-lrftgrYfl - TjUlfid:

"Three linear events have two intervals, which is the minimum set to invoke the definition frequency. But it is an `open¹ circuit, the circuit is closed and operative when the triangle is closed and the same three events produce three equi-intervals rather than two. Equi-interval • 'tuned'.¹ This is why wave-frequency relationships have a MHI minimum limit and not an infinite series behavior."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1011.31, 30 Dec«73
Equilateral:

"When we work with triangles in terms of total leverage, we find that their average, most comfortable condition is equilateral. They tend to become equilateral. Randomness of lines automatically works back to a set of interactions and a set of proximities that begin to triangulate themselves. This effect also goes on in depth and into the tetrahedra or octahedra.*

- Cite SYNERGETICS text at Sec. 614.07; Nov'71
Equilateral:

"The largest equilateral is 20 triangles. The utmost subdivision is 120 because further subdivisions are no longer identical. This is what we mean by basic triangle when you assume each of the edges to be chords."

- Cite RBF to EJA, Haverford, Penna., 11 Oct. 1971.



Equilateral:

"The average, most comfortable condition of triangles is equilateral, so there will be a tendency for them to try to become equilateral.. Randomness of lines automatically works back to a set of interactions and a set of proximities which begin to triangulate themselves. This effect goes on in depth and in to the tetrahedra or octahedra,"

- Cite Carbendale Draft

Nature¹⁸ Com-dinabien_y p. ¥1.1- LlZOtHtV r. } t) 15 Oct»64

T<IWU W^u - SfC- 61* 07
equilateral:

"Having all the sides approximately equal. The extent of variation in length of sides is determined trigonometrically or empirically by constructing three- way grids on the modularly-divided edges of the faces of a spherical icosahedron."

- Cite Patent No. 2. 682. 235, June 29, 1954 BUILDING CONSTRUCTION

See Equiangularity
taniflquilateral

12)

See Triangle, 8 Oct'64

Triangulation, 1\$ Oct'64

Nucleus, 13 Nov'75 Light on Scrathhed Metal, 9 Nov'73 Universal Vertex Center Model, 29 Apr* 43

Eguilength:

See Model of Toothpicks & Seal-dried Peaa, (1)(2)

Eaullibrious-balanca Phage;

See Tencegrity, 20 Oct*72

RBF DEFINITIONS

Muilibrlo?!* Dle.qulllbrlom:

"Metaphysically th[®] isotropic rector matrix ia conceptually permitted. Th[®] difference between the physical and the metaphysical is th[®] oa-jipulsatire asymmetry of all the physical oscillation in respect to the equilibrium. Metaphysical is equilibrinous and physical is disequilibriumous."

~~Cite RBF definition to FIA for 3100000000
New York, 28 Feb 1971, incorporated in 3100000000
See 305, 1 Oct, 1971.~~

- Citation at Metaphysical & Physical, Oct*71

See Basic Triangle: Basic Equilibrium 46 LCD Triangle

Basic Triangle: Basic Disequilibrium 120 LCD Triangle

Sea Isotropic-vector-matrix Field 20 Dec'73 Metaphysical & Physical.
Oct'71* One, 20 Dec'73 Space Nothingness It Time Somethingness,
28 Dec*73 Tetrahelix: Continuous Pattern Strip, 19 Dec'73 Twinkle
Angle, 19 Dec*73 Omnirational Control JatrIx, 12 May'75

See Vector Equilibrium, 27 Nov*72

Vector Equilibrium as Starting Point, 8 Apr*75

Equilibrium:

"Physical Universe abhors an equilibrium: metaphysical Universe can
rely on it."

- Cite Equilibrium. 28 Feb*71; as revised by RBF 5 May*74

Equilibrium:

"Physical universe abhors an equilibrium:

Metaphysical universe can use it."

RBF to EJA

Beverly Hotel, New York 28 Feb 71

Equilibrium:

"The Universe just refuses to get caught at equilibrium. I became
suspicious back in 19*7 that nature didn't become infinitely disorderly.
We caught her in sort of a symmetric phase where you called
it a molecule, and another symmetric we may call a cell. Thus we get
what we call atom. And then we get the complexes like human beings,
and they are sort of levels of symmetry. But these levels of symmetry
would never occur in equilibrium; they are always on one side or
the other: the crystal is positive or negative* So she had what I call
asymmetry, and she had what I saw was minimum asymmetry and

maximum asymmetry--- which we call disorderly just because it was more confusing to look at. But she did everything relative to equilibrium. She would go from the negative through the equilibrium to the positive. But she refused to get caught at it. So the concave--- pull the rubber glove off your left hand and now it fits your right hand--- and the concave becomes the convex. You could have the proton and neutron, and they were always known to coexist These are the covariables, which ML is complementarity, as they call it in physics."

Q Cite RBF to Verner Smythe, NYC, Reel 1, pp.9-10, 25 Feb'69

Equilibrium:

*. . . Truth is ever approaching evolutionary and constantly inter-transforming . . in ever closer proximity to perfect equilibrium of all transformative forces, but never attaining such equilibrium of Absolute Truth The metaphysical passes through but fails to remain at the xero of equilibriaus truth,"

- Cite Pendulum Model VS Scenario Model. 23 Dec*6fi

Equilibrium:

"Nature abhors an equilibrium as much as she abhors a perfect vacuum or a perfect anything. For instance, when an airplane in flight comes to equilibrium, we call it a stall, and the plane becomes unmanageable and goes swiftly out of equilibrium and into a plunging field of gravity. But I saw that we could approach or employ an almost perfect equilibrium as we employed a crooked line which swiftly approached but never reached the perfect or exact. I saw that a comprehensive structural system would have to involve all the positive and negative tendencies either side of equilibrium. The comprehensive system would have also to involve all the topological pattern components and as a quasi- equilibrial structure would have to be approximately the same length; therefore, all the angulation would have to be in increments of approximately sixty degrees."

- Cite KrtS«\ BREACH, p. 65. Jun *66

x/GcTort. SEc MIO-CH/)

EquUlbrlW:

"Equilibrium Is a'dangerous' condition because--- due to entropy--- something is always about to be added or subtracted to change the balance.

"When an airplane stalls it is in equilibrium."

(A)

- Citation and context at Vector Eouilhrpjy 1965

Equilibrium:

. Nature refuses to stay at equilibrium . . . like certain * crystallography models, it is always mildly off from equilibrium."

Cite- frti-bendala-Draft -Jjaturr¹ e □-eordinatiop JU

- Cite Oregon #7, p. 224, 11 Jul*62

Equilibrium:

"Equilibrium between positive and negative is aero,"

- Citation at Zero. 9 Apr'40

—Cxf lift feUHL hkCOND HANN UUHL, 9 '40

^EQttiUbriua & Pl^aJquibriup: M)

Q. "Do you have any feelings or ideas or intuitions about schizophrenia?"

RBF: "I think that whatever my thoughts are, they relate to---coming back to my mathematics---to vector eaulilibrium. Nature refuses to stop at equilibrium. So long as we have time we will always be dis-eauillbrious. It is only when you have eternal nothingness that you can have eaulilibrium. And the equilibrium is not a linear affair. It is an omnidirectional phenomenon of all the motions I have given you.

"And so getting into my synergetics again—and

the isotropic vector matrix which is the central position where everything is at equilibrium in relation to its orbit pulsations, rotations, and so forth occur. I feel that every day you and I become asymmetrically disequilibriumous and that our sleeping is where we come back to the minimum aberration of the disequilibriumous pulsing...

So that I can see how a child might really get disequilibriumous asymmetrically so and not return with the sleep. And to add asymmetry to asymmetry could really get pretty badly hoiked"

- Cite transcript p.20, RDF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb*77

"away from the relief of the night.. To me, sleep then is becoming more symmetrical---the minimum asymmetry of all of our faculties. Each day we get quite asymmetrical---like anybody's desk, it gets all messed up and then we get it all cleaned up.

"I think of sleep as the greatest cure we have. The kids who don't get cured in sleep are the ones who really get in trouble. They can't get back to the minimum disequilibrium."

- Cite transcript p.20, RBF taped Interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb*77

See Positive & Negative: Four Kinds, 10 Nov'74

See Avogadro: Generalised Avogadro System Basic Triangle: Basic Equilibrium AB LCD Triangle Centers of Equilibriumous Symmetry Disequilibrium Dynamic Equilibrium Energy-as-heat Equilibriumous Dissequilibriumous Frequency: Half Frequency Life-time-space Phenomena Relative Asymmetry Truth: Zero of Equilibriumous Truth Charts: Rotate Charts 90 Degrees so the Upward Curves Level off into Equilibrium Plus-and-minus One Equilibrium Central Nothingness Equilibrium Spontaneous Equilibriumous Model

See Asymmetry: Plus &, Minus Magnitudes *s Rational Fractions, 21 Dec'71 Complementary, May'72 Dymaxion Airocean World. (II) Energy Quanta Values, (1) Geometry of Vectors, Aug'71 Hexagon, 22 Feb'73 Intertransforming, 1971 Kiss: Locked Kiss, 19 Oct'72 Octahedron: Half Octahedron, 23 Jan*72 Pattern, 1954 Pendulum Models. Scenario Model, 23 Dec*68* Omnipulsative Asymmetry, Oct'71 Structure, 29 Dec'58 Synergetics, Sep'64 Tetrahedral Dynamics, (3) Powering: Fourth Dimension, 18 Rot*72 Vector Equilibrium, 21 Dec'?1; (A)* Zero, 9 Apr'40* Unified Operational Field, 30 Dec*73 Twilight Zone, 22 Jun'75

See Tetrahedron: Nine Schematic Aspects, 30 Aug'75

See Equilibrium-balance Phase Equilibrium to Disequilibrium Equilibrium Model Equilibrium-disturbing

Equilibrium Haaaa*

"Probability of Equimagnitude Phases: The 6° spherical excess of the basic Disequilibrium 120 LCD Triangle, the 5° 16' 'twinkle angle' of the A Quanta Module Triangle, and the 7° 20' 'unzipping angle' of birth, as in the DNA tetrahelix, together may in time disclose many equimagnitude phases occurring between complementary intertransforming structures."

Cite SYNERGETICS text at Sec. 915.20; P.BF galley rewrite of 19 Dec'73

Equi-Magnitude Phases:

"The 6° spherical excess of the Basic Triangle, the 5° 16' 'twinkle angle' of the A Quanta Module triangle,

and the 7° 20' 'unzipping angle' of birth, as in the DNA tetrahelix together may show up many equi-magnitude phases between

complementary intertransforming structures.”

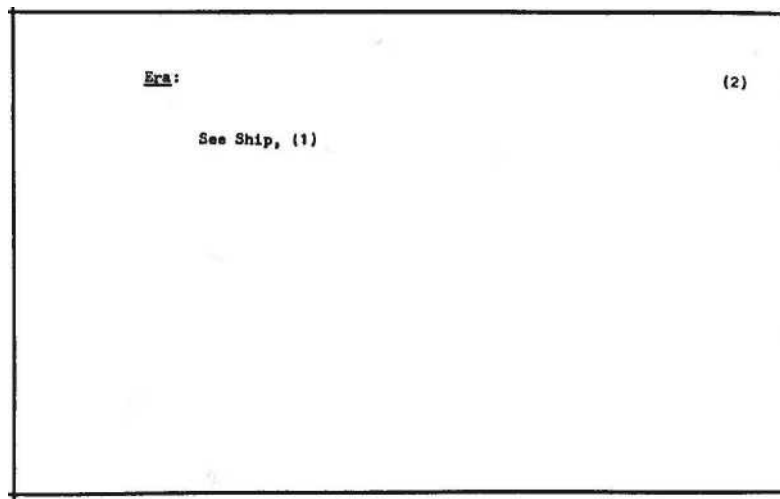
(Adapted)

- Cite Ltr. to Alfred T. Forbes, p. 8, 18 Nov '65; Incorporated in SYN-
ERGETICS at Sec. 921---

EqMIYaXenC.g:

See Primitive, 19 Jul*76

See Age



HBh DEFINITIONS

Error: •

”An error is Just an opportunity to nake a great discovery. All the great discoveries have cone about that way. Most of my own errors have been very small ones because my intuitions were working in the right neighborhood.”

- Cite RBF to EJA via telephone from Philadelphia; a propos of Rob Grip calculations of radius of volume-5 spnere;

5 Feb*77

Error;

See Fuller, R.B: Hie Admission of Error Mistake

Trial & Error

Kroaiont

3H C<»xuanlc«tioxuj Hierarchy, (1)

grTQ£« PuUw.fr FT9H .Errw-

"Dealing in an electromagnetic reality that is 99 percent invisible, man has learned enough about the principle# operating in the Universe to become an intelligent function of cosmic flH* evolution. Human mind on planet Earth has that kind of capability, and it must begin to commit itself to its comprehensive Knowledge on a comprehensively interaccounted basis. I am saying that, personally, I would be terribly concerned if I felt that the universe were being run by the President of the United States or any other heads of state.

I am convinced that they are some of the necessary, historical, gun-pomting nonsense attendant on the process of discovery by trial and error: the more error, the more comprehensive the pullout from error must be and the more comprehensive the gains for all."

- Cite THlhaihG uur Luuu 12): WE Afk, HUIHXJ.U BU1 A SPACr.

PrtuuRAh, World i-ag., 17 Jul'73

Error;

"Goldy says, 'I have drawn Mommy Bear in reverse. I forgot when I was drawing her that if it is to be printed directly from sy drawing it requires as original mirror-image master. But I am going to leave her that way because it's well to remind everyone at the outset that we can only get from here to there by a series of errors--- errors forwardly to the right, then a correcting forwardly error to the left, and soon each time reducing error but never eliminating it. This is what generates waves; this is what generates the experience life."

Accident

See Comedy &. Tragedy of Errors

Fuller, RB: Hla Admission of Errors Indeterminate Inexactitude

Residual Error

Tolerance

Trial & Error

Inward vs. Outward Dismissal of Error

Improvement Only Perpetuates Original Errors Mistake

Angle of Error Correction

Error:

(2)

See Discovery, 18 Nov*65 Feedback, 7 Nov»75 Crowd-reflexing, 7
Nov*75

Eaeape From Ignorance:

See Repetition, (2)

Escape; EBcaplq;

See Reading: Escapist Reading Orbital Escape

Essence:

See Life, 22 Apr'SB Proton & Neutron, 22 Apr*6\$

^Eathttlr

See Aesthetes

Eternal:

"Brain is not used to the idea of eternal, which is discoverable only by Mind."

- Cite RBF to EJA, Pagano's Rest., Phila. PA., 22 J_un»75

Eternal:

"I u saying that the arrival rate of Intellect ve. the top-epeed of radiation manifests the minimum lag abort of no lag at all, i.e., •eternal.""

» Ci7*1<ov73**rlt* of sn,MGCTICS galley *» Sec. 529.31

Eternal:

"There are thus orders of generalisation in which the lower orders are progressively embraced by the higher orders. There are several hundred first-order generalisations already discovered and equatingly formalised by scientist-artists. There are very few of the higher order generalizations.

Because generalisations must hold true without exception these generalizations must be inherently eternal. Though special-case experiences exemplify employment of eternal principles those special cases are all inherently terminal; that is, in temporary employment of the principles.ⁿ

- Cite RBF Draft Ltr. to Karan Singh incorporated in SYNERGETICS text at Sec. 162, 13 Mar'73

RBF DLFIUITIUNS

Eternal,:

"pie order sought for and sometimes found by science is always etenia;iy generalised; that Is, It holds true In every special case."

- Citation and context at Order. 13 Mar'73

Eternal:

"Generalised principles

. . . being weightless and unfailing Must be eternal."

- Cite INTUITION, p.22. May '72

Eternal:

"The average of all plus (+) and minus (-) weights of universe is Zero weight, the normal la eternal."

- Site ~~SIHteittaittsa Draft~~ -- aiarginalia., Somerset Club;---af- `` nrrh 1?yi-

- Citation at Hormal. 25 Mar'71

Eternal:

"Because the generalized principles cannot be principle# unless they are eternal, because human experience is inherently limited, there can be no finality of human comprehension."

IB Fib • ¹---SCKr

- Citation at Gttg failed Principle, 2fi Feb'71

Eternal:

"Tension is shown ax per ient tally to be nondimensional, omnipresent, finitely accountable, continuous, comprehensive, ergo tinsless, erjo eternal.*

~~- Give RHP SYNERGETICS draft, 'Tension and Compression,' revision of Oregon Lecture 25, pp. 153-158, 9 Jul'62~~

- Citation at Tension. 9 Jul'62

Eternal Deaiana Capability:

``.There are no other designa than that of the great cosmic intellect's designing."

JffF DEFINITIONS

Q. What conclusive evidence la there of mind as God?

A. *1 do not know of any single conclusive evidence of God. but there is ample disclosure of the unique capabilities of mind. Brains deal always and only with apprehending, recording, storing, retrieving for reconsideration and re-storing again for further recall, each

special-case experience. Mind and mind alone has the capability of discovering relationships existing between uniquely identifiable entities, which interrelationships are not indicated or predicted by any of the constant characteristics of the entities taken separately. As for instance, the interattraction of masses; as for instance the interattraction of the Earth and the Moon. The relative interattraction force of these is enormous; too, in contradistinction to the interattraction force between a golf ball and a pea. The relative force is determined by intermultiplying the relative mass values of these four bodies or entities, respectively, having arrived at the total relative mass values of the four. The relative force value of any two may be obtained by, let us say, multiplying the Earth mass times Moon mass, which is obviously very great in respect to golf ball M times pea M."

Etern*1 Designing CAPUIVY (2)

"These relative initial force values are seen by experiment to be predictable by the inherent values of the separate entities. However, what is not predictable from their inherent characteristics per se, is that when we halve the distance intervening between any two. e.g. Earth and Moon, then their mutual interattractiveness increases at a rate of the second power of the inverse to the ratio of the relative interdistance change; i.e., halving the distance of the two mass-identified objects increases the interattraction fourfold.

"Mind having learned intuitively and observingly from the experience of successively repeated measuring, finds this accelerating interattraction always occurs under such circumstances. Mind informs brain that this result has been obtained, whereafter discovery of that mathematical formula becomes one of brain's special-case experiences that it had learned from mind, Just as it learned from nose that such and such an experience is occurring and brain thereafter remembers

that that experience occurred. Synergy means *the integrated inter-behaviors of all systems unpredicted by behaviors or characteristics of any of the system's parts when considered only separately.* An atom per se does not predict atomic"

"intercombining as chemical molecules, A molecule per se does not predict unique enzymic proclivities and biological protoplasm's organizational integrities. Protoplasm per se does not predict elephants and palm trees, nor their interregenerative conversion of their respective respiratory gases. Neither elephants nor palm trees per se predict the solar system does not predict galaxies, etcetera. The greater complex is never predicted by any of the lesser subassemblies. Universe is unpredicted by any of its parts or subassemblies. Universe is explored by humans but their exploration is inherently only a meager segment of an eternally regenerative scenario of * a nonsimultaneously aggregating and only partially overlapping experience events of inherently limited local observers. Universe itself is synergetic, ergo the eternal mystery is inherent. Awareness of this greater integrity and mystery has inspired thinkers throughout all known history to acknowledge a greater, a priori intellect to be experimentally manifest in Universe and cosmically greater than that manifest in humans. How else the integrity of design of the regenerative chemical elements, et al? That awareness of an a priori greater designing integrity has, throughout history, occasioned O a human,"

Eternal designing Capability Sequence:

"intuitively sensed, word identification of the greater integrity. In our western world's language the word is mouthed as 'god.' The brains of those who do not have confidence in their own thinking have recorded this 'god' symbol as a special-case concept and have often given it specialcase form and clothing--- most frequently that of a bigger man,

thus missing altogether that it was occasioned only by a thinker's hierarchical sense of awareness of this cosmic integrity being inherently the most comprehensive, scientific generalization-of-generalizations implicit in the thus far discovered complex interaccommodation of all the thus far scientifically discovered cosmic principles, which to rank as principles must be devoid of exceptions, ergo must be eternal."

"However physically minuscule -an may be, the integrity of transformational transactions everywhere governing local Universe regenerations with discrete omni-interactommodative design logic, apparently requires the presence of a little bit of the eternal designing capability available as metaphysical mind, operating through human organisms, to be aboard planet Earth as the complex local problem processor, to offset the gamut of non-thinking conditioned reflexes of all biological systems. . . "

- Cite Museums Keynote Address Deaver, pp. 13-14. 2 Jun'71

See Great Intellect

Science: The Great Design

Supreme® Intellect

Cosmic Intelligence

God

See Design. 13 Mar*73

DNA-RhA, 9 Apr* 71

God, Kay*72

Phantom Captain, Sep'73*

"Clearly it is seen

That nan's metaphysical mind Demonstrates the most effective

Syntropic capability evidenced in Universe
 Excepting that of the universal mind's
 Cosmic syntropy
 As manifest in the eternal design complex.
 Comprehensively and synergetically interactommodative
 As eternally regenerative Universe,
 Which cosmic syntropy combines
 All the metaphysical integrities
 As well as all the physical patterns.”
 - Cite BRAIN *tt* MIND, p.U7 Nay '72

□In order for the Universe to be eternal--- rather than finite as the physicist find it--- it is continually transforming.

Therefore it is a minimum perpetual motion machine.”
 - Citation & context at Universe 15 Dec *71

See Continuity-finiteness Perpetual Motion Machine

See Unlvoraa, 1\$ Dec>?1*

Signal. inswtangiw

"We have a new norm. The phenomenon lag la simply due to the limited mechanism of the brain; we have to wait for the after-image to realise.

"The norm of Einstein is absolute speed instead of 'at rest' • . . What we called instantaneous in our innocence of yesterday. We get to lesser and lesser lags where we then approach eternal instantaneity: no lag at all. However, we have now learned from our generalisations of the great complexity of the interactions of principles that as we are disembarassed of our local exclusively physical chemistry, our local information-sensing devices, what will be realized is an eternal and

instant awareness of all the potentials that ever existed. All the great metaphysical integrity of the individual which is potential in the complex of interactions of the generalized principles, will always and only coexist eternally. I am saying that intellect, top-speed radiation, is simply the minimum lag before you get to the eternal.

"Intuition derives from the instantaneity of intellect, which is much faster than any physical phenomenon, such as the brain lags. Intuition is the insistence of intellect."

- Cite RBF to EJA, Beverly Hotel, NY, 22 June 1972
 Ettnwl JnotAnmmy: (2)

"Intuition is intellect coming instantly in at highest speed into dominance over lower-speed lagging brain-reflexing.

"Motion is not relative to standing still, but motion is relative to eternity, which is No-Time-At-All because no-time-at-all is inherent in the generalized principles. The beginning of awareness of intellect is otherness, the mass attraction of another with a pull which relates it to all our system.

"Eternity is simply highest speeds: not 'at rest' because it gets there in no-time-at-all: Complete intellection + Otherness + No-time-at-all.

"Differentiation functions in eternity through the nonredundant plurality of generalized principles."

- Cite RBF to EJA, Beverly Hotel, NX, 22 June 1972 c r -UN?- S2.4-30 *rnx S 2
 9.34 . i n*11 j)

See Differentiation, 27 May'72 Intuition, 27 May*72 Isotropic Vector Matrix, 6 Mar'73 Motion, 27 May*72

MB .&er.nal Orderliness:

N«Y. Times, 15 May'72, H.K. Schmeck, Jr, "Immunology: A Code Spelling Life or Death": ".Vhen the first living things developed in earth's primordial seas, they had to invent means of keeping themselves separate from the rest of the soup of organic material around tj»em." (Underlinging by k.B.F.)

R.B.F. Marginalia; "Nuts. Things can't invent. That is non-sense and typical of specialist entropical 'accidental' probability discovery of a priori eternal orderliness. Not invention, just surprised 3 , 5 ---- eternal pattern

integrity.”

- Cite RBF marginalia presumably 15 May'72

See Beginnings

Outset

Pre-Scenario

See Zerophae, (1)

Eyernaj. Ipt°KFItY: Three and Five:

***3+5 ----- Eternal pattern integrity. Three and five are discovered not invented. Three triangles - structure. Five accommodates five triangles concave-convex around one point. . •**

- Citation and context at Individual System Formation. 15 Kay'72

Eternal Pattern Integrity: Three & FLYfl:

See Eternal Orderliness, 15 May'72

Eternal Plana:

See Heaven it Hell, 31 May¹71

See Heaven fc Hell, 31 May'71

.£tom^al PrlnslpM?

"... Mind's discovery of an orani-interaccosmodative Complex of a variety of different a priori, cosmic, and J&fiXQBl principles, which can only be intellectually discovered, have no weight, and apparently manifest a perfect, abstract, eternal design, the metaphysical utterly transcendent of the physical."

ucuo000 .

- Citation and context at (1) (2)» ²² NoT

Eternal Rebirth Svatem:

See Frame of Reference, 24 Sep*73

Regenerativity, 17 Jan¹75

EWtPlly HWHPtWi

See Infinite • Eternally Regenerative Nuclear - Regenerative

E.ttttrngl Slowdown; (D

•The physical expands and increases its velocities to cope with the greater and greater distances. There seems to be a constancy of top velocity, however, and

it was this that so impressed Einstein. All the various types of radiation , the ultraviolet, the radio waves, and the x-ray reach about 186,000 miles per second. This is very extraordinary. The metaphysical in contrast tries to define the principles that are discovered; as the definitions can never be perfect, the metaphysical must also modify the definitions from time to time as we learn a little more. But that doesn't change the principle. As observation becomes better, then*is less alteration.

"Thus we find the metaphysical tending to become steadier and to work toward the eternal.

"As a result words accumulate to form the dictionary as men discover shared aspects of their total experience that are unique and require identification. They agree; even though we know how mankind battles not to agree. But this is also part of the metaphysical drive to be sure. It will not be"

- Cite draft preface for Francis Warner, p.3, circa 1970 from *Pr - / o52 5?*
Eternal Slowdown:

(2)

"satisfied until it feels that the word is getting fairly close to eternal. So I find that one cannot slow down. The epitome of slowdown would be eternal. Hence there appears to be an absolute of the acceleration toward the speed of light and a slowdown toward eternity.

"The metaphysical orders a particular aspect of the physical; it finds new challenges and brings problems to men. It is continually harnessing the physical and cohering; it coheres and reorders. Therefore, I see man in an oscillation between his physical incarnation, his metaphysical occupation of the physical, and the regeneratively rebuilding phenomena.

"It may be only a complete new baby or the regeneration of the local cells (an organic total birth). This rebirth is continual. We have longer and longer metaphysical occupations in our experience of the physical Sun's cycles.

"The physical Universe is an aggregate of frequencies. Each element is uniquely identifiable in the electromagnetic spectrum by its frequencies. None of them resemble each other and their interactions bring about other unique cycles of frequencies"

____ —Cite—draft preface for Frances Warner, nn.3-1. Circa 1970

* eu'f?op'f _ SECS *ia si- 55*“ t /o 52. pt +1052. r?/

Eternal Slgwd.QMD- (3)

"that act like great musical chords. We have a great orchestration that grows from the micro which are absolutely nondetectable by the human senses, to the very complex which are in terms of whole galaxies. In fact the human senses are only able to tune into about a millionth of the total now known realm of identities of phenomena. Thus comes the awareness of the physical giving the metaphysical employment---to apply its extraordinary sorting capability. I find then that the more metaphysical and sensitive the man, the more his real significance; since there is no weight lost as life goes. Man is metaphysical; he is born into the physical to experience Universe and to continually re-order and master it. . .

"The metaphysical works toward the eternal slowdown and becomes steadier; the physical alone accelerates and is fast. It is really only the destructive or negative things that accelerate. Popular music is getting more and more noisy, raising more and more of a row: it is purely physical. Metaphysical is in exactly the opposite direction."

Cite draft preface;? far Francis Warner, pp.3,9, circa 1970

*SftrtWt * • o 5x. Si)*

See Accelerating Acceleration

Absolute Velocity

Eternal Instantaneity

Truth as Progressive Diminution of Residual Error

Eternally ?Ynchrnla?d:

****... Cyclically, ergo inherently, ergo eternally synchronized to non-inter-interferenceT"**

- Citation and context at Carrier Wave. 9 Mar*73

Eternal & Temporal,:

"The generalizable laws of Universe are eternal-timeless. Time is a cosmically-designed consequence of humanity's having an endowed innate slowness of apprehension and comprehension, which lag introduces an apparent time-lapse concept."

- Cite RBF holograph, Bear Island, ME.; 30 Aug'77 incorporated in SYNERGETICS 2 draft at Sec. 1033.1370, 4 Sep'77

Eternal & Temporal:

"I think that whatever my thoughts are... they relate to vector equilibrium. Nature refuses to stop at equilibrium. So long as we have time we will always be disequilibrium. It is only when you have eternal nothingness that you can have equilibrium. And the equilibrium is not a linear affair---it is an omnidirectional phenomenon of all the motions I have given you."

- Citation context at Equilibrium & Disequilibrium. 20 Feb*77
in taaraal for Twagral:

"The eternal is embracing and the temporal is linear..

- Citation and context at Truth. 16 Feb*73

Et_{gra} ai » TbcwfI-

"Compression is time. Tension is eternity."

• Citation at BBHIIHHBI Tension Coapreaaion

as? DirmiTicws

k Eternal ft Temporal:

"The phenomenon time entering into energy is just a metaphysical concept. It explains our slowness and our limitations. Temporality is time and the relative asymmetries of oscillation are realizable only in time in the time required for pulsative frequency cycling. Synergetics correlates verities of time and eternity."

~~- Cite and notation for SYNERGETICS, Beverly Notes, New York, 28 Feb, 1971, see Sec. 202.5 of Oct. 1971.~~

- Citation at Time & Energy. Oct'71
- "In 1B temporal; out ie eternal."
- Citation It context at In fc Out. 19 Jun*71

Eternal & Timor*!?

"Instantaneity would eliminate otherness, tlae, and acf-and- other awareness* Instantaneity and eternity are both timeless: they are the same. Eternity contains time. Time does not contain eternity. The relationship is irreversible. The contained time of eternity provides eternal awareness.*

-See RBF rewrite of SYNERGETICS draft "Conceptuality: Life,* Somerset Club, Boston, 25 Apr*71

MHBB Eternal A Temporal;

"Life is the eternal pret in the temporal. ... "What we call life is a complex of multidimensional oscillations and palpitations between various degrees of positive and negative asymmetries, whose multi-variant lags in conception brings about *hat seems to be temporal substance."

~~rrfrimLai ICO U*uff **CU»Ltpluuligy~~
~~rrrin'nTii-TTjFTrinTi Uwh. rrrrm~~

- Citation k context at Lira. 25 Apr'?1

Eternal & Temporal:

"Life is the difference between teaporality and eternity.
. • . what we call life is osculation between various
or lags in conceptioning, which
degrees of asymmetry,
bring about what sees as to

be the temporal.”

•a. rayl.

~~Life 13 Mar '71~~
~~Reverly-Hotely~~
~~13 March 1971~~

- Citation 4 context at Life. 13 Mar'71

See Thneleee

Generalisation <t Special Case

See Comprehension. Oct*71 Eternity. Oct'71* Ideal. 1 Apr*72
In k Out, 19 Jun*71* Knowledge, 11 Sep*73 Life, 13 Mar*71*»
25 Apr*71* Metaphysical A Physical, 26 Jan*72 Odd Ball, 10
Nov*74 Structural Functions. Oct*73 Tine A Energy. Oct*71 Truth,
16 Feb*73*» 22 Jun*75 Regenerativity, 17 Jan*75 Equilibrium k
Disequilibrium, 20 Feb*77* Human Beings & Complex Universe,
(10)(11)

See Eternal vs. Finite, 15 Dec'71

Eternnl UnlT«rs«y fc PhTalenl Unlnm-nni

(Mind enables humans to discover and employ generalised principles...) ”Brought
from

The weightless, timeless,

Metaphysical W integrity and fidelity

Of absolute orderly

Eternal Universe;”

(Brought into the time and energy synchronized consciousness of physical evolution
scenario...)

- Citation and context at

Br.lnt Mind (3), May-72

EteriBX VnlTargg * fJmtoU».HaUM~.aa=

See Universe, 1\$ Dec'71

"Possibly this mathematical Odd Ball oneness inherently regenerates the ever-reborn ego. Just when you think you're negative, you find you're positive. This is the eternal wellspring of positive-negative regeneration, entropy, and everything."

- Citation and context at Odd Ball, 27 Sep'72

See Wellspring of Reality

Wellspring of Work

Between Wall and Line:

(2)

So. Odd Ball, 27 Sep'72«| 10 IOT>74

See Changeless Equi-eternal Eternal &. Temporal Eternal vs. Finite Great Eternal Mind Ideal Synergetics Limitless No Speed Reality Self-regenerative Temporary Timeless Vector Field: Eternal Cosmic Forever Reliable: Eternally Reliable No Start

See A Priori Mystery. 22 Jul'71

Complex, 27 May*72

Differentiation, 27 May*72

Generalized Principle, 28 Feb*71*

God, May*72

Intellect; Speed Of, 27 May*72

Knowledge, 11 Sep*73

Motion, 2? May*72 Normal, 25 Mar*71 Order, 13 Mar*73* Tension, 9 Jul'62« Truth, Feb*73 Unlimited, 11 Mar*73 Truth as Progressive Diminution of Residual Error, 1 Feb'75

Vector Equilibrium: Field of Energy, (A)

Eternal:

(3)

See Eternal Designing Capability Eternal Design Complex Eternal vs. Finite Eternal Instantaneity Eternal Orderliness Eternal Outset Eternal Pattern Integrity: Three & Five Eternal Principles Eternal Rebirth System Eternal Slowdown Eternally Synchronised Eternal & Temporal Eternal - Transforming Eternal Universe t Physical Universe Eternal Wellspring Eternal Plane Eternal Pole

rar • • ” know_ is « « «

- Cite R3F In Interview with Arlene Frannie, WOR-Radio, 21 Jun'72

Eternity: (i)

"The focal manifest of entropic dispersal la increasingly disorderly and syntropic association is increasingly orderly. . . . Between the two they work very much like the rubber glove. There really is an annihilation into eternity with no time and dimensioning--- these are only in our temporal relativity. Time is within our lags and our gestation rates and in the frequencies of the electromagnetic spectrum.

But every time we have annihilation into eternity, it is not lost in principle; it Is only lost in the' relative inaccuracy which we must have to differentiate and have awareness.

"Every time you enter eternity, everything called shape is cancelled and therefore there can be no static frame of reference. Our scenario Universe does not have shape nor is there relation to any static frame. There is an ideal which is eternal and inherently complex, which complexity is accompanied by the ideal transformability which synergetics elucidates.

"The episodes have shape, but the shape is always mildly asymmetrical and continually transforming. There is"

- Cite RBF to BO*R, Kent, Ohio, 23 May*72

Eternity; (2)

"conceptual shape in the ideal, i.e., the ideal tetrahedron, but no size, no time. We have here what the Greek mathematicians were trying to say, but more accurately. Time gives specific size and symmetry due to inevitable lags: the lags of realization!

"Synergetics is the central symmetry through which the asymmetry pulsates. There are several kinds of positive and negative. The eternal temple of positive and negative, the North and South Poles; concave and convex; inside and outside. There is a fourfold twoness: one the exterior cosmic tetrahedron and the interior cosmic tetrahedron; the other is the circumference around the pole. The additive twoness is the poles; the multiplicative twoness is the concave-convex; these are the eternity."

(Slightly edited)

- Cite RBF to BCPRj Kent, Ohio, 23 Feb*72. Full context at ILW-Syntropy and Entropy? (1) + (2)

Eternity;

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the zerophase of conceptual integrity inherent in the positive and negative asymmetries which propagate the problems of the consciousness. . . "

- Citation and context at Experience, 12 Sep'71

- BUUBI-15 Imk, 14 bpt. ~P97».

Etsniiiz:

"The Heisenberg indeterminism implies eternity to be persistent within the physical and metaphysical ever-evolving continuity-finiteness of scenario Universe, in which the myriads of nonsimultaneously shaken kaleidoscopes are never either simultaneous or identically repetitious."

- Citation and context at Measurement (1), Dec *69

E&grnltly va Enerev:

"When the Almighty

happened to bemuse hia wisdom with playing shoot-the-works, he opened with one hand the hot valve of absolute energy and with the other the cold valve

of absolute time." (Cited at Time vs Energy. Dec'40.)

RBF: "We would not now say 'absolute time.* Me would change it to read

... he opened with one hand the hot valve of the total energy and with the other the cold valve

of eventless eternity."

- Cite RBF holograph rewrite; 3200 Idaho Avenue; 2 May'78

EftEJ?ltly • Equation of Eternity:

"Eternity in simply the highest speed. It is not at rest because it gets there in no time at all.

Intellection begins with otherness, Ergo:

Eternity □ Complete Intellection + Complexity of Otherness + No time at all.

Naught that ever was will ever be lost nor diminished."

(Edited by EJA)

- Cite RBF to EJA, 3200 Idaho, Wash DC, 2? Fay'72, as rewritten by RBF.

Eternity; Equation of Eternity:

"Eternity is simply the highest speed. It is not at rest because it gets there in no time at all.

"Eternity Complete Intellection + Otherness + No Time at all.

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May*72

Eternity: Equation Of:

See Equation: Philosophical Equations

See Eternity, 27 May'72

Eternity:

(1)

See Absolute Velocity Alltime Conceptual Eternity Eternal & Temporal
Instantaneity Instantaneity □ Eternity Timeless

See Degeniua, 22 Jul'71 Experience, 12 Sep'71* Measurement, (1)•
Monitor. Feb*73 Pure Principle, 10 Feb*73 Radiation: Speed Of,
(A)(B) Syntropy & Entropy, (1)(2)* Virgin, 8 Apr*75 Verbs, 12 Nov'75

See Eternal Designing Capability

Eternal Design Complex Eternal vs. Finite Eternal Instantaneity Eter-
nal Orderliness Eternal Outset

Eternal Pattern Integrity: Three and Five Eternal Plane Eternal Pole

Eternal Principles

Eternal Rebirth System

Eternally Regenerative Eternal Slowdown Eternally Synchronized
Eternal &. Temporal Eternal □ Transforming

Eternal bnivers i Physical Universe

Eternal «ellspring

Eternity: Equation Of Eternity as Highest Speed Eternity vs Energy

Ethereal;

See Process Relationships, 28 Jan*69

Ethical Codes:

"... Ethical... codes are enforceable only by negative penalties,"

- Citation and context at Individual Economic Initiative. 1965

ETHICAL PHYSICS

EJA DEFINITIONS

Ethical HOTlgt:

See Group Advantage Gains Loss: Discovery through Loss Otherness
Self Self i Otherness You & Me

Ethics:

•Ethics means simply: How do you kill the pig?,, with a bludgeon or a
stiletto?"

- Cite RBF to EJA, Pagano Rest,, Phila,, PA,, 22 Jun*75

i.

See Consideration for Others

Expense: Without any Individual Profiting at the Expense of Another

Golden Rule

Good

Omniscience vs. Ego

Morality

Plastic Flowers

Sin

Trespassing: Not Trespassing

Unselfishness

Utopia

Virtue

You Do Not Belong to You

Good & Evil Sequence

Individual & Group Principle

Custom: Lest One Good Custom Corrupt the World

See Nation

Race

See Seeing v8. Hearing, 22 Jan*75

ESZEFilfiJEi:

The scientific study of words and their origin Through etymology man gave names
To their abstract number set concepts."

- Cite SYNERGETICS draft, Numerology, p.4, Aug'71

See Fuller. R.B: Hie Imaginative Etymologies Old Words

Euclid: "Euclid was not trying to express forces."

- Cite RBF to EJA, Beverly Hotel, New York, 12 Sep *71

See Ghostly Greek Geoaetry XTZ Coordinate System

See Timeless, 1946; NOT*71

Otherness, 8 Feb*76

nd?' jrill.ITIuhS

buler:

"There are no surfaces. Therefore there are no areas.

So Luler*s topological aspects have to be altered to read : "lines" • trajectories; "vertexes" " crossings: and "areas" □ openings, i.e., where there are no trajectories or crossings. This relates to systems."

- Citation at Sm.a. 22 ipr'71

Euler:

"For Euler (covered tarily in the nineteenth century That all patterns of universe Can be resolved into three Conceptual differentiations Lines, crossings. and areas--- Systems immediately divide tniverse Into an outsideness And an insideness And a little bit of the universe <'/hich is the dividing system itself--- Xhlch always consists Of a constant relative abundance Of the lines, crossings, and areas In which .

$C + A - L + 2$."

,HI. WrilTTIOH, P. l?t

- Citation t context at Constant BelatlTa Abundance. Feb>71

Euler:

'"Topology is the science of fundamental pattern and structural relationships of eventw constellations. It wae discovered and developed by the mathematician Euler. He discovered that all patterns can be reduced to three prime conceptual characteristics: to lines, points where two lines cross or the same line crosses itself; and areas. bound by lines. He found that their is a constant relative abundance of these three fundamentally unique and no furhter reducible aspects of all patterning

$P \square A - L + 2$

This reads: the number of points plus the number of areas always equals the number of lines plus the number constant two. There are times when one area happens to coincide with others, . 'hen the faces of polyhedra coincide illusionarily the congruently hidden faces must be accounted arithmetically in formula.**

SEE ILLUSTRATION .< 45

- Cite OPERATING kAKUAL, pp 73-74 , 1969

Euler:

"The wholesale exodus of mathematicians from reality with the usual, rateable, and relatively few exceptions, such as Euler occurred simply because of the mathematician's inability to cope epistemologically with the increasing flood of emergent interrelatedness of physical reality. . . "

• Citation 4 context at Hyphenated Sciences. 18 Apr'63

- ~~Q.T. RBF~~ Jaaguralfatdreas, InternaQoBal- Qongi tsefoiSterology - 18 April 1963

Eulr;

"I see things soetimes in terns of vectors, sometimes in terms of the faces, and sometimes in terms of the vertexes, which would be spheres. These are the three main aspects of all patterns known by Euler. Euler founded these incontrovertible minimum aspects of pattern. When Euler introduced topology, he, for the first time, initiated the return to conceptuality out of seemingly complete abstract mathematics, where we could come to completely empty sets, we thought; where we could have complete substitution of symbols for numbers and we could play the game of symbols.

"Euler said: 'We are dealing in pattern. Mathematics is pattern.' And he said, 'There are irreducible aspects of pattern. That is the patterns do represent some kinds of events. And there are the lines: a line is a unique kind of pattern. If i have two lines, where the two lines cross is distinctly different from where the two lines don't croos: it is the vertex, the convergence. This is absolute pattern uniqueness. Now I might have a third line crossing, and where the three of them cross, they will leave an interior area. An area is something completely differentiable from a line or a vertex and these make irredlOible qualities of pattern? *"' - Cite Oregon Lecture #7, pp.245-246. 11 Jul*62

RBF DEFINITIONS

"He was finally able to say that on a plane pattern the number of the vertexes plus the number of the areas will always equal the number of the edges plus the number one. Looking at a polyhedron and thinking about it as a flat picture, we can count these up. The number of vertexes is 18, and the number of faces is 19, so $18 + 19 = 37$, but the number of edges is 16 and the plus one makes 37. Euler found that he could do this for structures which were not in the plane. And then the accounting becomes the edges plus two instead of the edges plus one.

"If the pattern has a hole through it, like a doughnut, then we don't have plus anything. We leave out the two from the solid. When we leave out the two from the solid it is really a doughnut, and we are cutting out the axis which is to say that the axis is two.

"In other words when I say frequency to the second power times ten plus two, I assign two in every layer for the axis. We must pay attention to the fact that the 'plus Two' that Luler found has to be added to the vertexes plus faces equals edges plus two, when it is a structure in the round; but whehrw we"

- Cite Oregon Lecture #7, pp.245-246, 11 Oct'62

Euler;

"put a hole through it, we find we drop off the two; and then it ia vertexes plus faces equals edges. The plus two comes from coring, like coring an apple, which is to take out the axis.

"My identification of plus twoness is verified as it has shown up in the number of balls in any layer. In the round affair the two related to the axis of spin is inherent for any system, so we now allow the energy to account for the spinning."

- Cite Oregon Lecture #7, pp.245-246, 11 Jul'62

Euler: Leonhard Euler:(1707-1783.)

"Any system ia spinnable, a condition Euler began to discover in his great topology. Not only did Euler develoo the basic laws of tocology. . . but he also gave the world of engineering the concept of axes, that every system ia subject to its spin. Therefore there were neutral axes to every system."

- Cite Oregon Lecture #7, ». 242. 11 Jul*62

Euler:

"A Mathematical Discovery of Euler la illustrated in this table.The theorem states that every positive whole number can be expressed as the sun of no nore than four squares of other whole numbers. **

--- Caption to Paul R. Halmos, "Innovation in Mathematics," p.72, Scientific America,, Sept'58

RBF has written in margin of above: "If he had said 'triangles of numbers'⁴⁵ instead of 'squares of numbers,' it would have been a creation instead of a discovery, and it would have illuminated all of the understanding of structure."

Euler:

"Euler's topological formula: 'Faces plus vertexes equal edges plus twoness.'"

- Citation and context at System. 1954-59

Euler* B Game of CroaBliuta:

See Star, 1 Apr¹71

□ faiLer. » Gibbs: COMPARISON OF EULER AND GIBBS



EULER

Visual

"they cone toi in vertexial 1

Energy as Radiation

(Coming apart)

GIBBS

Tactile

Matter

which implies

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971.

Euler & Gibbs:

Synergetics : Sec. 105t

Euler & Gibbs:

45 RBF file of notes for Synergetics. Approx. Sep*58

See Chemical Bonds, 6 Mar'73 Synergetic Hierarchy, (1); 13 Nov'69

Thinking, (I) Generalised Dichotomy: Grand Strategy, (2)

RBF DEFINITIONS

Euler vs. Synergetics:

The discovery of synergetics of "the addition of angle and frequency to Euler¹s inventory of crossings, areas, and lines as the absolute characteristics of all pattern cognizance."

- Citation at Synergetics. 20 Dec*71

SHB Euicr Synergetics:

"Omnitopology differa from Euler*a superficial topology, omnitopology being nuclear."

- Fairfield,-Coaa., Ches Wolf
- Citation at Omnitooology_f IS Jun*71

fM| Euler vs. Synergetic a:

"We didnt talk about tha domains of volumes, just surfaces* This is the difference between synergetics and Euler."

~~- Site 402 by Bill, Fairfield,
14 June 1971.~~

- Citation at Domains of Volumes_f 18 Jun*71

I fheM liill

Sec Two, 25 May*72

KBF DEFINITIONS

MM Euler*» lioness;

'Euler's formula 'twoness' is an abstract arithmetical 'accommodation, • and not an identification of neutral axis excess of two factual polar spheres in each layer.'

- Citation at Additive Twonaaa. 1* Feb'66

fader's Txoneea:

See Cognition, 1960

Energetic Functions, 1954

Additive Twoness, 14 Feb'66*

Egler's Uncored Polyhedral Formula:

See Quanta Loss by Congruence, (1)

**See Constant Relative Abundance Topology; Synergetic A Eulerian
Coring**

Ancle. 30 Nov'73

Additive Twonessa, 14 Feb'66*

Axle of Spin (1)-(6)

Chemical Bonds, 6 Mar'73

Conceptuality, Jun'66

Conceptual Systems, May'72

Corin®, 11 Jul'62

**Domains of Volumes, 18 Jun'71* Invention Sequence (B) Pattern, 20
Feb'72, Jun'66 Prime Enclosure, 17 Feb'73 Pattern Uniqueness, 11
Jul'62 Radiation, 6 Mar'73 Omnitopology, 18 Jun'71* Superficial, 6
Mar'73**

System, 1954*, 22 Apr'71*_M

**Synergetic Accounting Advantages: Hierarchy Of, (1) Synergetics, 26
Sep'73. 20 Dec'71* Synergetic Hierarchy, 13 Nov'69 Structural In-
tegrity. 30 Nov'73 Topology, Jun'66, 1969**

false:

<2B)

See Two, 25 May'72, (1)(2) ,, ,

**System: Synergetics Principle of the Whole System (») Vertex, Jun'66
Visual, 6 Mar'73 Hyphenated Sciences, 18 Apr'63* General Systems
Theory, (1) Background Nothingness, 2 Jun'75 Minimum Limit C_ase, 9
Jun*75**

Self t Otherness: Four Minimal Aspects, 9 Jun'75

Minimum Awareness Model, (j) (2)

Windows of Nothingness, (1)

Otherness, 8 Feb'76

Infratunable & Uitratunable. 8 Feb'76

Modules: A 4c B Quanta Modules, 20 Dec'73

Seven Minimum Topological Aspects, 12 Feb'76

Silence, 30 Sep'76

See Euler k Gibbs Euler's Twoness Euler vs. Synergetics

Evagipating:

”Eve — eaves — riba — evaginate — evolution.

”Annihilation la temporarily discontinuous but self survives in the complementar-
ity.... They add to the perimeters from the inside out, each unrolling on the others—
like roller bearings (or the turtle dome), precessing from radial to circumferential.
They are evaginating. The vagina opens up. Vaginate.”

- Cite RBF to EJA, in reaction to EJA type-out of dictionary meaning of 'evaginate*';
Pagano Restaurant, U.Penn, 22 Jun*75

Eve:

See Evaginating, 22 Jun*75

Evenly Coupled Vertexee:

See Poles, 1y71

Vertexial Spheres, 8 Apr'75

Even:

See Number: Even Number Number: Even *tc* Odd Numbers

Event:

"Events are changes of interrelationships. Events are changes of interrelationships between things in a system. Events are changes of interrelationships between any one of the separate 'thing' system's constituent

characteristics—a minimum thing has separable parts."

- Citation 4 context at Finite Event Scenario_f (1); 23 Jan'77

Event:

"Events are forced to bounce in spherically contained circles because they seek the largest possible Tcircumference pa 11 erns (Interior

- Citation and context at Great Circle. 8 Kar'73

Event:

"The six vectors of an event can be articulated linearly or in a hexagonal circle.**

- Citation and context at Twelve Universal Degrees of Freedom.

29 toy*72

Event;

"... The twelve universal degrees of the vector equilibrium which characterise an event in pure principle,"

- Citation and context at Twelve Universal Peeress

rtBF JtFIMTluhS

Event:

"Because physics has found no continuums, no experimental solids, no things, no a real matter, A had decided half a century ago to Identify mathematical behaviors of energy phenomena only as events. If there were no things, there are no nouns of material substance.*

- Cite RBF Marginalia on SYhhKGEilLb draft at Sec 250.04,-
Dec '71, at 3200 Idaho, Washinhton DC, 26 Jan *72.

Event:

"Every event has size."

- Otte

Uaiiufunij PHIIIUI,

- Citation at Sj»e_r 11 Oct *711

Event:

"Every event is six-vectoped."

~~Cite SHUSHOKTICS Corollaries,~~
~~Haverford, Penna.~~

- Citation at Vector. 11 Oct*71

' 240. B»ZBBFT~Tr Of I.

xBF DiFIHITICKS

Event:

"a prime number is a basic event. Every event has three parts."

- -C1LU IPF-to EJA

- Citation at Basic Event_r 7 Mar*71

Event:

"... Every action has its reaction and resultant; and no event in Universe can be
Independent of the reat of Universe . •

" CONT*XT AT AM! BEM'67 Pan SMMBM 12)

Event;

*SiM unique vectors constitute a tetrahedrwal event."

- Cite SHUSHOKTICS CoroHerleS, See. 240, by RBF 11 Oct. '71.,
Haverford, Penna.

One-half tetrahedron - One-half quantum

Event:

"One event - One triangle

- Cite P. PEARCo Inventory of Concepts, June 1967

kbF De'i'INITIOiS

Event:

"Engineers are always® talking about action and reaction, but they over-simplify. We have reaction and action, but we also have resultants; and every event, then, is really a three-part affair. I find that the resultant and the reaction are never at 180 degrees, which is an approximate figure as there are always some odd angles."

- Citation at Action-raaactionraaaultant. Jun>66

Event;

"... The number of all the lines, which is to say the number of all the vectors, in the universe, is always a number which is divisible by six. There are no exceptions. Now these six vectors are the six edges of the tetrahedron, which is the basic quantum unit, and consist as we have seen of two sets of three vectors each, each of which sets of three comprises one event, each event consisting always of its action, reaction, and resultant."

- dite_HAS-Spo«ohp.63, Jun'66
- Citation at Quantum. Jun'66

See Beginning

Disturbance Initiating Point

Locus Fix

Focal Center

Point

Starting Point

See Angle & Frequency Modulation, 2. Apr'68 Events & Nonevents, 16 Dec'73 Point, 28 Oct'73; 1 Apr'72 Spherical Field, 9 Jan'74 Package, 23 Sep'73 In & Out, 4 »>ay'57 Twelve Universal Degrees of Freedom, 7 Nov'73 System, 27 May'72

Event Freedom:

See Happening, 22 Apr*71

Eventing:

See Sensings i Eventings

Process vs. Thing

"Not until we have orbital closure of a complex or simplex tracery do we have a defined novent. Events occur wherever single or complex tracers cross back on themselves."

- Citation & context at Topology_f 10 Sep*74

"The vertexes are the unique, individual, ergo in-time events; and the nonvertex voids are the outdividual, ergo out, timeless sizeless nonevents. The both outwardly and inwardly escaping nonevents complement the embryo local-in-time, special-case, convergent event, systemic pattern fixation of Individual Intercomplementary event Identities."

- Cite SYNERGETICS text at Sec. 905.16 Dec*73

**"We experience events and no-events. Ergo, we invent novent*
Novents characterise the finite but nonsensorial remote masses'
interattraction, i.e., the gravitational continuum***

**"Seeming 'space' is the absence of energy events. The word space as
a noun misleading implies properties that are altogether lacking.**

"All of our experiences are periodically terminated: the termination characterises both the physical and metaphysical aspects of our observing faculties and the observed phenomena. There are no experimentally known continuums. Physics has found no 'solids.' We have only 'awake' or 'asleep' --- 'experience*' or

'nonexperience'---occurrence durations and nonoccurrence intervals; either discrete and unique packages of energy or thought, on the one hand, or of nonenergy or nonthought, on the other hand. Each and all of these are as uniquely differentiable, and as separable, from one another as are the individual stars of the Milky Way.

"The nonevent continuum is the novent. The novent continuum permeates the finitely populated withinness and comprises the ∞ MB finite novent withoutness. Novent is the finite but

rvwi.nrvo»Trc . __ - nonsensorial continuum
- CiteSINHGETICS text at Secs. §24.01-.04; Nov*71
Events, No vents, *it.* Event Interrelatabilities:

"In topology, Euler says in effect that all visual experiences can be resolved into three unique and irreducible aspects:

vertexes, faces and lines,

or, as we say in synergetics topology:

crossings, openings, and trajectories,

or the more generalised:

events, nonevents, and tracteries,

or more refined as:

fixes, discontinuities, and continuities,

or, in most refined synergetics:

events, novents, and event interrelatabilities•**

- Cite SITNERGETICS, 2nd. Ed. at Sec. 1007.22, 1 Jan*75
Events. Movents & Event Interrelatabilities!

See Fixes. Discontinuities k Continuities Crossings, Openings k Trajectories Points, Area's k Lines Joints, Windows k Struts Vertexes, Faced k Edges

See Events, Novents & Event Interrelatabilities
Fixes, Discontinuities & Continuities

Eventa **k** Nonevents: Events & Noventa:

See Vertexes It Nonvertexes

See Epistemological Stepping Stones, 30 Dec*73 Topology, 10 Sep*74* Frequency Islands of Perception, 13 Nov'75

fiTtafc-Mlata-

See Syatea, 26 Dec*74

See Bade Event

Cosmic Event

Energy Event

Environment Events Hierarchy

Epistemological Stepping Stones

Events 4 None vents

Finite Event Scenario

Focal Eevent

Geometrical Interrelatability of Events

Human Events

Intercept the Random Event

Local Change

Local Event

Local Evolutionary Transforation Events

Minimum Ewvent

Novent

Nuclear Event

Quantum: Event-paired Quanta

Special Case Event

Spheric Event

Spherical Trending of Events Star Events

See Time-energy Events Transformation Event Universe Event Wave-length & Frequency Event System

Environment. 12 *WK*

See Action-reaction-resultant, Jun*66*

Basic Event. 7 Mar'71*

Cosmic Complementarity, 0 Nov*73

Dome: Montreal Expo Dome, (2); 1968*

Duration. 28 Feb*7«*

Energy, Apr*68

Great Circle, 8 Mar*73*

Individual Universes, (1)

Line, 28 Jan*6y

Frame of Reference, 24 Sep*73

Quantu. Jun'66*

Size, 11 Oct*?1*

System, 24 liay'72; 2y Dec*53

Tetrahedron, 20 Feb*73

Twelve Universal Degrees of Freedom, 2y May'72*j 12 Jun*74

Truth, 23 Dec*68

Vector, 11 Oct*71

Overlapping, 30 May*75

Intertransformability Systems, 28 Apr*77

Eventless:

See Eternity vs Energy, 2 May'78

**See Event Center: Event Embryo: Event Foci Event Freedocas Events
& Nonevents: Events t Novent8 Event-points Events, Nonevents &
Tracerics Eventing Eventless**

Everybody:

"Everybody is a process and not a thing."

- Cite RBF to

3200 Id.*o

Beatles writer Alfred Aronowitz and EJA Washington, 3 October 1971.

Everybody's Business:

(D

"I think this town nesting of the air, the audiences here, those of us at the table, really are all of one mind. Humanity is deeply concerned about humanity. But I¹¹ Just point out as an engineer and as one who has operated in the research and advance activities for many, many years that the total community does not invent the telephone, nor the airplane; this is the work of the individual. The individual who finds technically better ways for society finds that what he has is usually not employed until society gets in a very great emergency,

"What we're really talking about today are human beings themselves, Not weaponry. We're really talking about human beings; that is our concern... and how will we serve them properly. It's coming out in the public domain in such an important way. There's much literacy. Society will in due course find itself in a very emergency.

"I talked to you about the government having underwritten a completely obsolete way of carrying on. If all those buildings were any good they would pay for themselves and we would not need those 20- to 30-year mortgages. The whole New York City"

- Cite HBF to "Town Meeting of the Air," Wash., DC; 10 Sep'75

Everybody's Business: (2)

"problem is that long, long indebtedness where you can't even meet the debt service; where we have been continually underwriting the old rather than tackling the new.

"I really am hopeful that this meeting will be paying considerable attention to what are the kinds of technical team of builders that we will find available as emergencies increase.

"I've just been at a meeting in Albuquerque. I was asked by M.I.T. if I would come to an intercollegiate meeting

of solutions of energy-harvesting problems. Engineering students from 30 universities were granted \$5,000 each to grant their producing technically-equivalent, new windmills, new methane gas, sun-energy converters, and so forth. Scientists and engineers went over the work of each of the different student groups. They had to have the apparatus run for 24 hours to prove that, it really works. They were all rated for BTUs and KWH tpt they could turn out. And what was really important was that I could see the whole academic world the engineering world returning to doing what just the individuals had been doing, the individual windmills, and so forth."

- Cite RBF to "Town Meeting of the Air," Wash., DC; 10 Sep'75

* a iaw: (3)

"It's suddenly getting to be everybody's business. There is a great evidence that we can harvest our energy income and not use up our fossil fuel savings account, not burning our ship atomically /` ` like a desperate Mississippi sternwheeler throwing the handcarved railings and gingerbread woodwork into the boilers---J, It is actually provable now that by burning up our energy income rather than our fossil fuels savings account it is possible to take care of all of humanity at the highest standard of living and exclusively on energy income by ly85 while completely phasing out all fossil fuels and atomic energy. We know that to be so. And this is very big news--- and not the kind of news that this meeting started out with."

- Cite HBF to "Toen Meeting of the Air," Wash., DC; 10 Sep'75

Everybody*s Buslnesa:

See Doing What Neede to Be Done

Everyday:

"At the ⁵ tween stage of, Universe-* twist micro and macro--- cosmos--- known as »evegiay» and occurring in the narrow visible range of the tdtal known spectrinjj, man has not been successful to date in constituting super-complexities- of- common-advantage from out of the host of the potential components of the now-myriad of unique chemical (compounds) or rqAiitively simplified order. Differentiation outdoes integration."

- Cite TOTAL THINKING, lil, p.226, May'49

Eyerv Ever:

See laotropic-vector-natrix Field, 20 Dec'73

See Electronic Voting: Electronic Referendum

See Fail-safe, 13 Sep'77

Everyvwhen:

"When I am talking about vector equilibrium and the isotropic vector matrix, I don say'everywhere*--- it's too static. I say mverywhere and everywhen."

- Cite RBF to EJA, while drafting SYNERGETICS 2 at Secs.

986.109 fc 986.110; Halekulani Hotel, Honolulu, HI; 18 Nov'77

Everywhere ft hemtaa:

See God, 7 Nov'75

At

EYwythoro ft EnmhlW

See Pendulum Model re. Scenario Model, 23 Dec *6*

facier. fc Everywhere?

See Spaceship Earth! (b)

Evervwhereneap:

See Light on Scratched Metal, 9 Nov'73

<QO

See Always &. Everywhere Eleewheree Kanywhere Not-everywhere Ever *it* Every-
where

See Approxltnateness, 8 Oct'64

EzU:

See Good & Evil Immorality Sin

Bad

See Inside-outing

Involut ing-evolut ing

Motions: Six Positive it Negative Rubber Tires

Fountain Pattern

Torus

See Balls Coming Together. (2) Energy Has Shape, 25 Sep*73

Evolution:

"Don't push Universe. She has her own evolutionary rate.¹

- Cite RBF to World Gane Workshop, Phila., PA., 22 Jun'75

Evolution:

"Evolution let us spend the first million years or so just inventing
words,"

- Cite RBF to EJA, Pagano's Rest., Phila., PA., 22 J_uri»75

Evolution:

"I am a student of large patterns and I am trying to see what evolution does to some of these things. I think that human beings do not often realise how powerful, knowledgeable, and competent is universal evolution.

"X-ray cinema makes visible organisation of a chicken--- the gradual assembly from its embryo, all taking place inside the egg, much of which process seems chaotic and discretely uncontrolled. Humans do not see the logical interrelatedness of big evolutionary development. All the technical happenings which were unpredicted in my youth seem only in retrospect to have been obviously sequitur to their immediate predecessor developments. Humans tend to think that Universe is waiting upon them to make the evolutionary decisions. I do not."

- Citation *k* context at Planetary Democracy, (1)(2), 15 May*75

Evolution:

"Whatever I do with other humans must be spontaneously initiated by others. In this way I stay attuned to Nature's evolutionary wave front."

- Citation *A* context at World-around Communication Transcends

Evolution:

"A system alter other systems: this is the essence of evolution."

- Citation at Systems Alter Other Systems, 22 Jan*75

Evolution:

"And because evolution is apparently intent

Upon accomplishing humanity's total economic success,

Whenever society delays overlong

In adopting, producing, distributing and using

In peaceful spontaneity.
The evolutionary essential
Discoveries and inventions
Of the technological innovations,
Evolution then forces humanity to adopt and develop
All the progressively advancing technologies
As emergency commitments

Under the negative aegis of group fear of military defeat And its consequent defensive action taking."

- Cite INTUITION, p.71 Kay '72

Evolution;

"You mustn't think of evolution as something outside of man.

Evolution is man, man in his universal aspect, man functioning as part of Universe. . . "

- Cite RBF tape transcript for Barry Farrel Playboy Interview Feb '72, Draft . p. 65.

KBF DiFinition

Evolution:

The tension in evolution, and to a large extent in mankind of the twentieth century, lies in the 'attempt by man to convert his evolution from a subjective to an objective process. **

- Cite context and RBF quotation from William Kuhns in "Poet- Industrial Prophets" (Harper-Colophon), p.2J7. 1971

Evolution:

What I mean by evolution relates strictly to both the metaphysically and physically evolving frontiers wherein the basic informational assumptions are being progressively altered, simply or complexedly, energetically or synergetically. Evolution is the net irreversible inexorability of change. All else is what men call status quo. . . . Change involves time and total experience change is complex. Evolution is scenario and not single-frame. It is the scenario of eternally regenerative Universe at its regenerative-ly most exquisite eventing."

- Cite A Definition of Evolution, p. 3. 15 Sep»71

Evolution;

"To the few who are disciplined to deal with invisibly integrating trends, it is increasingly apparent that man is about to become almost 100 percent successful as an occupant of the universe."

□ Cite RBF quoted by Hal Aigner in "Belax...", Rolling Stone, 10 June 1971

Evolution:

"Evolution is the scenario of happenings which are always permitted by nature's precise eternal laws governing angular degrees and frequencies of event freedoms, which are realised as happenings."

- iwH 22-April-1971

- Citation & context at Happening. 22

Evolution:

The principle of irreversibility states that the evolutionary process is irreversible locally in physical time-space --- i.e., in frequency and angle definitioning because the antientropic metaphysical is not a mirror- & imaged reversal of the entropic physical world's disorderly expansiveness."

- Citation at Irreversibility: Principle Of Apr'71
&Y91uUfia» <¹>

"In the irreversible succession of self-regenerative human events* Experiences, in tuition* experiment*; .di*covdHetflrfcr'|d4>ductions Ever increase the comprehensions and capability'bptfmttd .Which commonwealth'<on tnter-eonmninlcated rfdMJrSiReriAlfth*

Produce an ever evolving, subconsciously changing common sense.

Where syntropy is gaining over entropy life prevails Where entropy is gaining over syntropy death prevails. This exponentially regenerative interplay le describable in information theory As ¹ self-accelerating feedback*

¹ • Wt* -V.SIH *>Kl

And in nuclear physics it is manifest as chain reaction

->~~Gite BRAIN MIND draft, p.6, Feb«71

772 f*?.. i'zn aitHiTomier— stc. i«T!.so \

SigMUfiP' (2)

*And in an even more comprehensive way It io manifest

As an irreversibly subfunctioning of universal evolution.*

- Cite BRAIN k MIND, draft, p.6, Feb'71

Evolution:

"Total man may be going through a total wave of transforms tion into an entirely new relationship with the Universe. Kan, freed of special-case superstition by intellect, has had his survival potentials multiplied millionsfold." • • "Intellectual integrity will win tomorrow's battles with accelerating inexorability,"

- Cite I SEEM TO BE A VERB, Bantam, 1970

Evolution:

"Evolution is apparently intent that man fulfill a much greater destiny than that of being a simple muscle and reflex machine--- a slave automaton--- automation displaces the automatons.

"Evolution consists of many great revolutionary events taking place quite independently of man's consciously attempting to bring them about. Ian is very vain; he likes to feel that he is responsible for all the favorable things that happen, and he is innocent of all the unfavorable happenings. But all the larger evolutionary patternings seeming favorable or unfavorable to man's conditioned reflexing are transpiring transcendently to any of man's conscious planning or contriving."

- Cite OPtHATING KAMUL, p. 44, 1969

Evolution:

"The rate of change and numbers of special case self- retransformings of physical evolution tend ever to accelerate, differentiate and multiply; while the rate of change and numbers of self-remodifyings of generalised law conceptinnings of metaphysical evolution tend ever to decelerate, simplify, consolidate and ultimately unify."

- fiiis nsiiMi-rtfirim-rraruf nuuigii, gpr J-68-
- Citation at Metaphysical &. Physical. 22 Apr'68

Evolution;

"... Evolution must forever alter the total inventory of humanity's non-simultaneous and only partially overlapping experience for clearly experience always alters previous experience and the process is both irreversible and non-identically repetitive."

- ~~of Design, p.K~~ ?2 Apr'68

- Citation *k* context at Heiaenberg-Eliot-Pound Sequence. 22 Apr*68

evolution;

'Evolution it inexorable.

"The universally complex integrity of generalized principles, intuding the principles of irreversibility and entropy, together result in inexorable evolution and its myriad of constant local transformations.'*

(Adapted)

-Cite «MAT QUALITY ENVIRONMENT

24 Apr'67

k_>F DLrlhlTIbKS

Evolution:

"It becomes retrospectively visible that the universe is a dynamic continually evolving process within which man himself is continually evolving. Dr. Waddington, the famous animal geneticist of the University of Edinburgh, points this out when he sneaks of what he calls the 'epigenetic landscape.' in which we have all of the biologicals continually altering the environment and the altered environment continually realtering the biologicals. There is manifest a chain reaction of extraordinary pattern interactions whose consequently progressive intertransforming we recognize as evolution, evolution is both you and I and the comprehensively dynamic macro-micro environment--- that is, universe. Due to entropy, the physical evolution of universe is Irreversible. There are cyclic patterns which are repeated but not reversed. Only the metaphysical abstract thoughts can review and reconsider the evolutionary transformations, individually or collectively, but cannot 'turn the clock back.' "

{Adapted)

- Cite -..ILiT QUALITY uIJVIRON.'ENT 24 Apr'67

"It is well within my lifetime that we have gone from less than one percent of humanity having any economic advantage whatsoever up to almost 44 percent enjoying standards undreamed of by J.P. Morgan. I am convinced that this unexpected transformation is a manifestation of a much larger evolutionary pattern in operation around the Earth and in the Universe than any as yet recognized and apprehended by political man.

Life have an extraordinarily vain concept regarding the brilliantly managed responsibilities of man on Earth. Each man in his turn assumes that everything up to his birth is natural order. Thereafter each man assumes that he is supposed to be responsible for making the Universe work.

"To such an extent does man believe in man's importance that he doesn't realize that he is himself almost completely automated, that he is subconsciously coordinated and motivated, and also part of an immensely evolving, totally new, era gestation process to be realized in magnitude beyond man's conception.®

"Nobody knows how his breakfast is being processed into gland-stored energies. He cuts his hand and it heals. He does not"

- Cite AAUW Journal, pp. 174-175, May'65

Evolution: (B)

"know how. His hair grows--- or doesn't grow--- and he knows not how or why. We go from seven pounds to 170 so relatively slowly that we don't think of this as evolutionary. Between World Wars I and II American men unexpectedly increased their height by three inches.

"Up to and including my father's life the average distance covered by man in his lifetime locomotion was 30,000 miles. In my lifetime thus far I have covered three million miles, a 100-fold increase. Astronauts knock off that distance in three days flight. I don't think we tend to accredit at all the fact that we might go on to have some other form of living in the Universe.

"I find man tending to ignore, however, what seems to be any kind of mass development. He is tremendously apprehensive of losing individuality. He shouldn't be. When he cooperates and coordinates he is not losing individuality. In fact, at that point he is beginning to demonstrate individuality to the only degree to which it is important: his very ability to dedicate himself to a cause is manifest of his individual freedom to do so."

- Cite AAUM Journal, pp.174-175, Kay'68
&BF DtFU.ITIU.t
Evolution:

"Technology [places] industry . . . Industry in turn paces economics . . . , Economics in turn paces the everyday evolution acceleration of man's affairs. The everyday patterning evolution in turn possesses progressively accelerating problems regarding the understanding of the new relative significance of our extraordinarily changing and improving degrees of relative advantage in respect to the controlling of our physical survival and harmonic satisfaction."

- Citation and context at Science-Technology-Industry-Economics-Politics. Smu«ic.t (2), 5 Ky'62 ` `

—ii i-r.'m. i u.i i -i i | i n I'miiti
Evolution:

"Since experience is finite it can be stored, studied, directed and turned, with conscious effort, to human advantage. This means that evolution pivots on the conscious selective use of cumulative human experience « on freedoms

of action . • . and not on Darwin's /~hypoth?sis_7 of chance adaptation to survival and assumption of evolution independent of individual will and design."

(Adapted and rearranged)

- Cite MARKS, p. 10 , i960

Evolution;

"fen, in degrees beyond all other creatures known to him, consciously participates--- albeit meagerly--- in the selective mutations and accelerations of his own evolution."

~~Free Will, May'49~~

Full Context at

Evolution:

"The main difference between all our yesterdays and today is that man is now intellectually apprehending and usefully employing a large number of those ninety-nine and nine-tenths percent invisibly energetic events • « . within the vast non-sensorial reaches of the electromagnetic spectrum. Humanity has therefore created for itself a new set of responsibilities requiring a ninety-nine fold step-up in its vision and comprehension."

(Slightly rearranged.)

- Cite OWINGS FORWARD, p. 2

Undated

Evolutionary Checka & Balances:

"Subscribing to the evolutionary checks and balances of nature's own gestation rates, I have never promoted the map nor solicited sales, but the world-around demand for them is rapidly increasing."

- Citation A context at Dymaxion Airocean World Map.(6) 26 Aug*75

Evolutionary Checks & Balances;

See Genius: Children Are Born Geniuses,(2)

EBP DhFDUTluKS

~~far glUgR~~: Analogy of circuitry:

"With a thermionic valve you develop heat as in a radio tube. When you close a switch in your house you tumble a set of dominoes all the way to the generating station and the station tumbles It back to the house. This is fundamental to circuitry, but man tends to see it only as one way. . . It doesn't matter whether it's capitalists and communists, or Republicans and Democrats. We have a choice. We can do the right things for the wrong reasons. Or we can do the right things for the right reasons. And If it's all minuses or all pluses, it still comes out as an aggregate plus--- which is what evolution MM is doing. -It doesn't matter whether all agree to be communists, or wither all agree to be capitalists. Evolution will pay no attention."

- Cite EBP to EJA, 1200 Idaho, Washington DC, 23 Jan »?2

See Buggy Industry Could Never Invent Automobile Future: Man Backs Into his Future Honey: I Go for My Honey Precession of Side Effects 4. Primary Effects Prime Effects vs. Side Effects Revolution by Inadvertence

See General Systems Theory. (A) Ego, 9 Nov'75 News t Evolution, (3)

Evolution: Man as Evolution Modifier:

"Man accomplishes the progressive modification of his evolution through the coupling and articulation of his subjectively and objectively imagined synthesis of the factors of experience. This modification of his own evolutionary relationships by man involves a continuity of the thought processes. Superficially challenged by the seeming discontinuity of death, man has become successful in his distinguishable degrees as evolution modifier by virtue of his ability to further the refinement of thought toward the evolution of truth, by communication of the truth refinements to the new life--- the new life being spontaneously persistent, overlapping and only modifyingly nurtured by the synchronous continuity of old life."

- Cite TOTAL THINKING, Ith, p.226, May 49

See Octet Trues, 24 Sep 73

See Science->Technology->Economic • - Political Sequence

Social Economics Fuller, R.B: Ecological Prediction of 1927

Custom: Let One Good Custom Corrupt the World. (A)(B)

See Dymaxion Artifacts, (1)(2)

Domes, 12 May 77

See Biological Integral Computer as Antibody Continuous Kan
 Darwin: Evolution May be Going the Other Way Design Evolution
 Education: Evolutionary Touchdowns Early Man Emergence by Emer-
 gency Epigenetic: Epigenetic Landscape Error: Pullout from Error
 Familiarity vs. Evolution Future: Kan Backs Into His Future Human
 Mind in Physical Evolution Involving-evolving Irreversibility Local
 Evolutionary Transformation Events Kan's Conscious Participation
 In Evolution Man as a Function of Universe Karine Life Analogy of
 Humans Metaphysical and Physical Evolution News At Evolution
 Omnitriangularly Oriented Evolution

See Physical Evolution

Regenerative

Scenario Universe: Physical Evolution Scenario

Social Economics

Subconscious Coordinate Functioning

Success

Survival Sequence: Love

Trial i Error Discoveries

Verb: I Seem to be a Verb Race with Evolution

See Adam & Eve, 2 Jun*74

Computer, (1) ,,

Computers as Specialists, 13 Aug*64

Design Scientist, 30 Jan*75 Doing What Needs to be Done, (B) Domes,
12 May*77

Earning a Living, Oct*71

Environment: Aletering the Environment, 1970 Evaginating. 22
Jun*75 Education, (2)

Free Will, May*49

Good & Bad, 22 Jun»77

Good & Evil, (2)

Guinea Pig, 22 Jun'77

Happening, 22 Apr*71* . ,

Heisenberg-Eliot-Pound Sequence, 28 Jan*69;

22 Apr*68*

See Industrialization, 1928

Irreversibility: Principle Of, Apr'71*

Law, May'65

Leaders Can Yield to the Computer, 1969

Metaphysical & Physical, 22 Apr*68*

Metaphysical & Physical Tetrahedral Quanta 25 Mar'71

Montreal Expo*67 Dome, (A)

Observing vs. Articulating, Mar*71

Pattern Integrity, 9 Jul'62 Planetary Democracy, (1)*

Radome Sequence, (C)

Revolution by Inadvertence, 10 Oct*63

Science-Technology-Industry-Economics Sequence, (2)* Subversive,
6 Mar'73 Surprise. 1954

Systems Alter Other Systems, 22 Jan'75*

See Unsettling vs. Settlements, 20 Sep*76 World-around Communi-
cation Transcends Politics, (3)*

See Evolutionary Checks & Balances Evolution: Analogy of Circuitry
Evolution by Inadvertence Evolution: Man as Evolution-modifier Evo-
lutionary Pattern Evolutionary Trends

See Pattern Evolvement Operational Evolvement Field

Exact;

"Kicrocoarnica 11 y speaking

Science has proven

The absolutely exact

Also to be

Humanly unreachable, For all acts of measuring Alter that which is measured

- Cite LOVE, p.175 May '72

Exact:

See Inexactitude

Exactitude:

"... Exactitude can be bettered And measurement refined By progressively reducing Hesidual errors, Thereby disclosing

The directions of truths Ever progressing

Toward the eternally exact..."

- Citation and context at Conceptual Totality, flay • 72

Exactitude:

*. . . In our temporal life there will always be some degree of lag or asynmetry which misses the exactitude of the ideal. The exact and the ideal would be the same.

- For citation and context see Ideal. 1 Apr *72

Exactitude:

"Universe forbids realisation of exactitude."

- Citation and context at Measurement (1), Dec*69

See Exactitude, 1 Apr'71

See Industrial Theory, 1971

Exactitude Exactness:

(1)

See Approximateness

Deliberately Nonstraight Line

Exact • Ideal

Inexact

Measurement

Perfect

Residual Error

Truth as Progressive Diminution of Residual Error

Exactitude: Exactness:

(2)

See Communication Theory, Jan'66 Conceptual Totality, May'72*
Equilibrium, Jun'66 God, May'72 Ideal, 1 Apr'72* Measurement, (1)*
Truth, 19 Oct'70 Vector Equilibrium, Summer'71

Examination:

See Humanity's Final Exam

Mark Your Own Paper: Nobody to Mark Your Paper

Excess:

See Redundant Excess Spherical Excess

Exchange:

See Interexchange: Intarexchanging

fadBtfgd Aam«r frMQurtwp

"Questions... must be answered only in terms of experience..
Hearsays, beliefs, axioms, superstitions, guesses, opinions were all
excluded as answer resources for playing any particular intellectual
development game."

- Citation at Experience. Oct'66

SMlafcd *4lg*gr^R«gUICcf:

See Experience, Oct'66*, Jun'66

Exclusion Principle:

See Pauli's Exclusion Principle

RBF DEFINITIONS

jasApclTg?

"Competitive enterprise assumes exclusive success."

- For citation and context see Political Revolution, 10 Oct »63

ExclU.lvitv;

"Territory «*a® exclusivity. By stole strategy la to avoid the word exclusivity.*

- Cite RBF on telephone froa 3200 Idaho to 11 Killer. Tucson Irisone, 2\$ Sep*72

See Inclusive 4 Exclusive

EXCMMO Aim of unlmw

"...The tetrahedron becanes the only exchange agent of Universe that ie not itself altered by the exchange ac c oamodat ion•"

- Ciaation and context at Comic SvnawtrT. 9 Nov*73

Exch&nge Agent of Universe:

See Grand Central Station of Universe Local Vector Equilibriun

See Love, 15 Oct*72

Political Revolution, 10 Oct*63*

Science (2)

Thinking, Feb'50

Excrement: Hunan Excrement:

"I wish I could be invitid to China. . . I know their feeling and understandings of economy. They dealt with human excrement as valuable chemistry for a very long time in the Orient, and we haven't learned to do that here yet. . . So I assume that they're starting in a really very

mature way regarding many of these things. It is possible that with the manufacturing of paper today. ... It's possible to make beautiful excrement collecting devices, packaging devices, to move the chemistry to where it does the >lost good. Very high energy content."

- Cite RBF in Interview with Hans Meyer, Dome Book Two, p. 91.
Dec'70

See Bathroom as Symbolism k Association Horseshit

Methane Gas Engine

Toilet

Manure

Valuable Chemistry

Human Food Waste

See Scrap Sorting 4 Mongering (4)

Exempt: We Are Hot Exempt from Universe:

See Cosmic Accounting, 21 Jun*77

See Coexisting

None oexi st ins

Omnidirectional: Physical Existence Environment Surronda

Exiatence;

{2)

See Absolute Integrity, 4 Nov¹73

Exoteric:

"Do you know that marvelous word exoteric? It means something that anyone can understand; the opposite of esoteric."

- Cite RBF to EJA, 3200 Idaho, Washington DC., 19 uec. '71

Expanding PnlygEM-

"Universe expands through progressively differentiating out and multiplying discrete considerations.**

-» Cite HBF rewrite of SYNERGETICS text at Sec. 344, 8 Apr*75
EXMIVUM Valism;

"Universe expands through progressively differentiating out or multiplying discrete considerations."

- Cite OMNI HALO. p. 134 as amplified by RBF in Synergetics text
3»sr-414.ftt - 19 Juno 1971.

f YufSfFTuS • T SrC. 3 'M
Expanding Physical Universe:

"In the most comprehensive picture of Universe, we find physical Universe consisting entirely of energy. As the Second Law of Thermodynamics shows, every local physical system continually loses energy to surrounding systems in physical Universe. This loss of energy is called entropy. Because all the

local systems of Universe are in constant motion and transformation. the energies are given off nonsimultaneously in multidirections and with Increasing diffusion. The scientists call this the law of the increase of the random element. This Increasing random element brings about physical Universe enlargement. These nonsimultaneous enlargements bring about expanding physical Universe. The expansion is verified by the astronomer's discovery of the red shifts in remote galaxies."

- Cite RBF quoted in Mergers it Acquisitions, Vol 1; No.3; p.45, Spring, 1966

ElftubiHt — -S E-c. 3 1|\n
TtXT CITATIONS

Expanding Physical Universe va. Contracting Metaphysical Universe:
Synergetics text at Secs. 323.00

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52530 3 It • S^{0<*}

Expanding Physical Universe vb. Contracting Metaphysical PnlyflJU:

See Congruence of Metaphysics & Physics Contracting Metaphysical
Universe Expanding Physical Universe Syntropy & Entropy Tetrahe-
dron: One Tetrahedron Omniscience & Omnipotence Acceration (Ab-
solute Velocity) fc Eternal Slowdown Information vs. Entropy

Expanding Physical Universe vs. Contracting Metaphysical Universe:

See Entropy, (p.90) lay'72

Metaphysical It. Physical, (p.87) Jun'66; 22 Apr*68

rhKiWl UpjTWMi

(1)

See Omniexpending

Physical Universe

Stardust

Wow: The Last Wow Random Element: Law of Increase of The

See Entropy, (p.90) May>72

Man as a Function ot Unlvarse, (B)

Wow, (2)

Kyopla: Incasting vs. Broadcasting, 22 Jan*75

Gravity: Speed Ot, 21 Oct'72

1 Expansion & contraction;
Expansion is radial and contraction is circumferential.

(Adapted)

- Cite EVOLUTIONARY 1972-1974 ABOARD SPACE VEHICLE EARTH
Jan '72, p. 3.

Expansion-contraction Henmirabi lly:

See Vector Equilibrium, (2)

See Expanding Physical Universe vs. Contracting Metaphysical Universe

Phase

Syntropy & Entropy

Tidal

In, Out & Around Experiences

Jitterbug

Triangular-canoned Model

Pulsation

See Baalc Triangle: Basic Equilibrium 48 LCD Triangle. 16 Dec '73
Change, 9 Nov '72

Growthability, 6 Mar '73 Jitterbug, 11 Oct '71 Newton vs. Einstein,
9 Jan '74 Metaphysical & Physical, Jun '66 Point: Outbound Point,
circa 1948 Scenario Universe, Jan '72 Spheres & Spaces, 14 Oct '72
Tensegrity Sphere, 19 Dec '73 Vector Equilibrium, (1)

Wave Pattern of a Stone Dropped in Liquid, 16 Feb '73 Weather,
Feb '73 Radiation-gravitation: Harmonics, 3 Jan '75 Thinking. 7 Oct '71
Min-max Limits, 22 Jun '75 Truth, 22 Jun '75 Tetrahedral Growth, 13
Nov '75 Gravity: Speed Of, 21 Oct '72

See Absolute Expansion

Expanding k Contracting

Motion: Six Positive &. Netive Motions

Radial Expandibility

Self-expansive

"X" as Symbol of Synraetrical Expansion

See Buildings as Machines, (1)

Package, 23 Sep¹73

Radiation, 23 Jun*75 „ „ „ ,

Four Intergeared Mobility Freedoms, 2 Nov*73

See Soaethingness & Nothingness, 16 Nov'72 Thinking, 10 Sep¹?}

SxpellllM *k*

See Vectors A Tensors, 25 Mar*71

Expendable: Expandability;

See Penditure Spending

Without Any Individual Profiting at the Expense Of Another? (1)

See Consideration for Others

Fellow Xian

Golden Rule

Omniconsiderate

Trespassing: Not Trespassing

Robin Hood Sequence

Expense: Without Any Individual Profiting at the Expense Of

Another: (2)

See Design Science, 1970; (C)

Leaders Can Yield to the Computer, 1969 Success, 2 Mar*68 dor Id
Game, Feb'73; Mar'70

Ex POD give - Nonthinking;

"Expensive equals nonthinking. Expensive is 'ex' + pensive

- Cite RUF to EJA, 3200 Idaho, Wash. DC.; 24 Jan*76

Expensive:

See Cheap

"Experience is inherently omnidirectional; ergo there are always a minimum of twelve 'others*' in respect to the nuclear observing self.

"The 24-positive- and 24-negative vectored vector equilibrium demonstrates an initially-frequenced, tetrahedrally quantised unity of 20; ergo the Universe, as an aggregate of .all humanity apprehended and comprehended experiences,, is at a nmimum a plurality of 24 vectors."

- Citation &. context at Twelve Universal Degrees of Freedom.

19 Nov'74

Experience:

"I could really look at a nuclear arrangement Independent of sixe... and there would be data from experimental evidence that would give me a completely different way of looking at everything with experience as the base. And experience is always sensorial and so I can always get a sensorial base or model."

- Citation & context at Design Science k World Game (A), 28 Apr*74

EKperieneg:

"Information is experience. Experience is information.

- Citation at Information. 22 Nov*73

RBF DEFINITIONS

EyPttltPCp:

"Experience is expansive, omnidirectionally including and refining the future."

- Citation and context at Now. 7 Nov'73

Experience

"Experience is all temporary. Between experiences is the ever eternal metaphysical, which cannot be converted into existent...."

citation Md cont.xt «t Ab.olut. Int.vrltv, 4 Nov'73

Experience:

"Experience is omnicurvilinear."

- Cite RBF marginalis at SYNERGETICS draft Sec. 416.0; 27 May'72

"Teleology 1b where you go through a subconscious awareness as a ware formula from experience to intuition."

- Citation at Teleology. 26 Jan'72

~~tiny num~~,

£2U2fiXlfll££:

"Omnidirectional experience# resolve themselves scientifically into angle and frequency patterns. That is life...*

- Cite RBF to BJA-, 3200 Idaho. Wash., D.C., 20 Dec*71 Incorporated In SYNERGETICS AT Sec. 505.03

Experience;

"To be experiential we must have an observer and the observed"

~~-J?Ata RW- uann»OTW8HeBFfB&~~

- Citation *k* context at Experiment. Nov'71

mce/.extc- sec. So?7sT;

Experience:

"Neither the set of all experiences
nor the set of all the words used to describe them
are instantly reviewable
nor are they of the same length.
Experiences are involuntarily (subjective) and —
gay, jgre/c*..
voluntary (objective) and experiences are all finite
because each begins and ends."

- Cite RBF re-rivirions to Universe Draft 28 Feb *71

- Cite also SYNERGETICS, "Universe," Sec. 302. Oct. 1971
iuStfT. |Cflyci-fTuAirrV- Sfc 61J
RBF DoFINITIuNS

Experience:

"The frequency and magnitude of event occurrences of

any system are comprehensively and discretely controllable by
valving, that is, by angle and frequency modulation.

Angle and frequency modulation exclusively define all experiences
which events altogether constitute Universe,"

- Citation at Angle & Frequency Modulation. Oct'71

Experience:

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the xerophase of conceptual integrity inherent in the positive and negative asymmetries which propagate the problems of the consciousness. Our inherently limited perceptivity which requires these definitions of the asymmetric emphasis of experience. Experience is inherently terminal, partial, differentiable. . . the antithesis of eternal integrity."

- Cite RBF to EJA', Beverly Hotel, New York, 12 Sept. 1971.

— JSA/>r4fFuc£ 56'l, lSl J AS HiPE¹ —. S CC

(ecwcf/ToAiirr - £A/'£*/«'ucf Jdl.lS/ J /E 2 /fjp£L.. SEC, HHO.Q]]

RBF DEFINITIONS

Experience:

"The connection between the six degrees of freedom and omnidirectionality is, of course, the vector equilibrium, which cqpines the threeness of the cube in relation to

20 as unity - VS. Experience is inherently omnidirectional. Ergo, there is not just one 'other.' There are always at least 12 'others.' Ergo, vector equilibrium, which is subfrequency, Happenability has the vector equilibrium as its minimum model, ergo the Universe, experience, can't be one quantum."

- Cite RBF to EJA, Bear Island, 25 August 1971.

Expgrlppqg:

"Experience is always special case*"

- Citation at Special Case, 2 Apr*71 yff/6Tuc e - Sec. Soi 02/

Experiences

"Experience is the raw material of science."

Cite RBF fiecture Town Hall. New York 12 March 1971

CftMCFFTUAl' TV- - \$FC, 5*02,Op

RdF Uz-FINITIUL.C

Experience:

' 'Because the generalized principles cannot be principles unless they are eternal, because human experience is inherently limited, there can be no finality of human comprehension.'¹

~~-I.R RhTLH II I IT I.K - ? -~~

- Citation at Gheralized Principle_f 2d Feb* 71

Experience:

"Consciousness is experience. Experience is complex Consciousness of being Of self

Co-existing With all the non-self. Experience is plural And non-simultaneous, Experience is recurrent Consciousness of sequences Of self re-experiencing Similar events.

Re-experienced consciousness Is re-cognition.

Recognitions generate identifications Re-cognition of within self rhythms Of heart beatings or other identities Generate a matrix continuum Of time consciousness

Upon which, like blank music lines Are superimposed All the observances by self Of the non-self occurrences." - J "kj jtE/ttrUf er _ Cc-r r.i
•j'tll

- Cite RBF Draft

BRAIN & MIND,

"Life is a myriad of experiences. Each experience has its myriad of conscious and subconscious atomic event details.

Experiences remembered by none are, in effect, nonexistent- may never have occurred."

- Cite BEAR ISLAND STORY, galley p,35, 1968

Experience:

"Principles do not begin and end. Experiences do,"

- Citation at Principle. Dec'67

Experience:

. Questions . . . must be answered only in terms of experience. . .

* Hearsaids, beliefs, aims, superstitions, guesses, opinions were and are all excluded as answer resources for playing my particular intellectual development game."

- Cite HOW LITTLE, pp. 2-3. Oct'66

Experience:

"Experiences include experiments. Experimentally demonstrable cyclic regularities, such as frequencies of the occurrence of radiation emissions of various atomic isotopes, become the fundamental time increment references of relative size measurements of elemental phenomena."

(For expanded context see Experiment < Nov*71.)

- Cite NASA Speech, p. 99, Jun'66

Experience:

"It is the nature of all our experiences that they begin and end. They are packaged. . . Our experiences are all finite because they all begin and end.*

- Citation *t* context at Moving Picture Continuity. Jun'66 ctutepruRirr- ExnitimF-Sec. MJ.S11

κBF uhFiNirluNb

Experience:

"Many years ago developed a system of question asking in which I ruled that J* must always answer the questions from experience. My answers must not be based on hearsays, beliefs, axioms, or seeming self-evidence.

"It has been part of my experience that there are others who while experiencing what I was experiencing, were able to describe what we mutually were experiencing equally well, or better, than I could. Therefore my experience taught me that I could trust the reporting of some others as reliable data to be included in my 'answering' resources. For instance, I could include the experimentally derived data of scientists."

- Cite NASA Speech, p. 31. Jun»66

rec.. raz.io 1 Stm.nl

Experience*

"I am willing to accredit the experiences of other men when I am convinced by my experiences that they communicate to me faithfully. That is, I am able to enlarge my experience by the experience of others.^{rt}

- Cite Oregon Lecture #2, p. 56. 2 Jul*62

ONDariuhvny - - *S?c 5ol. \X*

Experience:

"Certainly my experience and you experience includes the fact that we dream. . . This doesn't have to be strictly reality. . . Then there are a few people who He to you but manipulation of the data doesn't bother you in terms of these experiences, • • Our experiences include the becoming. It Includes the multiplication of experiences It includes dichotomy. . . *

- Cite Oregon Lecture #2, p. 58. 2 Jul*62

CONSCIOUSNESS - EXPERIENCE ^{sec. 5b2.2} Experience;

"All experiences are finitely furnished with differentiated cognitions,, recognitions and comprehensions. The finite furniture consists of widely-ranging degrees of comprehensive constellar complexities. A wide range of time investment magnitudes must be assigned to the respective considerations of the multitude of different constellar, experience-pattern comprehensions. We cannot read simultaneously all the words in the dictionary; yet the dictionary is a finite collection of 3M& finite word entities each in turn consisting of collections of finite letter symbol entities."

- Cite OMNIDIRECTIONAL HALO, p. 132, 1960

RBF DEFINITIONS

Experience:

"Experience is Inherently discontinuous and islanded and each special experience represents a complex of generalised principles operative in special or limited else (i.e. dimension, i.e. frequency) modulated realisation.

- Cite OMNIDIRECTIONAL HALO, p. 148, 1960

Experience:

- ...Universe is the coordinate integral of all experience.
- Citation and context at Definite. 1960

Experience;

"Experience is finite; it can be stored, studied, directed it can be turned, with conscious effort to human advantage. /"This means that/ evolution pivots on the conscious, selective use of cumulative human experience . . . and not on Darwin's assumption of evolution independent of Individual will and design."

- Citation at Evolution. 1960

- cit«-MaHXS-_r v, io,

Experience;

"Experiences are never elementary: ergo, they are always complex. Conceptual formulation is inherently empirical. The concept one as unity is only available in respect to one-half of twoness. There is no experience without the finite furniture of twoness.

"There are a minimum of three inherent 'awareness*' aspects of all experience: withinness. withoutness, and the hemispherical reflexive... pulse pattern.

"Thinking is inherently exclusi before thinking, is inherently

ye. Experience, which comes inclusive.*

— Cite RBF synergetic notes, Feb'50

TH»J

S - 200 Eo, i'AO.tJ-SE'J "5

Experience Altera Previoua Experience:

"••• Experience always alters previous experience and the process is both irreversible and non-identically repetitive."

- Citation and context at Irreversibility. 22 Apr'60

- HXA-flBnBrarixwi-Miin Qt 14-tn,

to N e E 1T V — *E-ife f* <F wcf r - Sec m .72)

See Heisenberg-Eliot-Pound Sequence, 28 Jan*69

Irreversibility, 22 Apr'68

Irreversible, 6 Nov'73

See Irrelevancies: Dismissal Of, 8 Feb*76

Children as Only Pure Scientists, (1);28 Apr*77

Experience - Inform_{CT}:

See Experience, 22 Nov*73

&B££lSaSS_XL

See Experience, 12 Sep*71

RBF DEFINITIONS

Experience Ag Jpsyapceg:

"I always start with the Universe: An organisation of regenerative principles frequently manifest as energy systems of which all our experiences, and possible experiences, are only local instances,"

- Citation at Universe. 1970

Experiences as Local Instances:

See Universe, 15 Aug'74; 1970*

Experiential HATHgretlcc:

"I am an operational, experiential mathematician; that is, I do not accept any concept as obvious, ergo, not requiring experiential evidence. I am astonished that physics in particular, though utterly committed to experiential evidence and reproducible physical proofs, has accepted and employed mathematical tools which have no experiential validation, such as the very word 'abstraction,* such as one-dimensional lines, two-dimensional planes, and solid states, when physics has discovered there are no solids, no continuums. I am, however, as you are, not so much interested in what is inadequate and wrong in the work of others as I am interested in what it is we may and do learn through exclusively experiential means."

- Cite RUF Ltr. to John Clopton, San Francisco, CA, 15 Oct*76

Experience Module:

See Size, (1)

See Reciprocal Involvement of Experiences 4 Principles

Experience. & Prl«)c1jlltg!

(2)

See Periodic Experience, (1)

See Child as Only Pure Scientists, (1)

See Fourth-dimensional Synergetics tathenatics, 14 Dec'76

Experience Uni verse:

See Insideness & Outsideness, 1950 Outside, 26 Jan'73

3TMEBGKTIC3 STILB BULB:

Exoerienceable:

Thus, per Webster III and agreement with Peter Devine at Macmillan,
15 Apr*74

fawrlffltlablo fc NonMcerlanelal;-

"The only difference between experience and nonexpert once IB
11(38 a"

- Citation and context at Tine Vector, 24 Sop*73

hBF UtFINITluNS

Bxperienceable & Nonexperienceable:

"Complementarity requires that where there is conceptuality there
must be nonconceptuality. The explicable requires the inexplicable.
Experience requires the nonexperenciablss

- Citation and context at Complementarity. 12 Sep'71

Experience & Nonexperience:

See Event# & Noventa, Nov'71

RBF DEFINITIONS

Experiential:

"To be experiential, we must have an observer and the observed,"

- Cite SYNERGETICS text at Sec. 513.03, 25 Mar'71

**See Axis of Conceptual Observation, 25 Mar*71 Experiential , 25
Mar*71 Experimental, 25 Mar*71**

Experience: Experienceable:

See Atoms: All the Experiences with All the Atoms

Bundle of Experiences

Charting Alternating Experiences of Nan & Nature Cyclic Experience

Directional Experience

Energetic Experienceability

Finite Furniture

Frequency - Experienced Physical Energy

Fuller. R.B: Evidence Published by Others:

Qualified Acceptance Of

Furniture of Experience

Geodesic Spheric Experience

Happening

In-out-and-around Experiences

Inventory of Experiences

See Life Experience

Lifetime: Personal Lifetime Experience for Elective Investment

Metaphysical Experience

Mass Experienceability

Mip.tiexperie nee

Minimum Experience

Nonexpert enceability

Omniexperienceable

Patterns of Experience

Periodic Experience

Physical Experience

Pre-experienceable

Primitive Experience

Reciprocal Involvement of Experiences & Principles

Self-experience

Special-case Experience

Spheric Experience

See Total Experience

Tree Rings of Experience

Voluntary <L Involuntary

See Absolute Integrity, 4 Not¹73* Angle k Frequency Modulation.
 Oct*71 □ Beginning# k Endings, 16 Jun'72 Conceptual Systems,
 May'72 Definit, 1960* Design Science k World Game. (A)» Energy
 Event. 1960; 27 Dec*74 Evolution, 1960* Experiment, Nov'71* Fuller.
 R.B: On Himself, 1973 Generalised Principle, 28 Feb'71* Human
 Events, Feb'71 Individual Universes, (1) Indeterminism. 14 Sep'71
 Information, 22 Nov'73* Intuition Sequence, (3) Irreversibility,
 Feb'71* Irreversible, 6 Nov'73 Environment, (A)

See Linear k Curvilinear, Jun'66

Mathematics, 13 Mar*71

Metaphysical k Physical, Oct'71

Moving Picture Continuity, Jun'66

Now 7 Nov'73*

Omnidirectional, 2 Jul'62

Omnidirectional: Physical Existence Environment

Surrounds, (1)

Packaged, 1969

Principle, Dec'67*

Reading (1)

Relativity, May'49

Savings. 1j Mar'73

Subjective k Objective, Jun'66

Synergetics, 19 Jun'71J 22 Apr*71

System, 29 Dec'58

Special Case, 2 Apr*71*; 13 Mar'73

Tapestry, 14 May'72

Teleology, 26 Jan'72*

Twelve Universal Degrees of Freedom, 19 Nov*74*

(2C)

E&aSXkaBM: iXBSJitOIUL:

See Vector, 22 Jul'71

Wholeness, 1954

Whole System, 28 May*72

Physical, 27 Dec'74

Design Science: Education For, 1 Feb'75

Geometry, 21 Jan'75

Sea Technology, 2} Jan'75

Personality. 9 Jan*75

Happening, Apr*7l

Number, 7 Nov'73

Suicide, 27 Nov'75

Line, Nov'71

Words. 12 Nov'75¹ 2 Jun»74

Multidimensional Accommodation, 11 Dec'75 Children as Only Pure
Scientists, (A) Sensitivity of the Artist-scientist, Apr'77

See Metaphysical, 13 May*73

Observer it Observed, Mar'71

Physical 4 Nov*73

Rubber Glove, 23 May* 72

See Experience Altera Previous Experience Experience • Information
Experience va. Integrity Experiences as Local Instances Experience
Module Experienceable & Nonexperienceable Experience Universe
Experiences & Principles Experiential vs. Experimental Experience-
harvested Information Experience in the Round Experience Recalls

Experiment:

"A voluntary experience is an experiment. To be experimental we exist have an observer and the observed; the articulator and the articulated. Experiences include experiments: experimentally demonstrable cyclic regularities, such as frequencies of the occurrence of radiation emissions of various atomic isotopes which become the fundamental time increment references of relative else measurement of elemental phenomena.**

- Cite SINERGETICS text at Sec. 502.51, Nov*71

Experiment:

"To be experimental, we must have the articulator, the articulated, and the observer."

- Cite SYNERGETICS text at Sec. \$13.04, 2\$ Mar*71

Experiment:

"An experiment is always valuable. You can't learn less. You can always get nearer to the truth."

- Cite I SED4 TO BE A VERB, Ban tan, 1970

Experiment:

"An experiment is a voluntary experience.

"I'y definition of universe includes both the objective and the subjective: i.e., all voluntary experiences--- 1,6., experiments--- as well as all involuntary experiences--- i.e., all happenings."

Experimental Demonstrability:

"...All experimental demonstrability of science is inherently time limited."

- Citation and context at Time. 16 Nov'72

See Multiplication by Division. 20 Jan*77

Synergetics, 12 May*77

KBF Ur.FhlTIUNS

experimentally Founded Mathematics. E.F.M.

"Since the measurement of light's relative swiftness, which is far from instantaneous, the classical concepts of instant universe and the mathematician's instant lines are both inadequate and invalid as . . . concepts for inclusion in what I . . . call Experimentally Founded Mathematics-- and will symbolize as EFM. My mathematical- physicist friends call me 'an experimental mathematician.'

"Employing EFM I have found a comprehensively rational, vectorial, topological, arithmetical and geometrical coordinate system which I have titled Synergetics in which an angle is an angle independently of the length of its sides. ..."

- Cite NASA Speech, p. 99, June*66

nt: We. Are Not. the Only Experiment:

"Nature is trying very hard to make us succeed, but nature does not depend on us. We are not the only experiment."

- Citation & context at fan flg a Function af Vnlycrag, io Apr'70

SsiariasasaX:

HI

See Deliberate

Design: A Priori vs. Deliberate

Inventability Sequence

Omnipotential of Experimental Verification

Experiential vs. Experimental

Biogenetic Experimentation

See Energy Event. 1960 Guinea Pig, 27 Apr*71 Human Event. Feb*71
Intuition, Oct*66 Irreversibility, Feb*71* Irreversible, 6 Nov*73
Learning, Dec*72 Physical Is Always the Imperfect, U Feb*72 Sci-
ence: Pure 4. Applied, 13 Mar*73 Subjective it. Objective, Jun*66
Wholeness, 1954

Fourth-dimensional Synergetics Mathematics, 14 Dec*76 Children as
Only Pure Scientists, (1)(2) Environmental Inventory, 26 Apr'77

Explicable & Inexplicable;

12 Sep •71

"Complementarity requires that where there is conceptuality
there must be nonconceptuality. The explicable requires
the inexplicable?" . . . "

- ~~explicable~~

- Citation and context at Conceptuality & Nonconceptuality.

See Conceptuality & Nonconceptuality

See Universe: All the Known, 15 Jan'71*

Wikipedia:

See Explicable & Inexplicable. Mathematical Explanation of
Life Omnexplicable Universe: All the Known

See Tunability. Dec'69

Universe, 8 Mar'73

RBF DEFINITIONS

ExPlQI-ablg t

"You must go with life as it is and explore the explorable.

- Citation A. Context at Hesse_T Herman. 28 Apr¹71

Exploration:

"Exploration in principle is re-rewarding."

- Citation and context m at Probability. May*49

See Artist-explorer Discovery

See Eternal Designing Capability 13) Probability. May»4y* Research,
(1) Hesse, Herman, 28 Apr*71* Subconscious, 20 Feb*77

ttBF DEFINITIONS

"Explosions are pushive and evolute and involute as do rubber
toruses."

cft±ff»*i±iasCT

- CltagBr-rayViun for: BeveS y Her eA , -Mer

- Citation at Involuting- volutin*. 24 Apr* 71

<iUF rlhlTlwKt

nxi-los ion;

"Radiations can be focused;

explosions can be linear."

- QiXU MDT Lu

-SaiaasuLa, Florida

7 February 1971 •

- Citation 4 context at Radiation-Gravitation. 7 Feb'?1

Explosion:

"An explosion is an exponential increase."

- Cite WDS DECADE, Document 6, p. 52, 196?

Explosion:

See Implosion Implosion-explosion Smash-up Inward Explosion

See Done: Rationale For (III)

Universal Integrity: Principle Of. a Ear'72

Halo Concept, Jun'71

EXPlpsjYgfi:

"We have 28,000 pounds of explosives for each human being on Earth."

- Cite I SEEM TO BE A VERB, Bantam, 1970

RBF DcJIKTIONS

Explosive:

"The explosives collapse like a coil spring in compression and are elongated by gravitational integrity."

- **Citation and context at Hexagonal Vector Pattern. 8 May '72**

ABF DEFINITIONS

5XP9¹\$7 PgP»:

See Done: Montreal Expo'67 Dome

See Club of Rome: Limits to Growth

See benign Science for World Game (B)

Exponent:

See Metric System Left Time as an Exponent Powering

RBF DEFINITIONS

Exporting:

"Radiation is exporting."

- Citation and context at Intereffecta_t 25 Sep'73

TEXT CITATIONS

gXBOrt-lannrt.

Synergetics, 2nd. Ed. at Sec. 935.15, 23 May'75

^EFpQrt-iaport Cyntoraⁱ

"Within economics we may be able to demonstrate the existence of a metabolic process generalisation which is akin to, if not indeed implicitly inherent in, a composite of Boltzmann's Einstein's, and others' concept or a cosmically regenerative omni intercomplmentat ion of a diversity of energetic exportimport centers that non simultaneously ebb and flow to accomodate entropically and syntropically, omniversally, omniregenerative intertransformings. How can economics demonstrate a generalization from the utterly uninhibited viewpoint of the individual human?"

- Citation & context at Life A Death, (1), 20 May'75

See Importing & Exporting Topological Aspects: Inventory Of Wave System Propagations

See Incandescence, 5 Jun*73 Intereffects, 25 Sep*73* Systeas, 4 Jun'72 Tidal,(p.86) May»72 Visual, 22 Feb'77

Extemporaneous;

See Inventions, 1947

aaenmon va. Extinction:

See Utopia or Oblivion, 138

Extension:

See Mechanical Extensions of Mui

fattarlar Pfiggrawa:

See Architecture, 13 Aug'64

Exterior Rel.mnta:

See Variables} Theory Of, Not*71

External Anrleas

See Surface Angles

Ba&SEaaXJ&BBiM

See Circumferential Field, Apr'72; 9 Jan'74

See Extraorganlc

See Dwelling Service Industry, (7)

See Powering: Second Powering, 21 Dec*71 Spherical Field, y Jan'74

Externalleation of Man's Own Functions;

"Ian has learned how to externalise his own functions.

and to leave them behind. . . There are no tools that man has developed that are not extensions of the original integral functions. ... I don't find anything that has been done by man, that we call mechanics, that isn't part of his internal organism. He was apparently designed with this capability to externalize his internal metabolic regenerating organisms. . . "



- Cite COMMITMENT TO HUMANITY, p. 31, May'70

"Such is the acceleration of the great new industrially implemented life pattern. Its ecological-pattern- transforming networks of tools have been invented by men only as a result of progressively externalising and amplifying their integral bodily functions and innate faculties. Granted the intellectual discovery of physical principles and inventive initiative of man it is nonetheless clear that the network of industrialization has been realized only through the a priori existence of the physical resources."

- Cite MEXICO '63, p. 1, 10 Oct '63

See Berry Picking

Hands

Mechanical Extensions of Kan Mechanics Tools Integral Functions of Man

Ejrtw'ifrllifitlflD gf fon'g FuncUong;
12}

See Automation. Dec'69

Computer, flay'72

Generalized Principles. (A)(5)

Industrialization, Liar *66

Invention, Jun'66

Order, Feb'67

Technology, A Ilar'69

Human Mind i Physical Evolution, (A)(5)* 5 Jun'75

See Birth: Emergence into External Oxidation Internal & External Surface layer Phenomenon Point Growth Rate: External Re-exterior Shell Growth Rate

Extinction;

"Extinction has always occurred when the overspecialised species was confronted with a major surprise, evolutionary event with which its specialisation (won at great cost of general adaptability) could not cope.

"Humanity has been only inadvertently saved from extinction. The surprise factor which is inadvertently saving humanity from extinction is also fall-out from the weapons-support system. The new fall-out technology which displaced man as a specialist (professional scientist or craftsman) is the new computer-monitored automation industry."

- Cite NASA Speech, p. 21. Jun*66

See Overspecialisation of Biological Species Specialisation Suicide of Humanity Extension vs. Extinction

See Utopia or Oblivion, 193®

Generalised Principle (3)-(5)

~~Extinction~~ BOTM s SjmracgrBoroalix (1)

See Cosmic Transmission Extraorganic Travel Eye-beamed Thoughts
Electromagnetic Transmission of Human Organisms Extraorganic

See Continuous Man (2)(J) Capability, 1963 Metaphysical Independent of Inbreeding, (1) Physical, 27 Dec*74 Brain & Kind, 13 Nov'69 Eyeglasses, 23 Jan*75

VMM .nryorgaalC-Txfty.fi:

"Probability articulates locally in Universe.,, in response to the in, out. and around events of the self system as well as with the self system's extraorganic travel and externally imposed processing around... the forces of the considered system as imposed by both its synchronously and contiguously near macrocosmic and microcosmic neighbors."

- Citation and context at Probability (1), 26 May'72

Extraorganic Travel:

See Cosmic Transmission

Electromagnetic Transmission of Human Organisms Extracorporeality
Man: Interstellar Transmission of Man Electromagnetic Transmission: Subjective &
Conscious

ExyragenggrlaUfry: (1)

"The adequacy of the only instinctive brute force and cunning of yesterday's physically most powerful rulers to cope competently with today's contingencies of human survival is now extinct. To save themselves in World War I the last of the power types allowed their 'pure' scientists to wander beyond the surveillance limits of those physical masters' exclusively seeable. snellable. hearhhle. touchable reality. Thus the scientist came to enter the invisible regions of Universe--- the millionfold greater reality of the nonsensorially detectable electromagnetic spectrum. Thus humanity went from wired messages to 'wireless,' from monopolizable 'tracks' to trackless airways, from visible muscle structure to invisible alloy strength. TheWBMold masters, unable to see what was going on, lost their mastery by default. They did not know what was going on. Thus did the historical nastery of their fellow humans by the exclusively physical world rulers become extinct. However, the rules and customs that they left behind and the momentum of their psychological sway over humanity

- Cite Dreyfus Preface. "Decease of Meaning," op. 10-11, 28 Apr'71

•persisted powerfully until after World War II. Their ghosts as yet psychologically dominate the older generation and many of the younger ones as well."

- Cite Dreyfus Preface draft, "Decease of "eaninr " pp.10-11» 28 Apr'71

"Better than 99 percent of all important technologiea affecting the acceleration of change are Invisible. Man cannot see what is going on. He cannot 'aee' the chemistries, he cannot aee the alloys. Moat of the important ratea and patterns of change cannot be apprehended by him directly in a aenaorial manner. "ot only does man have a very narrow □ range of tunability in the electromagnetic spectrum where he can actually see, but he also has a very narrow spectrum of motion apprehension. He cannot see the hand s of the clock moving or the stars or any of the atoms in motion."

- Cite THE YEAR 2000,
(Slightly adapted.)
San Jose State College.
Mar • 66

"The main difference between all our yesterdays and today is that man is now intellectually apprehending and usefully employing a large number of the 99 and 9/10ths per cent invisibly energetic events . . . within the vast non-sensorial reaches of the elctromagnetic spectrum. Hunanity has therefore created for itself a M* new set of responsibilities requiring a ninety-nine-fold step up in its vision and comprehension."

(Slightly rearranged.)
- Cite OWINGS FORWARD, p. 2.

See Electromagnetic Spectrum Invisibility Invisible Reality Non-sensoriality Tuhability: Infra & Ultra

(2J

See Lass, 29 Dec'58 Principle, 12 Jun'56 System, 29 Dec'58

extragensQnr Perception

See No i-agic Universe, 8 Apr'75

errs gtrfrrl. Hwang:

"AU of man's gains cose at times when he's being orderly. Every once in a while he gets scared and gets very disorderly and makes an awful mess and thousands of years of gains are lost. He may not make good on this planet. Inasmuch as Universe needs him she isn't depending on this little team on this planet. There are probably quadrillion times a quadrillion planets with humans on board them. And this little team may not make good just in the way that some of the seeds coming off the trees don't make good. So we're in a touch- and-go position right now: whether we make sense in Universe or not. The poker game is over. We've been given a lot of time to learn what our function is and now we can really begin to see it. We can see it consciously; we've been getting along subconsciously up to now. We were born helpless; so it's all right to start helpless. But we were born with equipment to find out and discover the information; and we better start using it or we don't stay here. If we make good here, we're going to suddenly discover that we are aboard a mother ship and there are other things to do elsewhere in Universe."

- Cite RBF to Barry Farrell: Bear Island; Tape Side A; transcript, p.5; ²
3 Aug'70

See Planets: Probable Myriads of Consciously Operated Planets

SrtrttwTiatrtrial:

See Cosmic

Extraorganic

Han: Interstellar Transmission of Man Space Travel

See Introversion vs. Extroversion

Extraversion:

(2)

See Rhombic Dodecahedron, 12 May'77

See Intertransfannable Extremes

Limit

Xin-Eax

Macro-micro

Wave-angle Oscillating Extremes Enantiodronla

Extrusion:

See Mobile Homes, 30 Apr'74» O)

Eyes:

*'I lift up nine eyes unto the hills from whence cometh my help'-- possibly because of all our faculties, it is only our eyes that can apprehend the distant presence of the high hills---a presence of which we are informed by radiation from the Sun reflected from the hills to our eyes at 186,000 miles per second, all of which seems so instantaneous that we mistakenly say that we 'lift our eyes.' And we know that no man---no mere human being invented that velocity, nor its reliable regularity throughout the full spectrum range of all electromagnetic wave phenomena, nor the regularity of its ultra-high-frequency inter-trafficking."

- Citation in context at New York City (11); 1964

Eve-Beamed Thoughts:

(I)

"Recognizing that it is possible To conserve energies by reflection, As well as to reach

Great distance by beaming,

We can point out that it is also possible That our human eyes are just such

Very high-frequency electromagnetic waves Propagating and receiving reflector relays, As with the original propagation Occurring in the brain And the transceiving Relayed by our eyes.

"I have had extraordinary experiences With audience after audience Around the world.

I find that eyes tell me so much That I am able to go into a room Wherein some verdict has been adopted, And I find that

I know what the verdict is Before anyone has spoken Audible words.' '

- Cite BRAIN de >*iIND, pp.163-164 May '72

Eve-Beamed Thoughts:

(II)

"Anu I am confident

That I first 'saw* the message

In the peoples' eyes

And not in their facial expressions, Which were mixed and arbitrarily fixed. The speed of light, Ergo of the sight functioning. Which is approximately

Seven hundred million miles per hour, Is such an enormous velocity That we mistakenly sense it Only as 'instantaneous'.¹

"ohen I was young

A camera required a minute's exposure.

By improving film chemistry

And lens refinements

As we entered World './ar II,

A thousandth-of-a-second exposure
Had become adequate

For premium photographic equipment, how adequate exposure

With some scientific equipment”
- Cite BdAlh at KIND, pp.164-165 May '72
”Has been lessened
To one millionth of a second
For producing a superb photograph.
In other words, the rate

At which we can 'get the picture,' And the rate at which we can transmit it Is approximately instantaneous.

”It may be true
That our eyes are electromagnetic -wave transceiving relays.
If so, it is possible
That seemingly instant exchanges between humans

lay become scientifically accomplished through telepathy, And people may soon be able To know one another's thoughts, Which will mean

That people will be prone To do good thinking And also to co-ordinate With one another

As never before."

- Cite BtUIh a. KIND, p.165 Kay

KBF DEFINITIONS

”Now let us employ

All the foregoing discussion of wave phenomena And speculate as to
its significance--- And remembering that, lacking interference, Elec-
tromagnetic waves Apparently can travel on

At their seven-hundred-million-miles-per-hour rate For what may be
limitless periods of time. Let us assume a cloudless night Somewhere
around the spherical surface Aboard our space vehicle Earth, And a
human looking out at the stars And inspired by the celestial splendor
To be thinking profoundly. It is quite plausible

That his skyward focused eyes
Kay beam his thoughts.

Quite unbeknownst to him, Out through the shallow atmosphere Into
the approximately interference-free Macrocosmos.

- Cite BriAlh *a.* MED, p.167 May '72

"And there is no reason why The eve-beamed thoughts Kight not
someday

Bounce off some other celestial body, As humans have already
Bounced radio signals off the Moon And back to Earth

By carefully angled beaming.

"And as at present, To avoid the circumferential Obstacles of our
planet, Electromagnetic-wave-carried programs Of TV and voice
Are being relay-bounced

Around bar th by the
Communi cation satellites,
Holding their flight positions
Outside the atmosphere.

And the thoughts of our specially assumed human Who is inadvertently beaming His thoughts into the cosmos SencS them on a path"

- Cite drirtlh &. bilKD, p.168 May *72
".Which results in their
Being uninterfered-with for millenia.

"u'hen finally they do interfere with And bounce off a celestial body,
They are accidentally aimed back to where Earth will be several millenia after their original diepatch. At that moment of rereaching Earth planet An individual on board Earth

Is looking out at the night heavens

And inadvertently tunes in the millenia-ago Telepathy-dispatched thoughts Through his transceiver beam-relaying eves. And the thought message is monitored into his brain, ' ./hereby the inadvertently receiving human Thinks he is thinking

A novel and interesting thought--- And all the foregoing Seems to indicate the possibility That the family

Of generalized principles Being eternally valid independently Of special-case idiosyncrasies"

Cite BiUli. ec i-IND, pp.168-169 Jay »72

Eve-Beamed Thoughts:

(VII)

"(Ergo, of the language of its thinker) Kight be bouncing around in Universe To be tuned in

Here and there from time to time
On various planets
By various humans

Of various planetary crews.
"And it may be thus
That knowledge become tune-in-able
By humans on planets or wherever they may be.
This telepathic tuneability may occur
As the humans complete
Enough experiences
And do enough generalized thinking about then
To be able intuitively
To comprehend the significance

Of the thoughts which they are Inadvertently receiving.

"Certain it is on my part

**That I have made several mathematical discoveries Of fundamentally
unexpected and unpublished nature."**

- Cite BrtAIH & hIND, pp.169-170 Fay '72

RBF DEFINITJOSS

"As I realized my discovery
I always have had
The same strange sensation

**That this newly realized conception Previously unknown to terrestrial
humans, Had been known**

To the human mind
Sometime vastly long ago,"

- Cite BHAIH 6c MIND, p.170 Fay *72

****The parabolic reflector beamed, ultra-ultra high frequency electro-
magnetic waves--- such as can be coped with by transceivers with
the infra-diameter of the human eye- are such that they would be
completely interfered with by walls or other to-us-seemingly opaque**

objects. However, when they are beamed outwardly to the sky in a cloudless atmosphere, no interference occurs. Ultra short wave radio and radar beams which are interfered with by mountains and trees can be beamed into a clear sky and bounced off the moon, to be received back on Earth in approximately one and three-fourth seconds. In a like manner it is possible that human eyes, operating as transceivers, all unbeknownst to us, may be beaming our thoughts out into the great night-sky void, not even having the sun's radiation to interfere mildly with them. Such eye-beamed thoughts sent off through the intercelestial voids might bounce off various objects at varying time periods, being reflectively re-angled to a new direction in Universe without important energy loss. A sufficient number of \square bouncings-off of a sufficient number of asteroids and cosmic dust could convert the beams into wide-angle which diffuse their energy signals in so

many angular directions as to reduce them below receptor-

oct'70 - Cite RBF Intro, to Gene Youngblood's EXPANDED CINEMA, p. 29.

Eve-Beamed Thoughts:

(2)

"detection level. Eye-beamed thoughts might bounce off objects so remote as to delay their 700 million miles per hour travel back to Earth for a thousand years, ten thousand years, a hundred thousand years. It is quite possible that thoughts may be eye-beamed outwardly not only from Earth to back \square to Earth at some later

period from some celestially-mirroring object, but also that thoughts might be beamed--- through noninterfering space to be accidentally received from Earth--- from other planets elsewhere in Universe. There is nothing in the data to suggest that the phenomenon we speak of as intuitive thought may not be just such remote cosmic transmissions.

Intuitions come to us often with surprising lucidity and abruptness. Suchta intuitions often spotlight sigiflicant coincidences in a myriad of special case experiences which lead to discovery of generalized scientific principles heretofore eluding humanity's thought. These intuitions could be messages to the Earthian brain receiving it to 'Look into so-and-so and so-and-so and you will find something significant.' Intuitions could be thoughts dispatched from unbeleivably long ago and from unbeleivably far away."

Oct'70

- Cite RBF Intro, to Gene Youngblood's cXPALDED CINhiVA, Pp.29-30.
RBF DtFihITIUS

MHHHHft Eye-Beamed Thoughts:

"As we meet our eyes skirmish and we are aware of the subjects of prime mutual concern. Sometimes for various reasons we avoid speaking about the prime items. Sometimes we confront our faculties with the necessity to deal directly and incisively with vital but difficult issues."

- Cite EKVlHONMcAiT AND CHANGE. Ed. W.R. Ewald. P. 342 (Omitted from beginning of OPEHATING MN UAL FOR S/S EARTH 1968

See Feedback by Eyes of the Audience Fuller, R.B: Alexandra Theme Intuition Jury: Trial By Lecturing I'an: Interstellar Transmission Of Telepathy Thinking Out Loud

See Lecturing, Oct'70

Sys cpaprshcndiblUtr:

See Cosmic Kiddle Ground, 25 Jan'73

E_{yegl}Aaaaa:

"Eyeglasses are just another extracorporeal artifact."

- Cite RBF videotaping, Penn. Bell Studios, Phila. PA, 23 Jan'75

SlfiClaaSW

See Sensings 4 Eventings, *28 Apr*77*

Model of Toothpicks & Senl-drled Peas, (1)

P_{TI} an TgiwlYtr

See Thins, 11 Aug'76

**See Fairchild Camera Feedback by Eyes Eye-beamed Thoughts Range
Finder Seeability Specialist: Born with One Eye and a Microscope Vi-
sion: Visible Fly's-eye Domes**

**See Man, (1) Order. Jun*69 Middle. 12 Nov*75 New lork City, (11)•
Resolvability Limits, 30 Apr*77**

F

Fabric;

See Universal Fabric Joint

RDF DEFINITIONS

Face:

Since there are no 'things

"Faces are spaces, openings, there is no 'something'

- Citation and context at Tetrahedron. 20 Feb'73

Face:

"The faces are the bounding of nothingness,"

CSpa^{*0*1} a?0 F^ob7Xt at Notngness Areal and Volumetric

Face:

"Solids are high tide aspects of faces."*

- Citation *Ic.* context at Tidal. 31 May*71

- Biactartone-itotel, Chicago, 31 May* 71-

Face:

"A vertex is in convergence and a face is in divergence."

- Citation and context at Gravitational System Zone. 14 Jan'55

Face:

"Fac.s are finite sections of infinite open-angle divergent tendencies."

- Citation and context at Convergence and Divergence. 1955

Facial Asymmetry:

"The vector equilibrium is always facially asymmetrical, but vectorially symmetrical."

- Citation & context at Vector Equilibrium. Feb'72

See Picasso Duo-face Painting

Profile: There is Ko Half-profile

See Vector Equilibrium, Feb'72*

Face Congruence with Opposite Vertex - Zero - Empty:

See Area: Areal

Interface

Opening

Picasso Duo-face Painting

Plane

Profile

Slaps in the Face

Surface

Vertex vs. Face

Alteration of Face Couples

Vertexes, Faces & Adge« No Domain of a Face Obverse & Reverse Ko
Faces

See Convergence 4 Divergence, 1955*

Gravitational Zone System, 14 Jan'55*

Nothingness of Areal 4 Volumetric Spaces, 20 Feb'73*

Polyhedron, 20 Feb'73

Tetrahedron, 20 Feb'73*

Tidal, 31 May'71*

Chemical Bonds: Triple Bond, 1y Dec'73

Middle, 12 Nov'75

Triclinic, 31 Aug'76

"You cannot have a plane except as a facet."

- Citation k context at Topology: Synergetic k Eulerian. 2 Jun»74

(1)

See Diamond Facet

Local Facet Aspect Plane as Facet Hedra Facets

See Topology: Synergetic 4 Eulerian (2)* Thirty Minimum Topological
Characteristics, (1)

See Mln-max-fan-fax

Proofs Vitalistic

See Belief, 14 Feb'74

Factors of Ships:

See Periodic Experience, (6)

fajfir: Factorial:

See Chord Factor

Prime Numbers Factorial

Power Factoring

See IVM Field# of Thought

Primary Faculties

See Imagination, Sep»71

Sensing, Storing k Intuiting Device, 9 Jun¹75

Psychiatry, (3) 15)

Technology: Enchantment vs. Disenchantment, (1)

Fail-Safe:

"The people getting together in Bali in July were able to demonstrate that there is another way of carrying on---neither the capitalist way nor the communist way---where everyone is in on the information.

"That's why all the great corporate executives should have their fail-safe projects where all the information comes in and they don't have to wait for correction of their erroneous atomic energy programs to be frustrated by society or accidents--that's too slow a way to get improvement.

"Getting everyone in on the information---as in Bali---is what the design science and fail-safe strategies are all about."

- Cite RBF to EJA, from Philadelphia, PA; 13 Sep'77

Fail-Safe:

"Only the whole big system works. Like all well designed, complexly intercomplementary, evolutionary systems, the selfregenerating terrestrial ecology has a plurality of alternate circuits, i.e., of fail-safe mechanisms with a plurality of newly developing alternates and an equal number of progressively phasing-out components. Of all the biologicals, only humans are able consciously to discover this omni-generative pattern in pure principle."

- Citation and context at Ecology Sequence (E), 5 Jun'73

Fail-Safe:

"We have so many fail-safes. We're given all sorts of alternate circuits. I used to know people by their smell;

and I've just gotten over it a few years ago."

- Cite RBF address to Dag Hammarskjöld College, Columbia. Nd. 17 Oct'72

Fail-Safe:

"There are many capabilities we have that we don't use. Nature has given us fail-safes, you know. If somebody is born blind, nature has ways to help them get along."

--- Cite RBF quoted in HOUSE & GARDEN Interview by Byerly Russel,
p. 117, May '72 *

See Alternate Circuits

Redundancy

Safety Factor

Safety Valve

Spherical Barrel: Fail-safe Advantage

See Dome: Rationale For. (II)(III) Ecology Sequence, (EJ* Game of
Cosmic History, 2? Dec'73 Telepathy, Fay*72 Human Tolerance Lim-
its, (2)(3)

See Anger, (1)

Hunan Tolerance Limits,

(C)(D)

Failure:

"Failure is a word invented by nan when he just didn't know what na-
ture was going to do. Nature never fails.

RBF to EJA, NASA, Hampton, Va, 13 flov'78

Failure:

' • The words 'artificial' and 'failure'

Are all meaningless."

T-KKUW; Oct.

- Citation and context at Meaningless t Oct * 66

Failure:

"If man seems frequently frustrated in hie attempts at evolutionary
modifications, all his failures and success may be truly evaluated in
the scientific frame of total dynamic reference."

- Citation and context at Epigenetic Landscape May*49
k Failure as an Invention:

"ten has invented the word ¹ failure.¹ Nature never fails; nature never goes backward."

- RBF quoteLee-Demabart, New York Post. 26 April 1971
- Citation at Nature, 26 Apr'71
- Failure a_n an Invention:

"Buildings have been so heavy that if anything fails everybody gets killed. But we've invented the word failure. Nature doesn't fail. What you really want to know is the critical point where nature folds up. We made our first geodesic dome at Black Mountain deliberately well beyond that. I called it the supine geodesic."

- Cite transcript of RBF tape to Barry Farrell, Tape #1, p.4; Bear Island, 10 Aug'70

See Economic Accounting System: Human Life-hour Production, (1)

Failure As Norm of All Yesteryears:

"For the norm of all yesteryears

Was failure

As unwillingly conceded

By a sometimes

Vainly boastful

But most often abjectly prayerful

Poverty- and disease-bewildered people

Living out only one third

Of their potential years

In utter ignorance

Of the invisibly boupeous life-support system Hidden in the superficial landscape, And consisting only

Of instrumentally gleanable information, Abstract and weightless generalized principles, Unique electromagnetic frequencies

And exclusively mathematical realizabilities.. .**

- Cite INTUITION, pp.64-65 May «72

See Inventions: Inventory Of

Meaningless Concepts: Inventory Of

Success

Success as Norm of Today & Tomorrow Profit: Annual Profit & Failure System

See Buckle, 10 Nov'73

Epigenetic Landscape, May'49*

Gambling, undated

Natural, Oct'66

Nature, 26 Apr'71*

Meaningless, Oct^s66*

Tragedy, Feb'72

Loss: Discovery Through Loss, a-JiurtgJL 14 Dec'73

FflirghIJLd Cflagra;

"Multiple personality provides... two or more viewpoints--- equivalent to... the multiple eyes of the Fairchild aerial camera."

- Citation and context at Geniufl. 1938

See Cosmic Synergy Kepler Alone With the Stare Guess vs. Believe

See Belief, 6 Jul'75

£tu*ati

(D

See Tradition: In Tradition Lies Fallacy

Se« Truth, May'28

Fall-in; Falling-in Effect:

'All the creatures on board Planet Earth are in such critical proximity that the falling-in effect of the apple hitting the grass, the rain dropping on the sidewalk, the hammer dropping to the floor, or the child bottoming to the deck of the crib, are all typical of the critical proximity programability of a design--- even of design science. All of the creatures of Planet Earth are in a 'fall-in' with a critical proximity guarantee."

[ttj

- Cite SYNERGETICS draft at Sec. 1009.6?; 1g Feb'73

Fall in Love:

See Precession: May'72

Analogy of Precession 4 Social Behavior

£a]l-In Proclivity:

See Orbital Escape from Critical Proximity, (1)

See Teneegrly Sphere: Six Pentagonale, (1)(2)

See Adhere

Child Pushes Spoon Off Edge of Table

Critical Proximity

Rockabye Baby

Coming Towardness: Coming Together Phase

ZaXLzln: foUTln-ablllty:

(2)

See Ecology, 15 Feb'73

Intereffects, 25 Feb'73

Modale: A Quanta Module & Basic Triangle, 20 Dec'73

Radiation-gravitation Sequence (3)

Twelve-inch Steel World Globe (A)-(C)

Tensegrity Sphere: Six Pentagonals (1)(2) Critical Proximity, Jun'71
Rain, 11 Feb'76

Falling Sticks:

See Sticks: Falling Sticks

Fallam. Tgffhn9lQKY:

See Automation, Jun'66

FaUfIM* from WftapQM Support $S_{YB}t_{OT}$?

See Automation, Jun'66

Mf DEFINITIONS

False Property Illusion:

"Plagiarism is an ethical offshoot label of the false property Illusion..."

__ Citation and context at Plaaiairm. 1938

"Inevitably, the phantom captain's habitual association of his infinite self with his subconsciously subservient mechanisms has inclined him to a dual presumption: (1) that this mechanism is an actual (by extension) part of his phantom self, whereas it is purely an electrochemical combination of inanimate energy molecules that are intrinsically the ship the phantom captain commands. and (2) an attitude of ownership: the mechanism of ordination for his will is 'his' permanent •possession,' whereas in reality it is only temporarily in his custody. This illusion of 'possession' of the mechanism has been further extended, through accustomed relationship, to include 'possession' of one's clothes, pencils, house in general, land, friends,

wife, and children, business, state, nation, world, and finally 'god'---
the last named quite naturally being 'pictured' in the exclusively
original form of his 'own' egotistically important, special mechanistic
and chemical process arrangement.

"As the 'possessor' of all his extensions, the phantom captain au-
tomatically evolves a myriad of illusory necessities for which he
assumes a vain egotistical responsibility. This false- possession and
always innocuous myth (which is consumptive of"

- Cite NINE CHAINS TO THE MOON, p.21, 1938

.false Property Illusion: (2)

"the complete lifetime, from four years onward, of the vast majority
of people) stone-blinds the possessor to the simple delightful truth-
trends that are everywhere and at all times about us."

- Cite NINE CHAINS TO THE MOON, p.21, 1938

See Property

Private Property

Seo Plagiarism. 1938* Talent, (2)

Family of Chemical Elements;

See Pattern Conservation, 3 Oct'72

F_{apllx} of .VnlQUfl F_{rafluanglfla}

See Repetitive 23 May'75 Identity, 2 Jul¹75

Family of Generalised Prinelpir

See Athletics, 6 Jun'74

Generalized Principle, (3); 13 Nov'69

Spherical Structures, 14 Mar'72

Periodic Experience, (6) Design, 8 Sep*75

See Poeta, circa 1970

See Cosmic Law Family

Notion Freedoms: Family Of

Family of Unique Frequencies

Family of Generalised Principles

Family of Chemical Elements

Fantastic:

"The fantastic, being of purely superficial magnitude, Vanishes in the facef principle."

- Citation at Principle, May*49

- CiW-30TA±rWiNKING, I&l, p.'226, KayU9

Fantasy va« Principle-

See Fantastic, May*49

Fantastic: Fantasy;

See Impossible Never-never Land

faiaar_ BraMa=

See Yeaterday, May'70

Fashion:

See Technocracy, 1938

**See Energy Magnitudes: Order Of Frequency: High Frequency 4 Low
Frequency Slower 4 Closer vs Faster 4 Far Apart Big 4 Little Rates 4
Magnitudes Local Change Local Events**

See Change Fast &. Slow Speed Velocity

See Physical, circa 1970

Fat-thin Diamonds:

See Geodesic Diamonds

Fate:

See Deetiny of Humanity

Fault:

See Discontinuity

Earth Fault

Federal Reserve Bank?

See Photosynthesis, 9 Jun*?5

Fear: "Society is full of thia horrible thing, fear. And Mien society is fearful, it gets panicky and does stupid things. So don't do things Just to defy or make people fearful. Do things to give them confidence. Don't do things which invite opposition. Do things which invite support. Try to think clearly, and you will find answers for your problems. Very shortly, society will be in enough trouble to want them."

- Cite RBF to Wm. Marlin, Architectural Forum, p.81, Feb»72

Fear:

"Fear makes people linear."

- RBF quoted by Mercedes Matter in her letter to hia received by RBF
23 Feb'73

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Ffiar:

"Fear is not innate, 'rhe fear reaction of the new born infant is brought about MBonly by extraordinary noise or falling, if falling does not occur early, fear does not develop as dominant. It is fostered, however, by the exquisite stupidity and cruelty of singing 'Hockabye, baby baby will fall, cradle and all,' and for the child who has experienced falling this is by way of being an ultimate lullaby into lunacy....

' 'Fear is instilled through the repetition of traditionally honored falsehoods, or by the invention of a lie, a moral, a code, or statute to suit the circumstance."

(blightly rearranged)

VHHB Fear and Longing:

"I think every human being is born an artist, scientist, inventor, or explorer, but his innate capabilities do get so frustrated, discouraged and paralyzed. Einstein found two fundamental forces operative in human beings. These are fear and longing. Fear is almost always present. Unfamiliarity may be compounded with the built-in drives of hunger, thirst and procreative urges together with an urge to understand and be understood. Those are very, very powerful. And when the circumstances seem so daotic there is fear--- a congealing fear. Fear has been very powerful in humanity. But I find that there are times when one out from under it and cheers up again and longing begins to carry on, I began to try co weign the fear versus longing of humanity and I began to feel that longing was more powerful and would win in the end."

« Cite RBF Address at National Conference for Philosophy of Creativity at SIU, Carbondale, Ill, 16 Oct. *69 - p.22.

MUM fSr and Lffnjdfy;:

"Assuming Einstein's postulate of fear and longing as the prime motivators to be correct, let us analyze the implication further, and utilize fear and longing as yardsticks in a general tracery of the history of creative design and the latter's effect on economics and social movements.

"While neither fear nor longing is experienced in pure form, nevertheless one or the other is always dominant for every specific moment. A person may be at one instant 90 percent dominated by longing and 10 percent by fear, at the next vice versa, and tomorrow 50-50. When, however, the person's life span has terminated, he may be analyzed

sumtotally as having demonstrated for instance a 60 percent fear motivation and 40 percent longing. So, in terms of indicated sumtotal of a personality, one may say that a person is dominantly to date a fear or a longing type. The genius and the talented person are specific members of the longing dominated group, although manifesting greatly diversified performance characteristics."

- Cite NINE CHAINS TO THE MOON, p.96, 1938

Fear & Longing:

"... In consideration of the contribution to the study of radiation and the degrees of its scientific authority by the currently most eminent mathematician, Mr. Einstein, and his thoughtful nomination of longing and fear as the two primary motivating forces of human activity in the bi-polar world; and in consideration of our tracery of the effects of longing and fear, the longing into a general inspiring of the creative and talented types of artistw. the abstractionists, the scientists, and teleologic philosophers in general, and fear into the contracting and 'conserving' of the materially minded, either driver or driven;..."

- Cite NINE CHAINS TO THE MOON, pp.323-324, 1938

See Biosphere, (2)

Comprehension, Sep'72

Inventory of Push-pulling Alternations, May*49

Science as a Tool, Sep*72

Technology: Enchantment vs. Disenchantment, (2)

Fear & Political Bias;

See Synergetics, 6 Nov'72

See Inertia of Fear

Raison d'etre of Boast & Fear

Phobia of Imprisonment Trap of Dismay, Fear 4. Negativism

See Change, 2 Nov'73

Death, 11 Sep'73

Epigenetic Landscape, Jun'69

Evolution. May*72

Individual Economic Initiative, 13 Jul'74

Inflation Sep'73

Limit, 1938

Kind as Verb, May*72

Self-seeking, 8 Nov ` 72

Society: Control Of, 1938

Superstition May*49

Walls, 1967

World Game as Football Game, 2J Aug'70

Synergetics, 6 Nov'72

New York City, (7)

News A. Evolution, (3)

Ko Energy Crisis, (A)

Feed:

Lfeftd. is a word people use Just as a game they're playing. 'Vhat it really means is: taking on energy. . . In 1946, when the new post-War cars canjiinto Wichita they had the first hydromatic transmission. Jake Butts would buy them for all his kids and one of the Beech workmen said, 'All you have to do is tromp on the foot feed. '*

(This was in the context of RBF talking to EJA about 'feed' vs 'ffied in' at p. 110, 9th line of DRAIN & MIND.) '

- Cite RBF to rJA Royal Scots Grill, NY breakfast, 16 May *72

£SS4:

See Eating Meal 8

See Building, 10 Sep¹74

CgFIPrchfinalYIW QgnPHtara Yg. Hu”*ng:

”A prime distinction between humans and computers as intelligence machines is that the computers can easily excel as specialists, whereas the unique characteristic of the human intellect which may never be approached is that of the Universe-long complexity of feedback comprehensivity which could only be matched by a complex computer which had been building up its regeneratively introduced variable strands braiding for a period of several billion Earth years. This temporary human advantage of a few billion Years' lead is about to be widely discovered and will be one of the prime strategic considera- tionsof man's meager conscious contribution to forward events of universal evolution.”

- for citation and context see Computers as Specialists

13 Aug '64

Feedback by Eve:

See Eye-beamed Thoughts

Feedback Lags:

**"Universe is the sun total of all men's progressively sensed, imagin-
able, and teleologically translated experience by inherency of man's
available circuit tuning limits and rela tive feedback lags...,"**

- Citation at Tunability; Intra & Ultra. 1954

Feedback lags:

See Thinking, 6 Nov'73

See Cosmic Fish Fisherman Theme Mental Mouthfuls

See Mental Mouthfuls, 9 Jul*62

RBF DEFINITIONS

Feedback;

"Norbert Wiener next invented the word 'feedback' to identify discovery of biased error and its spontaneously-coped-with over-correction. Governed by automatic-angular-error-maintaining devices, such as gyroscopes governed by delicate hydro or electrically actuated servomechanism connected to the powerful rudder-steering mechanisms, these devices greatly reduce the magnitude of rightward and leftward steering errors. In gyroscopes governed by servomechanisms, steering is accomplished only by minimizing angular variance errors, and not by eliminating them or pretending they do not exist. Gyro-steering produces a net wavelike course, but always with errors of much higher frequency and much shorter wavelength than those made by the human handling of the rudder and the latter's inevitable veerings left and right.

"All designing of Universe is accomplished only through angle and frequency modulation. The DNA-RNA codes found within the protein shells of the viruses governing the designing of all the species of all biological organisms in Universe consist only of angle-and-frequency-modulated instructions."

- Cite RBF Ltr, to Bro. Jos. Chq\al, P.4; 7 Nov*75

Feedback: Self-Accelerating Feedback:

"As the irreversible succession of self-regenerative human events---experiences, intuitions, experiments, discoveries and productions---

Successively increases both the comprehensions and capability

options

The commonwealth of intercommunicated comprehensions

Produces and ever-evolving, subconsciously changing common sense.

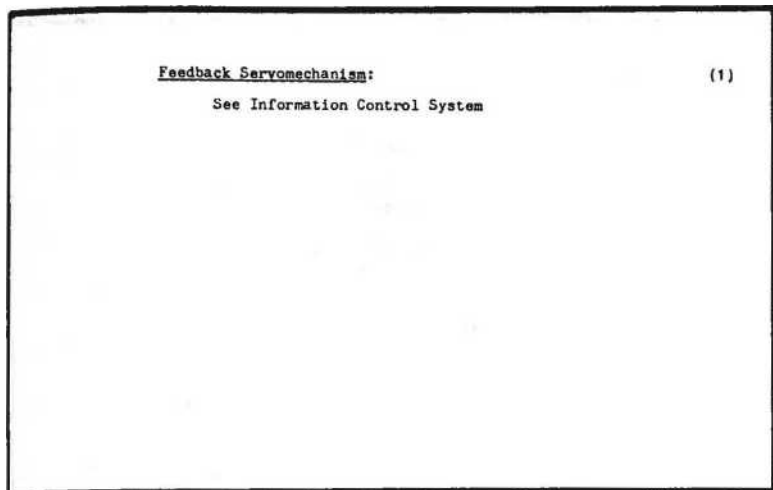
Where syntropy is gaining over entropy, life prevails;
Where entropy is gaining over syntropy, death prevails.
Their exponentially regenerative birth-death interplay
Is describable in information theory
As 'self-accelerating feedback',*
And in nuclear physics it is manifest as 'chain reaction'
And in an even more comprehensive way
It is manifest pulaatingly, resonantly and propagatively,
As the irreversible regeneration of universal evolution."

- Citation at Evolution (1)(2), May'72 3KAIA A hlffD, * 1

TtXT CITATIUNL

Feedback:

Synergetics draft at Sec. 1009.41, 10 Feb'73 '* " " " 1009.42, " "



See Electronic Referendum, 9 Jan'75

See Computer

Epigenetic

Orbital Feedbacks

Pattern Cognition Feedback

Reading
Recall Playbacks
Telepathy
Two-way Feedback
Action-reaction Juxtapositions
Cybernetics
Trim Tab
See Computers as Specialists, 1\$ Aug*64
Conscious & Subconscious. 1960; Jun'66
Evolution, (1)(2)*
Industrial Complex, 13 Mar*73
Intellect, 1960
Intuition, 15 Jun*74
Manifest: Six. 1973
Mole: Industrial Man as Universal Mole, Jul'59
Ruddering Sequence (4)(5)
Subconscious, Jun'66
Telepathy, 29 Jun'72
Temperature of the Human Body (1)
Thinking, 1960; (A}(B)
Tunability: Intra &. Ultra, 1954*
Twilight Zone, 1959
Computer Programming, Hay*49
Now House, (4)
(3)
See Feedback Circuitry

Feedback Comprehensivlty: Computers vs. Humans

Feedback by Eye

Feedback Lags

Feedback: Self-accelerating Feedback

Feedback Servomechanism

KBF DEFINITIONS

Fgffdi.riK LQtfi: Cat UP Feeding Lota:

"Cattle feeding lots are another part of the pollution game. They are also inhumane, adding fat at a few cents a pound to sell at dollars a pound. Everybody is trying to make money instead of trying to make sense."

- Cite RBF to Engineers Meeting St H.U.D, Washington, 26 Jan '72

Feel;

"We can hear, see, taste, smell and touch-feel."

- Cite RBF on Synergetics draft, Sept. 1971, "Conceptuality.

Sensoriality: Sweepout."

Feeling Good: When You Feel Good You Feel Nothing:

"Bite your tongue

Get a cinder in your eye.

When you feel good,

You feel nothing."

- Cite I SEEN; TO BE A VERB, The Queen, May '70

See Health, 10 Oct*63

Invisible Architecture (E)

Subconscious Coordinate Functioning, 10 Oct'63

Costume, 14 Apr'70

Human Beings & Complex Universe, (1)

See Tongue: Biting Your Tongue Subconscious Coordinate Functioning

See Feeling Good Set of Feelings Unfeetable

See Measurement, 6 Jun'69

See Biological Equation of Universe

Commonweal Coneideration for Others Expense: Without Any Individual Profiting at the

Expense of Another

Golden Rule

Man: How Do You Really Serve Man No License to Be of Service Trespassing: Not Trespassing

See Individual Economic Initiative, 2 Jun'71

Naivete, Mar'66

Tomorrow, Feb*67

Intuition Sequence (1)

Pollution: Infinite Room to Pollute, 22 Jul'71

FfllfiwahlPfl: Life Fellowships in Research and Development;

"The eduction revolution requires the elimination of exclusively academic tenure. All of humanity must be given life-long research fellowship tenure."

- Cite RBF revision of "Ten Proposals for Improving the World for EARTH,INC., New Delhi, Dec.'72

Fellowships: Life Fellowships in Research and Production:

"To take advantage of the fabulous magnitudes of real wealth waiting to be employed intelligently by humans and unblock automation's postponement by organized labor we must give each human who is or become unemployed a life fellowship in research and development

- Citation and context at Earning A Living Sequence (2) (3), 1969
Fellowships: Life Fellowships in Research and Development:

a high standard of living development fellowship.”

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, p.129, 19&9

Unemployment as Freedom to Think

See Earning a Living Sequence, (2)(3)

Economic Accounting Sequence: Human Life-hour

Population Sequence. (5)(6)

Prospects for Humanity, 1 Feb'75

Office Buildings: Conversion to Apartments,

20 Sep'76

Female: "The sweepout of the female is much less. She tends to stay with the young and the old. She decides whether you are going to skin it, milk it, or eat it... The consolidator of the gains."

- Citation and context at Sweepout. 17 Oct'72

Female:

"Women and their clothes are like poets. They anticipate. All options are open."

- Cite R8F quoted in Queen, May *70—
- Citation at Option. May'70

Female:

"The new life comes from the woman. The egg is in the woman so woman has physical continuity. Man is discontinuous.

This has great compatibility with the Universe. Women are innately in tension, and men are in compression. The father tends to specialization. The mother tends to be much more comprehensive than man. Early man was the roving hunter or the fisherman. Woman, staying near the hearth and cave, has been the consolidator of the gains. When man brought in a strange animal, she decided whether to skin it, milk it, or ride it. She is the differentiator. She put the children and prisoners and old to work, spinning, weaving, and so on. She invented industrialization."*

- Cite RBF quoted in AAUW Journal, p. 178, May *65

'•On meeting a female for whom I suddenly and surprisingly discover that I have a strong attraction, I don't tell her and I do dismiss the inclination, but I don't pretend to myself that I had no such thought."

- Citation in context at Emotion. May'65

Female Leg:

"... The subconscious measuring capacity of man's eye judges, at considerable distances, to a 64th of an inch accuracy, the diameter of the female leg."

Invisible Architecture (1)(2), Aug'64

- Citation at MMHMK

See Girl

Male & Female

Mother

Woman

Womb Population

Women

See Emotion. May'65*

Fish: Playing the Fish on a Reel, 20 Apr'72

Option, May'70*

Sweepout, 17 Oct'72*

Primitive Regeneration, 2? Dec'74

Fermi Spaces: "Fermi spaces .

will be made up of the concaves.

- Cite Oregon Lecture #7, p. 258, 11 Jul»62

See Copper, 15 Aug'70

FcrUlimiQn?

"Engendering is a special case phenomenon that requires fertilization. Fertilization is the syttmlc differentiation out of Universe which produces conceptually local Universe marrying the macrocosm to the microcosm which realizes a new special case system event with its own set of insideness outslideness topological characteristitics."

- Citation 4 context at Kale & Female, 27 Dec'74

Fertility:

See Human Tolerance Limits, (4)

Fortllliar-

See Toilet, 28 Jun»72; 20 Sep*76

fibrous Crystalline Units:

See Colloidal Chemistry, 1938

RbF DhFIMTWKS

£12112111

"Fiction? Approximately zero fiction. . . Life is enough fiction for me."

(In response to query on his reading habits.)

- Cite RBF quoted by Peter Brown in St. Louis PostDispatch, 5 Nov '69

See Novel Fantastic Parable Yesterday'a Textbooka Legend Myth

See Fuller, R.B: The Thinking Me, 18 Dec*76

Field:

"Einstein was up against trying to communicate with the mathematicians in terms of mathematical models all of which were— and still are— straight line. XYZ models on a linear frame and with linear coordinates going outward from the model to infinity. So 'field* was always a little set. of local perpendicular crossings of straight lines each onward bound to an infinity of infinities. "

"All the experimentally harvested information says that the * 'field' must now be recognized as a complex of never-straight lines which, at their simplest, always will be very great circular orbits. And thaorbits are all elliptical due to the fact that unity is plural and at minimum two. There will always be at least one other critical proximity aberration with both of its diametric alterations of orbit."

Css.SfJ

- Cite SYNERGETICS draft at Secs. 1009.545-j 14 Feb'73

Field:

"Ao a cosmic generalised intertransformability system field .our allsoace filling synergetics matrix accomodates and equates these behaviors. Allspace filling is a scenario the eternally selfregenerative scenario of cosmic Integrity.

[28]

- Cite SYNERGETICS draft at Sec. 780. XT, 2 Nov'72

See Domains of Actions, 21 Dec'71

Field of Causal Formations;

"Synergetics presents a picture of the multioptioned operational field of cosmic formabilities, intertransformabilities, and complementary interaccommodations within which each human individual, his life, his world, is always one way Universe could have turned out."

- Cite RBF marginalia on EJA Memo, to Macmillan, 28 Jan'73

UAJiv - Sc c. 3

Field Equation:

See Synergetic Hierarchy, (

rigid Uwe:

See Fourth Dimension, 17 Nov*72

Field#9del*fillUY' •

See Science Opened the Wrong Door, 30 Dec*73

See Invisibility of Macro- and Micro- Resolutions_t (2)

Field of Force:

See Patterning of Patterning®, 1960

See Angular Field Attractive Fields Center of Field Circumferential Field Directional Field Pulls Einstein: Unified Field Theory Electromagnetic Field Energy Field Frame of Reference Geometry of Vectors Gravitational Field Inbound & Outbound Field Information Field Isotropic Vector Matrix Field Invisible Muscular Field Invisible Suspension Field Magnetic Field Matrix Operational Field Repelling Fields

See Resonance Field

Spherical Field

Universal Integrity: Second-power Congruence of Gravitational & Radiational Constanta

Vector Equilibrium: Field of Energy

Vectorial Geometry Field

Vector Equilibrium Field

Unified Operational Field

Yes-or-no Field

Plaid: (2)

See Cosmic Discontinuity i Local Continuity, 15 Jan'74 Starting with Parts: The Nonradial Line, 29 Dec*73 Causality, Jan'77

See Fields of Actions

Field Equations

Field of Cosmic Formabilities

Fielding

Field Lines

Fields of Force

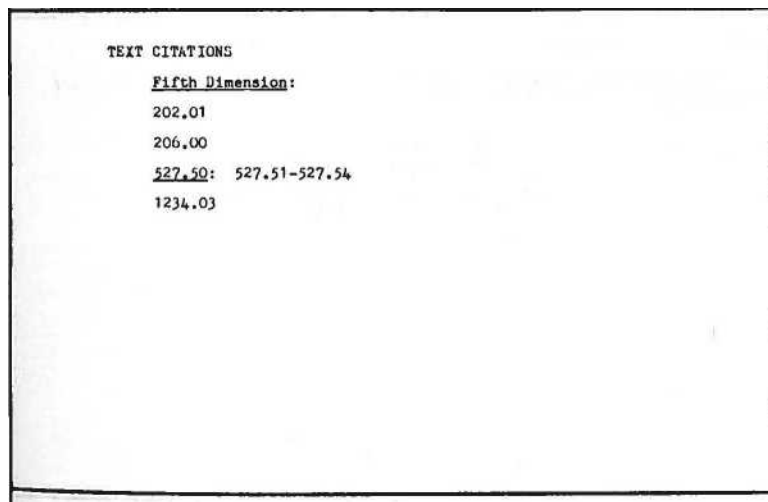
Field Modelability

Field of Omnidirectional Nothingness

Fielding:

"...As in baseball fielding means to successfully intercept the random event and convert it to orderly advantage."

- Citation and context at Baseball. Dec*72



See Powering: Fourth & Fifth Dimeneione

Fifteen:

See Great Circles: 15 Great Circles Prime Number: First 15 Primes
Seven Axes of Symmetry

See Aberration Limit. 22 Jun*72 Decimal & Duodecimal 1960 Modelability, (4)
Information Transaction & Valving Models, 9 Nov*73 Star Tetrahedron *6c.* VE, 9
Nov*73 Tetrahedron: Dissimilar Rate of Change Accommodation.

9 Nov'73 Universal Joint: Tetrahedron, 9 Nov*73 Triacontrahedron,
13 May'77

Fifty-six Axes of Cosmic Symmetry:

See Fourteen Axes of Truncated Tetrahedron, (2)

Fighting;

"Despite the reflex conditioning governing past fighting, the usual absence of fighting in respect to abundance discloses that fighting is not an essential human characteristic despite the fact that aggressiveness is ^{an} essential of

Intuitive curiosity.”

- Cite Syracuse Address, p.45, 7 Nov’67

figures fc Wordg:

See Vitalietica, 19J8

File Carde with Triangular Array of Holjgt

See Cumulative Patterning Overlays

See Pattern Generalization, (1)

See Chronofile

Fuller, R.B. Indexing RBF Ideas

Fuller, R.b: Personal Research File Colore

fUd Ptt :

See Empty Set, 26 Kay’72

See Frame

Scenario

Motion Picture Continuity

Tetrascroll

T.onometric Bubble

Membrane

(2)

fXla: Fllffl Strip:

See Finite, 2 Jun¹71

Invisible Pneumatics, 27 Dec*73

Reflection Sequence: Apple, (1)(2)

Rolls, 20 Apr’72

Scenario Universe, 22 Apr*68

Self-rftgenerative, 2 Jun’71

Tetrascroll, (1)

Finality:

See No Finality

Find:

Into ui“w₃“S^d and '”P^{lo}>'”- H« ><>« P“« anything

- Citation & context at Technology, Oct'69

Finger: ".,The convenience of the human'e ten fingers As memory augmenting, Sequentially bendable, Counting devices of serial experiences."

- Cite SYNERGETICS, "Numerology," Sec. 1210, Aug'71

Finger:

"Because ears rotates he has fingers and toes

- Citation and context at Rotate,. 6 May*48

flatsr: gm Teur flimsr:

See Tongue: Bite Your Tongue

See Bert11Ion System

See Individuality, 10 Oct¹63

flnrer-wrlBt Aala=

See Irreverability, 4 May*57

See Finger-wrist Axis

Hand with Fingers up as Synbol of Life

Piny er; Pingera:

See Tactile Sequence, (1) Mass, 12 May»77

Finite:

"All inputs to the brain are finite."

- Citation & context at Generalization & Special Caaa, 20 Jan*75

Finite:

"...Men atop and start, sleep and wake, are boro and die.

- Citation and context at Integrity. 24 Jan*72

Finite :

"Experiences are either iMHBPin voluntary (subjective) or voluntary (objective) and all experiences, both physical and metaphysical, are finite because each VMI begins and ends."

- jfiz. Jan
- Citation at MetaohvaGfl¹ *- Physical,. Oct*71

Finite;

"Cosmic energy is finite."

- Cite Museums Keynote Address Denver, p. 11. 2 Jun'71

Finite:

"The Universe can only be thought of competently in terms of a great unending but finite scenario whose as-yet unfilled film strip is continually self-regenerating.*

- Cite Museums Keynote Address Denver, p. 10.. 2 Jun'71

Finite:

"The a or face of any system is finite— thesis, it returns upon itself. Our Earth sphere is a system. The surface of any system such as the Earth is finite. It is closed back upon itself. "

-CITE NQiRU SPEECH, p.18f 13 NOT'69

Finite:

"Energy 1B finite."

- Citation at Energy_r 26 Sep'68

Finite;

"Endless does not mean infinite. A circle is finite.

The circle may be recyclically considered only as many times as the observer's total life may accommodate."

- Citation at Endless. 22 Apr'68
- e*tg=cwjji l l imriawa -bf-Uesign,—22 Apr '68

Finite:

"Finite" means "complete, but not terminal."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, 1967

Finite:

"It is the nature of all our experiences that they begin and end. They are packaged. For instance, we see in b0 separate picture frames per second as in a moving picture continuity. Each frame is a finite increment. Our Brain's after image lag is so powerful thatw (it) gives a sense of absolute 'eccentricity*' to our only subconsciously packaged 'seeing.' 7.'o wake up and go mto sleep. Our experiences are all finite because they all begin and end. An a®*egate of finites is finite. Therefore the universe which includes both physical and metaphysical is finite."

- i»e 24iiluli ii 1? Jun*66
- Citation at Baying Picture Jun'66

Finite;

"... All physical experiments indicate that energy can neither be created nor lost.

Therefore the energy of n

Universe is finite."

- Cite NASA Speech, p. 26, Jun'66

Finite :

"... In the early days of our twentieth century we emerged into . . an entirely new cosmological concept of an inexhaustible, ergo finite physical Universe consisting entirely of energy. . . "

- Cite NASA Speech, p. 25 Jun*66

F|ne:

"The integrity of Universe is implicit in the external finiteness of the circumferential set vector equilibrium_7 which always encloses the otherwise divisive internal radial set of omnidirectional vectors."

- Citation <fc context at Vector Equilibrium (I)

=8J73TUnl66-

- £±tar

Finite:

"Finite is unique to tfniveese because it means complete, but not terminal.

- Cite OMNIDIRECTIONAL HALO, p. 1J5 i960

nBF DEFINITIONS

Finite:

"The Universe is finite, and all its components definable. Each life as we know it is definitive. i.e., consists of a plurality of terminable, ergo definite, experiences, beginning with each awakening and terminating with each surrender to sleep (no man can prove upon awakening that he is the man who he thinks went earlier to sleep, or that aught else which he thinks he recollects is other than a convincing dream). The intermittent beginnings and endings of conscious experience constitute an aggregate of definitive experiences--- and the aggregate is therefore finite.'*

- cruLZTirnin in OMiiTiwmf ijjiiii

Finite & De-finite:

"By the omnidirection, star-studded halo reasoning, the development of a conceptual tetrahedron automatically changes a negative yet invisible tetrahedron into the nonsimultaneous nonconceptual, finite Universe, comprehensive to the local de-finite conceptual system."

- Cite STNERGETICS text at Sec. 535.OS, Nov'71

Finite Minus De-finite:

"Finite minus de-finite means four tetrahedra minus two tetrahedra. Finite Universe equals eight cyclic unities. Every tetrahedra equals two, having inside-outingness oscillatory transformability unavailable to any structural system other than the tetrahedron."

- Cite SYNERGETICS text at Sec. 535.03; Nov'71

Finite k Definite: Finity fc Definitly;

See Complementarity, 10 Nov'74

Halo Concept, Nov'71

finite Event Scenario: (D

"Events are changes of interrelationships. Events are changes of interrelationships between things in a system. Events are changes of interrelationships between any one of the separate 'thing' system's constituent characteristics— a minimum thing has separable parts. A thing is always special case. Special cases always have time-frequency relative sizing, whereas the minimum system, the tetrahedron, is generalized, prefrequency, sizeless, timeless, yet, conceptual, error. does not have separable parts, but—being primitive (timeless)—does have primitive fractionability into structurally conceptual, timeless, omnirationally accountable, symmetrical, differential polyhedra of the cosmic hierarchy,

"The cosmic hierarchy is comprised of the tetrahedron's inherent—four active, four passive—intertransformable interrelationships, all of which occur within the six primitive, potential, omnidirectional vectorial moves per each primitive system's (timeless) event potential."

- Cite SYNERGETICS 2 draft at Sec. 100.31; 23 Jan'77

Finite Event SGCMFIQ:

"Nonunitarily conceptual but finite Scenario Universe's only separate, differently enduring, and only overlapping!y occurring, conceptual episodes, their scenery, costumes, and character parts--all being special case and temporal, are each and all demonstrably separable, ergo finite, and only altogether coordinate, to provide the ever-aggregating finiteness of Scenario Universe's complex, nonsimultaneous, ergo nonunitarily conceptual, episodes*"

- Cite SYNERGETICS 2 draft at Sec. 100.32; 23 Jan'77

See Nonunitarily Conceptual Scenario Universe

Finite experiences and finite experience furniture such as photons of light.*

- Citation and context at Thinking. 7 NOT'73

i Finite FunUfrUr?:

"Universe is finite

Because it is the aggregate

Of omni-finite

Local experiences.

All experiences begin and end.

Physics has found no continuums—

Has found Instead only discrete and omni-separate Finite quanta.

Meaningful segments

Of scenario universe

Are finitely furnished

#ith omni-finite experiences."

- Cite RBF written amplification of OMNIDIRECTIONAL HALo, p. 1J2 citation
Sarasota, Florida

<1 * February 1971

RBF DEFINITIONS

Finite Furniture:

"All experiences are finitely furnished with differentiated cognitions, recognitions and comprehensions. The finite furniture consists of widely ranging degrees of comprehensive constellar complexities. A wide range of time investment magnitudes must be assigned to« the respective considerations of the multitude of different constellar, experience-pattern comprehensions, tie cannot read simultaneously all the words in the dictionary; yet the dictionary is a finite collection of finite word entities each in turn consisting of collections of finite symbol entities."

- Citation at Experience_f i960
finite Furniture;

"Universe is finite because it is the sun total of finitely furnished experiences.**

(See Omnifinite, 11 Feb'71 for RBF rwrite of above.)

- Cite OMNIDIRECTIONAL HALO, p.132, 1960

Finite Furniture;

"There is no experience without the finite furniture of twoness."

- Citation and context at Experience. Feb'50

"All experiences are finitely furniahed with differentiated cognitions, recognitions, and comprehensions«ⁿ

- Citation 4 context at Experience. I960
tlnta Fumitunu

See Furniture

Rearranging the Furniture

See Experience, 1960*; Feb'50* Omnlfinite, 11 Feb*71* Thinking, 7
Nov'73* Nonsimultaneity, 7 Nov'73

See Unity: Complex 4 Simplex, 16 Oct'72; 15 Feb*66

See Beginnings & endings

Circumferentially Finite

Closed System

Comet

Continuity-finiteness

Conceptual Finite

Conservation WMM of Finite Universe :

Principle Of

De-finite

Eternal vs. Finite

Experience: Law of Conservation Of

Infinite

Infinity & Finiteness

Limit

Maxima-minima

Minus Two

Moving Picture Continuity

Omnifinite

Inexhaustible • Finite

See Open Endings

Package: Packaged

Quantum

Unity: Complex & Simplex

Circumferential Finite ve Radial Infinite

Periodic Experience

Sue Comprehensive, 9 Jul*62 Definable, 19o0 Energy Event, 1960 Earth, 1965 Endlesa, 22 Apr'68* Energy, Jun'66: 26 Sep'68* Experience, 1960* God, May'68 Hexagonal Vector Pattern, 8 May'72 Humans. 8 Mar'73 Integrity, 24 Jan'72* In & Out, 19 Jun'71 Line, 28 Jan'69 Magnetic Field, May'49 Metaphysical & Physical, Jun'67; Oct'71* Moving Picture Continuity, Jun'06 Plurality, 5 Mar'55 Polyhedron, 20 Feb'73 Quantum Mechanics, Jun'66 Generalization special Case, 20 Jan'75

See Somethingness, 16 Nov*72

Structure, 29 Dec'58; 19 Jun'71

Time Quality, 19 Jun'71

Undefinable, Oct'66

Universe. (i)(2)*

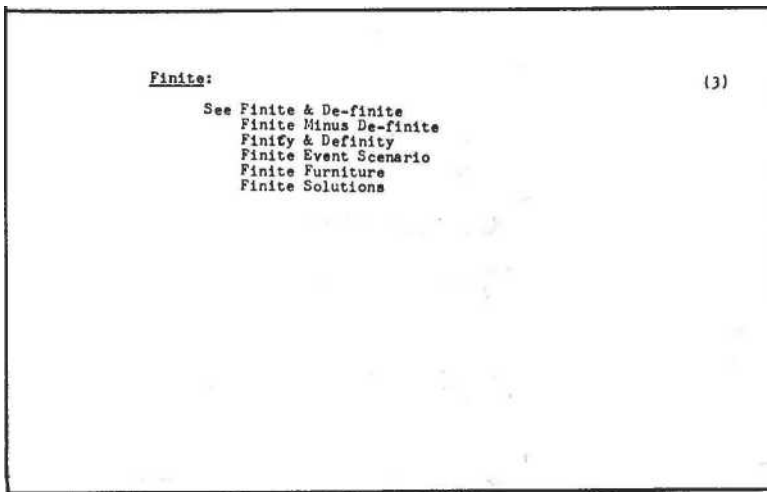
Vertex. 1955

Vector Equilibrium: Field of Energy, (A)

System, 27 May'72

Structural System, Nov'71

Space, 9 Feb`76



RUF bdUMTIGNS

"... I find that even in peacetime when man was homesteading, going out to open up their land. And he came under tenting and very temporary form of shelter until he got to a site where they were going to commit themselves. The thing that really counted was getting the seeds in the ground, something to grow so they could eat next winter. The high priority is seed and growing things. You keep living under wraps as best you can. And on the way there you've been hunting and have a lot of food. But now you're so busy clearing the fields of rocks and getting the seed in the ground, your wife says, 'Darling the meat is beginning to spoil now ' and so we've got to build a fire and at least cauterize it-- it lasts a little longer. This meant then that people in the fields began to build fires; and making fire took an awful long time--- you didn't have time for that you were so busy with the field. So you keep that fire going, and I'm clearing wood out of the fields here; so you've got plenty of wood. Just keep burning that wood. Well, that M makes smoke in the sky and that gathered often

hostile strangers here. It brought animals at night. So they built kind of a chimney around it so it was easier to keep that fire going. It got a lot of rock out of the fields; there was a lot of rock around and they used that to make a temporary chimney.

- Cite Univ, of Alaska Address , p.10, 20 Apr '72

Fire: (B)

"And then you began to make a stockade around so that the wild animals couldn't get at you, naturally, or strangers. So you got a stockade and you got a chimney in the middle. Then when you first had a little time you took some more trees around, and ran some logs from the stockade to the chimney. You got a roof on this. The wind is going to be coming now. But the building was always on the antipriority. How do you get nature to keep you going. You don't know why the little thing grows into big things, but it does, and you've just got to take advantage of that fact. You realize that even in the peacetime building was an antipriority--- something you did only in off moments.' "

(Slightly edited)

- Cite Univ, of Alaska Address, p.10,20 Apr '72

KBF DcFIMilUhL

Fire:

"Fire turned out to be just swift oxidation separating the air into separate constituents."

- hitf-CA l-Ja , -WO. Idaho,

- Citation and context at Lavoisier. 1 Oct*71

Fire:

"Fire is a way of gaining access to stored solar energy, of extending the internal oxidation of the body metabolism to provide an external source of heat, predigest food, etc.--- also providing one of our most durable symbols in the process.*

-Cite >VORLD DESIGN SCIENCE DECADE Technological Systems
Phase II, Document 6, P. 53

1967

Fire:

"Fire is an accelerated combining process of oxygen combining with
carbohydrates in ever-constant arithmetical proportion."

- Gite-BESION FOR 3URVT VAT.-- PW3,

~~-Cite- III, p< 1-8*~~

- Citation and context at Selenef Jan*49

lira: Maa Trampling Hit Fellow Men to Death in » Fire:

See Scarcity: Not Enough to Go Around, Kay*70

Human Tolerance Limits, (2)(3); (C)

See Air is Socialized, Feb'67

Hunan Tolerance Limits, (2)(3) ; (C)

f.Ircalacs tog:

Q:

RBF:

"So eventually we'll be getting all our heat and energy to run machines
totally from the Sun?*"

"We always have. Fossil fuels are from the Sun.

You put a log in the fireplace and watch it burn.

In every minute you burn up a year. It took a year
to impound that. You are just unwinding the years.

Cite RBF quoted in Orilla, Ojtt. Packet-Times_f 7 Nov'74

hbF DEFINITIONS

FlrCPlaCfi LQR:

"When we see a log burning in the fireplace we see how very fast a hundred years unrolls before us--- how fast we are unwinding time. As it burns from one annual ring to the next the stored up sunlight of one hot summer month may flare up in an instant. So the fire in our fireplace has been sent here--- telegraphed by radiation--- from the Sun and stored these many years."

- Cite RBF to EJA, Bear Island, 2J Aug'71

^Flrgplaco Lqg:

See Celestial Radiation Accumulators, 28 Apr'77

Fireproof Warehouse of Civilisation:

See Civilization, May'44

Fireworks:

"...The concept of Scenario Universe As an aggregate

Of nonsimultaneous, Complexedly frequencied. And only partially overlapping Ever and Everywhere

Methodically intertransforming events

Is superbly illustrated by an evening Of overlappingly frequenced fire-
works. E - Me²

And

C + A - L + 2

Experimentally conceptualized By those partially overlapping Fireworks events As one rocket is blasted off Before the previous rocket's Unique display has been completed And both a moving picture camera And a tripodded still camera Can be set With their lenses left open

- Cite INTUITION, pp.48-49 May '72

Fireworks;

"To register the whole evening's

Fireworks program

Both as a scenario

And as single, composite, static pictures

Of all the light patterning

That took place

Against the black void of sky,

"And the synergetic relationships

Of the scenario footage

And the 'still' photographs

Together may become

The basic experimental evidence Of fundamental self-education.

For the omnidirectional light-wave growth sphere Increases as the second power Of the linear speed of light, c - linear speed of all radiation c^2 - radiant growth rate of a spherical wave. The radiant light discloses the

- Cite INTUITION, pp.49-50 toy »72

Fireworks:

"Trajectory lines of the successive Rocket blast-offs

Whose trajectory lines « L

Cross one another □ C As the local 'burst' lines Complexely define areas - A And the whole fireworks Demonstrate the patterning Of Einstein's Universe as a Scenario Universe--- Of 'nonsimultaneous and only partially overlapping Transformation events,'

Again q«e.d.

”And the black void

Nothingness of night

Backdropping the fireworks Is the omnipresent A priori mystery. And the real beginning of education Must be the experimental realization Of absolute mystery.

- Cite INTUITION, p.50 May '72

FjrewprkS-

"Four nonsimultaneous rocket burets with visually overlapping patterns. (See diagram) Their four stars constitute the four vertices of a tetrahedron--- the fundamental quantum of universe's structuring.- There is a tetrahedrmal structural inter relationship between (1) the day before yesterday.(2) yesterday. (3ft today and (4) tomorrow. Though we speak of them as "the four balls in the air"--- maintained there successively by a juggler using five balls to do his trick--- they are not the same balls and the four are never in the same positions; nonetheless there are always, and only, six fundamental interrelationships between "the four balls in the air," i.e., ab, ac, ad, be, bd, cd; a,b,c,d, aregMB non-simultaneous events.

Universe

structures most frequently consist of the physical interrelationship of non-simultaneous events.

Because of the fundamentalnon-simultaneity of universal structuring, a single, simultaneous, static .

model of universe is inherently both "nonexistent, 'o5
conceptually impossible," as well as "unnecessary." cite KEPES

See Four Stars Star Events

See Tetrahedron as Conceptual Model, 26 Jan*73

See Fireplace Log

See Lavoisier, 1 Oct'71*

Precession (b) ; (II) Science, Jan'49* Celestial Radiation Accumulators, 28 Apr*77

See Cosmic Structuring, (1)(2)

first. Subdivision of Universal

See System, 24 May*72

Thinkable Set, 1 Feb` 75 Nonsimultaneity, 7 Nov*73

Fyga], Yea_r:

"Fiecal year means basket year."

- Cite RBF to Henay Libernan, NT Tinea, 22 Jun'72

TWs

See Good A Evil Sequence, 12)

Fish: Playing the Fish on A Reel:

"...This is how man began to have greyer tensile capability.

And with this greater tension capability... I've equated compression with man's force, and his resisting force

with just massive stone... Comparing this to cranium tension with the intellectual, or learning tensile.

"And the things are the difference between trying to jump overboard and push a fish out of water with a spear versus having a tension cable. A very delicate cable. You clay the fish and gradually reel him in. I find women are tensive, l-en tend to be compressive. Jomen know how to reel people inknow how to play them on a tension line."

Cite Univ, of Alaska Address, pp.18-19, 20 Apr '72

Playing the fl ah on a Reel:

See Male & Female, May¹70

"Out of the a priori mystery From time to time Mind fishes a new Generalized principle. Which though absolutely unique Always andommodates and integrates With all the previously discovered Generalized Principles.**

- Cite INUTION, p.43, May*72

Fisherman Theme:

"... Inspecting the literature just before this man made his great discovery, and he didn't know he was going to make this great discovery, at the time, and for a very short time afterwards. . . looking to see if he could find anything in common between all the cases of these great discoveries and he found two comr.onalities. Every one of them makes it clear that the most important single factor in his great discovery was intuition. And then they say the second greatest factor was the second intuition about 45 seconds later: about what to do about the discovery you have just made. . . before the fish gets off the line. You don't really catch it in this society until you start realizing how important it really is. And you can't light a cigarette, because you've got to go to work, ./hat you did a half hour later didn't make any difference. . . You either caught it or you lost it."

- Cite '.7ATTS TAPE, p. 44, 19 Oct '70

Fisherman Theme:

See Cosmic Fish

Intuition: Second Intuition Idea Increments

Mental Mouthfuls

See Female. May'70

Intuition Sequence (6)

rightline Pole

See Fuller, R.B: RBF Modus Operand!, Feb*73

See Guppy Porpoise Whale Salmon

Fissionability:

"Structural stability does not occur until the third layer FIMlgnablllfrY is impossible until the third layer . . and four of the balls from the square faces are knocked out, Then you have external concavity, , , asymmetrical.*

- Cite RBF to EJA, Bear Island, 2J August 1971.

See Chain Reaction

Fission:

See Fourth Dimension, 6 May*4

Radiation. Feb*71

Superstomics Sequence, (4)

Synergetic Accounting Advantages: Hierarchy Of, (2}

Flat:

So« Hand in Flat aa Symbol **of** SurTival Heeds

Fitting:

"•,.Indeterminiao prohibits any exact measurement or any absolutpy exact physical agreement of mechanical or structural fitting."

- Citation and context at Measurement (1)

Fit:

PEgMMr.ad gr .TsmaUlti

See Angle: Pumping Fraction Factors, 15 Mar'48

Fit: Fitting;

See Nice, 29 Jul»76

κBF DiFAMmuhS

£1X5.:

"Th® vector equilibrium and the icoeahedron are the prime number
five polyhedra; the multiplicative, concave-convex

twonese: 2x5“ 10.*

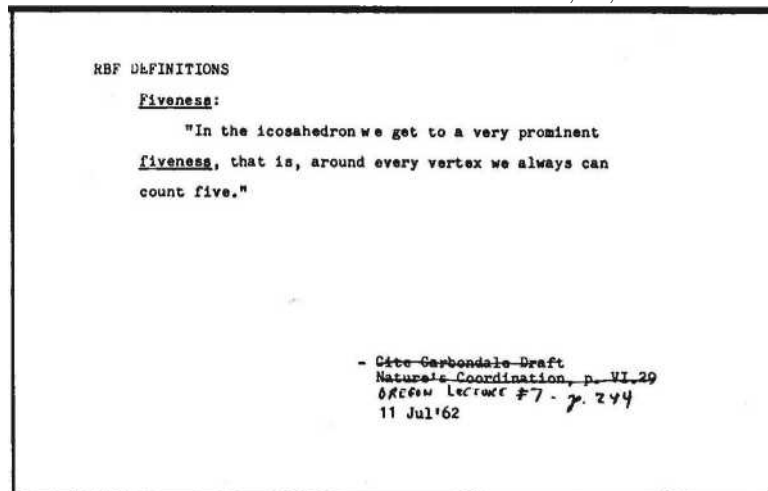
- Cite RBF rewrite of SfNEMliETiCb galley at bee. ybO.IJ, 20 Dec'73

Fivenesa:

"The fundamental fivenesa of the icosahedron is split two ways with
2| going one way (the outside-out way) and 2| going the other way
(the inside-out way)."

(This refers to the least common denominator spherical triangular
'tiles'.)

- Cite SYNERGETICS text at Sec. 1053,13, 7 Mar*73



See Eternal Pattern Integrity: Three 4. Five Frequency: Half Frequency Hand as
Five Icosahedron Powering: Fifth Dimension Vector Equilibrium Six - Five - One
Sphere: Synergetics Formula for the Volume

Of a Sphere

See Basic Triangle: Basic Equilibrium 48 LCD Triangle.

17 Dec'73

Integer, 15 Oct*72

Minimum Volume, 18 Jun*71

Pi 30 Dec'73

Split Persoanlity, 15 Jan'74

Synergetics, 29 Nov'72

Interval, 6 May'48

Wave *it* Particle Definability, 27 Dec'74

Fix:

"When two tracteries cross one another we get a fix. Fixes give geographical locations in respect to the system upon which the topological aspects appear."

- Citation & context at Vertexes, Faces & Lines, 1 Jan'75

Fix:

"A point fix is a potential embryo consideration, a potential thought, a potential system."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 510.01, 6 Nov'73

RBF DEFINITIONS

- Fix:

"Zero power is the fix. It can be just an angle, which is subcyclic. It is a fix. No module."

- Citation at Paring: Zero Power, U Oct»72

Fix:

"Fixes consist of both angular and dimensional observations

- Cite SYNERGETICS text at Sec. 513.02, 25 Mar'71

Fix:

"Fixes consist of both angular and dimensional observation#." or "Co-
incidental angle and dimension observations provide fixes."

- RBF corrections Synergetics draft Chicago, 25 March 1971

KbF DEFINITIONS

Fix:

"Calculus treats discretely and predictively with
frequency rates and
discrete directions of angles of change of the

omnicurvilinear event qaanta's successively recurring □□

positionings: fixes."

- Cit RBF, SYNERGETICS Draft, Mar. *71.

fXfift. Discontinuities & Continuities:

See Events, Novents & Event Interrelationships

Crossings, Openings & Trajectories

Joints, Windows Struts

Points, Areas 4c Lines Vertexes, Faces & Edges

Elj: Zizallora: Fly tty: (1)

See Celestial Position Integrity Crossing Local Fixity Locus
Fix Static Fixations Three-way Great Circling; Three-way
Grid Vector Center Fix Vertex Vertexlal Connections
Chemical Bonds: Triple Bond Cornerability

Ela: Fixations: fixity:

(2)

See Chemical Bonds, Feb*71

Isotropic Vector Matrix, 30 Nov¹72

Powering: Zero Power, 15 Oct*72*

Self-now, 1938

Nonpolar Points, 29 Nov*72

Spheric Domains, 6 Nov'72

Surface, 17 Feb*72

Vector, 16 Dec'73

Topology: Synergetic k Eulerian, 2 Jun'74

Geometry of Vectors, 15 Jun*74

Navy Sequence (1)

Vertexes, Faces &. Lines, 1 Jan'75*

Vectorial Orientation, Mar'71

Minimum Limit Case, 12 May*75

Nature in a Corner, 12 Nov*75

Flagpole;

See Mast In the Earth

RBF DEFINITIONS

"No surface is conceivable without its inherent sphere as ,a flat Universe is contradictory to experience."

- Cite Noah's Ark, p. 3. 1950

Flat:

"No sphere is large enough to be flat."

- Citation and context at Dynamic. 1950

Flat:

"Flat is a confined triangle phenomenon.

- Citation and context at Dynamic. 1950

"Th® transformational projection model coupled with the spheric experience data prove that a finite minima and a finite maxima do exist because a flat is exclusively unique to the area confined within a triangle's three points. The almost flat occurs at the inflection points between spheric systems' inside-outing and vice versa, as has already been seen at the sphere's minima size--- and that at its maxima the moment of flatness goes beyond approximate flatness as, at the minima phase to satisfy the four triangle minimum momentum of transformation, thus inherently eliminating the paradox of static equilibrium concept of all the Universe subdivided into two parts: that inside of a sphere and that outside of it, the first being finite and the latter infinite. The continual!/ transforming from inside-out to outside-in, finitely, is consistent with dynamic experience."

- Cite SYNERGETICS text at Sec. 11024, 26 Jan'73

TUT CITATIONS

Hat vs.. Curved:

Synergetics, 2nd. 41. - Sec. 1053.71

Flatland:

. The fork in the road that the Greeks took to Flatland. Their vases were done on non-Flatland. Just their geometry was flat."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 1 Oct. '71.

See Geometry, 1 Oct'71

See Omnidirectional Typewriter

See Normal to Universe, 10 Sep'74

Twenty-foot Earth Globe *k* 200-foot Celestial Sphere (10)

Synergetics, 15 Jun*74

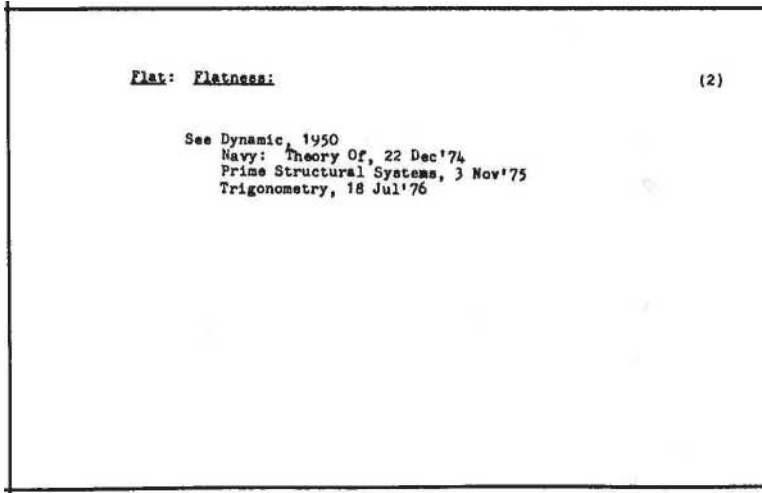
Spherical Tetrahedron, 10 Sep'74

Variablea: Theory Of, Nov'71

See Mites & Quarks as Basic Notes, (2)

See Triangle, (a)

See Plane



REF DEFINITIONS

"When a fleet of one-of-a-kind racing sailboats is performing they usually are beautiful to watch unless one is being incompetently sailed. The winner often appears the most beautiful because it is most inspiredly and capably sailed. The winning boat of yesterday's race may be sailed today by an incompetent careless helmsman and appear ugly though it is the same boat which yesterday appeared to be so beautiful.

So too will the architecture of the new era be the inadvertent qualities and attitudes manifest directly or indirectly by its occupants. While one of two identically designed dwellings may appear beautiful because of its dweller's competence and consideration for others, the identical dwelling may appear ugly because selfishly and incompetently occupied."

- Citation and context at Invisible Architecture.

(F), Aug'72

RBF DEFINITIONS

"Then... complexities are viewed in reverse, from the advantage of even the most mathematically supersuper- interference, the whole regains the acceptable sublimity of aspect such as a fleet of little ocean racers 100 miles off Bermuda struggling with the waves of interference of the Atlantic turning the perversely interfering winds to advantage by virtue of the relative inertia of the relative waves of water eventually to pass Bermuda as the whole picture is observed from the airplane and its infinitude of subcomplexities."

- Citation & context at Periodic Experience, May '49

See Ships: Fleet of Ships Needs More Room at Sea than In Harbor

Flsah: Anlcal .Fleaip

(D

See Cartilage vs. Bone

Cell

Life Cells

Tissue Cells

Human Beings & Hard Machinery

See Life is Not Physical, 11 Sep'73

Matter, 3 Oct'72

Twenty Questions, (1)

Tensegrity: Unlimited Frequency of Geodesic

Tensegrities, (8)

Flexible T». Inflexible:

See Vectors & Tensors, 19 Oct'72

See Flexible vs. Inflexible Necklace Tensor

Paolo,

See BM Soleri/ 10 Sep* 75

Cube *it* VE as Wave Propagation Model, 23 Feb'72

Fllae¹ Even:

See Invention, 3 Oct'72

Flight:

(a) "The flight is continuous."

(b) "People say, 'How was your trip?' But the trip is constant. It's a very local pattern compared with Earth going around the Sun at 60,000 mph which it does so very competently that we don't tend to think of it."

- Cite (a) RBF response to Mary Anne Kenner on greeting him

at Friendship airport with the query, "How was your flight?" J Oct'73

- Cite (b) RBF in Johns Hopkins lecture, Baltimore, 3 Oct'73

Flight;

"Flight was the discovery of the lift— not the push."

- Citation and context at Order. 1971

**See Twin-apin: Earth & Moon Flying TwIn-apIn Formation Flying Hud-
dle Group Coordination**

LLUbaS Fixed Formation Flight:

(2)

See Photon, 26 Sep*73

Sun, May*72

Twenty-foot Earth Globe and 200-foot Celestial

Sphere, (1)(2)

Constellar, May'71

Flight:

(1)

See Air Delivery

Airplane Flight as Lift

Flying

Vertol

Duck Flying

Gull Flying

Flight:

(2)

See Darwin (A)

Omnimediura Transport Sequence, (1J(2)(4)

Float City:

"In due course there would be my floating cities. Strange as it may be, they are impractical to build on Earth due to the gravitational effects and the winds. As a consultant to the advanced structures team at NASA we developed a geodesic sphere two miles in diameter. But this is really a delicate networkball to ball--- and they would be centrifuged in space, weight- lessly; and in that form they are going to be crystallized. They will be locally loaded.

"If you have sphers a mile in diameter then you can fortify them to any extent you want, but when you let it down into the atmosphere, it would be like a ping-pong ball landing in Niagara Falls. Because of its structure we would have it reflecting, so it would reflect its heat out and the structure would weigh so little that it would be lighter than the atmosphere around it. It is simply a cloud--- just the way clouds float in the sky because they dismiss the heat outwardly But they are a practical thought: Housing in Space."

- Cite Tape pp.14-15; RBF to W. Wolf, Philadelphia, PA, 15 Jun'74

Floating City:

"To those who inquire as to whether we do not get discouraged Kehl'iT
T Point out that U \ \ a law of ,wav« "'chance that the biggest waves are the
least frequent. The floating City is a big step forward and its healthy
gestation takes time, There is no use in working in the frontier if you
are overimpatient." ¹

- Cite SET"Y", p.4, Aug'72

(N.8. Above para omitted from WORLD.

"Floating Cities,"

19 Dec'72.)

See Done: Rationale for the Big Dome

Space Structures

Skybreak Bubble

Inventability Sequence (1)

Floor:

See Now House, (2)

See Fountain Patterns Fountain Flow

Reverse Fountain Flow

Flower:

"We tend to applaud only the flower and the fruit «

- Citation and context at Organic Model. Oct*66

See Petal: Three-petaled Flower Bud

Bud Lily

See Aesthetics of Uniformity, (1)

Naivete, 1 Feb'75

Teleology, (1)(2)

Fluidity:

"To Sonny Applewhite; Who has tasted considerably of the fluidity, not only of the geography of the earth but of manmade circumstances, and above all the pervasive fluidity of heart-intellect-and-faith!"

(I suspect the above contains an implicit or

subliminal reference to the dry martini cocktail-- EJA)

- Cite RBF Inscription to EJA in presentation copy of FLUID GEOGRAPHY, 18 June 1946.

Fluidity:

"You were doing the testing. It wasn't testing you."

(RBF to EJA in reviewing the 18 Jun'46 inscription conceded that alcohol as well as my six years in the Navy, was part of what he meant to embrace in the reference to "fluid.")

- Cite RBF to EJA, 3200 Idaho, 15 Oct»72

See Dymaxion Airocean World Map Transformational Projection

See Education, May'49

See Force-fluid

Hydraulica

Liquid Fountain Pattern: Fountain Flow

Fluttering:

See Chemical Bonds, May¹72

See Hourglass

See Magnetic Field, May*49

£lxlas_gsslaM«d:

See Jet Stilts, 2y Jan'75

Flying Huddle:

See Critical Convergence & Flying Huddle

Flyable Logistics:

See Airspace Technology, 20 Sep*76

FLYiQK SHpptrg:

See Starting with Universe, 15 Aug'74

Fly*8-678 Domes;

"Fly's-eye domes are beautiful energy traps."

- Cite RBF to World Game Workshop*775 Phila., PA; 21 Jun'77

Firing;

See Instruments: Science Blind Flying 'On Instruments Bird's Wing Flight

Flywheels:

"It is deliberately obscure for the New York Times to describe flywheels /Jo Nov'77
a® ' 80.ng inertial energy.'

"The wheels are inert only when motionless. Flywheels don't store energy; they articulate energy. They are energy-articulate.

"The flywheel—like the congruent unity of single, double, triple, quadruple, and eightfold bonded vectors and vertices of topology—are superficially very deceptive. The same size wheel whose rate of revolutions is so high as to seem motionless may be active energy of many magnitudes—sometimes 60 great that the flywheels explode."

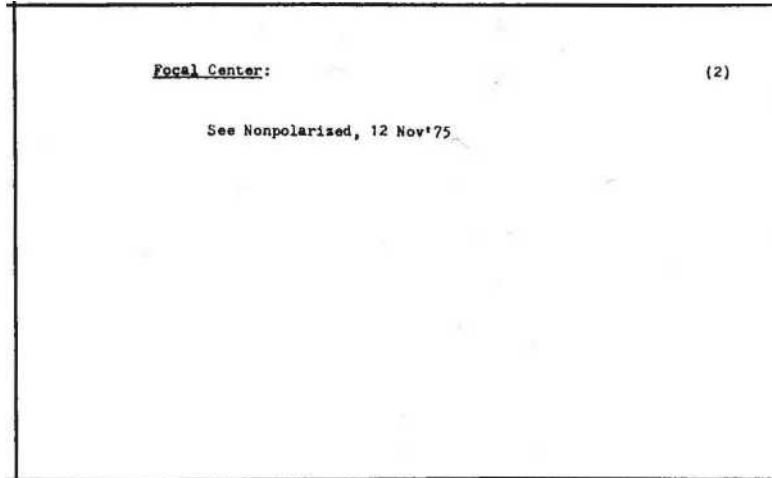
- Cite RBF to EJA, 3200 Idaho, Wash., DC; 11 Dec'75

Flywheel:

"Present experiments show that flywheels— as enei accumulators— can be employed efficiently in connection with variable winds to drive generators. The water and air waves circulating around our planet are also energy accumulators whose captured energy may be used to generate electrical, pneumatic, and hydraulic power systems."

- Citation and context at Wind Power Sequence (B), 25 May'73

See Event Center: Event Embryo: Event Foci



Focal Event " Infratunable System:

See Nonpolarized, 12 Nov*75

Focal Manifest:

See Syntropy & Entropy, (1)

Focus: ' • All the interrelationships of system foci are conceptually representable by vectors.'¹

- Citation and context at Polvhdrrmal Systems, 25/2 May'72

Focus:

"Radiation is outwardly focusable."

- Cite Synergetics draft, Sec. 870, August 1971*

Focus:

"• . . A sphere is an aggregate of energy event foci approximately equidistant in all directions from approximately 'one' energy event focus. This is a system in which the most economical relationships between eitbracingly adjacent foci are the great circle chords and not the arcs."

Lite Synergetics draft. Sec d11.2, "Compound Curvature u. jass., Amherst. 22 July 1 .

Focus; Foci:

"Ins are Foci are in, because focusable, but

always, as entropy shows us, temporary, relationships exist between
the ins because they are focusable. 'Out is not really packaged.'

- Citation at In, 1 Jun'71

ttbe JU"

Focus:

"radiation can be focused; gravity cannot be focused."

- Citation k context at Radiation-Gravitation, 7 Feb*71

Focua » Angular Shunting:

See Shunting: Relative Motion Patterns (1), 1 Oct'72

Eaaup BflanafaXa - ^wXr^abla

*The excess two poles permit omniradially propagated waves or energy to be polarly
focused, ergo beamable, or wirable by conductors."

- Citation 4. context at Gravitational Constant, (2), 1 Apr'72

See Beamable: Beaming

**Event Center: Event Embryo: Event Foci Local Focus Polar Focus Man
is the Focus Restraint Focus**

See Domain, 22 Jun'72

Gravitational Conatant (2) Gravity, 23 Sep'73 In, 1 Jun'71* Interre-
lationships, 1971 Isotropic Vector Matrix, 30 Nov'72 Lever (I) Mini-
mum Set, 18 Nov'72 Omniorientation. 29 Dec'58 Package 23 Sep»73
Point, i Apr'72 Polyhedral Systems. 25 May'72* Radiation-gravitation,
8 Mar*73» 7 Feb'71* System, 29 Dec'58 Tides, 19 Jun'71 Two Kinds
of Twoness, (C) Geodesic Sphere, (1) Considerable Set, 1959

Twelve Universal Degrees of Freedom, 7 Nov'73 Model of Toothpicks
& Semi-dried Peas, (1)

Foetus

See Abortion, 13 Jul*74

Fog Gun:

See Wichita House, (2)

Fog-shroud Navigator:

See Ignorance, (2)

Foldability:

"The foldability of the great circles and their Identification with wave phenomena is one of the unique discoveries of synergetics

- Cite SYNERGETICS Sec. 250.10 1971

Foldability of Great Circles:

"Wave phenomena always being cyclic ... I began to take whole circles. I could take four complete circles and fold them in such a manner as to make bow ties, and they fasten together and make the great circles. Everyone of the 25 and 31--- making a total of 56--- can be made by folding. You simply do your spherical trigonometry, your central angles. . . sometimes a four-part bow tie and sometimes a two-part bow tie. They go together and you can re-establish them, the bow ties together, corner-to-corner, and they make a whole sphere again and you can see the 15 great circles, you can see the 10 great circles, and so forth. . . They turn out to be only great circles. There's no other way I can take a great circle and fold it, because everyone of the fundamental symmetries of both the icosahedron and the vector equilibrium are foldable into great circles where the energy instead of going cyclic around the whole system, can go around in a figure eight, for instance-- or it can go around in 15 great circles. In the 15 great circles you find they again disconnect and they go around very locally on the surface of the icosahedron. 'When you make up the icosahedron you find them in strange little curlicues and they're very asymmetrical.'"

5FC WSS.OS- / - Cite RBF transcript of CZbondale Tape, BO'R + DK, 2 bay >71

RHF DEFINITIONS

Foldability of Great Circles:

"This may be pure accident but I could say something to you now categorically that is really very fascinating, that is, I found that you could fold and make all the

25 and 31 great circles. There are no other circles though that I know how to fold and make any other kind of great circle patterns on spheres. They and they alone seem to be foldable into these conditions. This seems to be a very strange kind of control because if they did they all relate they are the ways of the grand central station and all the shortest, most economical railroad tracks between all the points in Universe--- flying either concave or convex."

- Cite Oregon Lecture //7, p. 271. 11 Jul*62

RBF DEFINITIONS

Foldability of Great Circles: Spherical Vector Equilibrium:

"Here I am taking a great circle and folding it on its 60-degree angle, and we fold down, up, up, and down, up, up, and it comes together and makes this bow tie. You bring these corners together and join those edges. And you take four sets of these and they make the vector equilibrium.

So, the fewest great circles can be folded up and made into bow ties and reassociated and then, even though you made them into a local bow tie, it seems to re-establish to all the great circles. You can play the game either by going around this way or by going around in a local figure eight. Either one is legitimate. These are very typical characteristics of fundamental wave phenomena.¹

- Cite Oregon Lecture //7, p. 269, 11 CM '62

"SyJrTn -sees vS3.o3-.at|

Fpldablllty: Six Caeca of__ Eoldabilitv of Great Circles;

"There are eix cases of folding employed in the proof of sixthing of the circle--- or hexagoning the circle. Case 1 is a limit case with congruence of all the diameters."

- Cite RBF note to EJA with sketch incorporated in SYNERGETICS at Sec. 8J1.31, 22 Nov'73

Foldability: Seven Great Circles That Are Foldable: "I will give you the design of the crystallogicals.

We find seven fundamental symmetries" and they relate to the "seven great circles that are foldable."

- Cite RBF tape transcript, Blackstone Hotel, Chicago pp. 8-9, 1 Jun '71

3~Eve» *A&S* oF sY'Wiff'r- *ice*.

See Bow Ties

Railroad Tracks: Great-circle Energy Tracks: Foldability

Seven Fundamental Symmetries

Seven Axes of Symmetry

See Circle, 31 Hay'71

Frequency: Alternate Wavelength, 19 Anr` 73

Octahedron, 7 Mar*73

0 Modale, 29 Sep'76

See Infolding

Unfolding

Petal

Bow Tie Foldability

Great Circle Foldability

See Modules: A Quanta Module & Basic Triangle, 20 Dec'73

Plastics, 10 Aug'70

Tetrahedron: Coordinate Symmetry, May'67

Now House, (1)

Quanta Loss by Congruence, (2)

Triacontrahedron, 13 May*77

Food Production:

"What we have now in these vital statistics is a look at what we've got on Earth right now. What we've found in our research is that the materials of the Earth are there; we don't have to create the materials of the Earth. What we have to do is to increase the efficiency with which the materials are used. It just comes home every time that it's the metaphysical that has to be altered; not the physical. The physical is always there. . .

"There is enough land if we work the land in the same way Japan works it, in which they're feed six-and-a-half people per acre; whereas in the United States we feed about one per acre. If we could duplicate that efficiency factor all over the Earth, we actually would feed the people; but the problem is always the electrical power; it's always the necessity of processing the food and getting the food to the people. It's fine to grow it in this area, but if you can't store it, you can't feed the people who are living in the other area. . . •»^a

Gite RBF to World Game at NT Studio School, 12 Jun- 31 Jul»69 from Saturn Film transcript, Sound 2, Part 2+3, pp.51-53

Food: Food Production:

See dare Maximum

Eating

Feed

ketabolic Flow

Vegetable Crop Harvesting Human Food Waste

Farmer Brown

Agrarian Metabolics Agriculture

See Air, 26 Sep'68

Human Tolerance Limit®, (l)(3)U)

Alcohol, 1946

Human Uneettlement, (1)(2) Human Tolerance Limits, (A)-(D) Sub-conscious, 20 Feb'77

fasaiall: rootbtn Player:

See Between the Halves

Education: Evolutionary Touchdown Forward Pase Ignorance ae
Quarterback Quarterback: We Applaud the Quarterback and not the

Lineman

See Energetic Frequency Internuclear Vector Modulus Nucleus

Force Diagram aa Mucic Stand Fora:

See Vectorial t Vertexial Geometry, (3)

See Four-dimensional Force Diagram

See Force Lines Load Distribution

Force-fluid:

See Insinuatability, b Nov*72

Ung: Qiapfdlractignal llna of. farxi-

(i)

"One of the concepts of plane geometry goes along with something we are told quite early, when getting into physics, and that was that when we get the lines of force, when we get into the parallelogram of forces. We get Galileo's concept of two ships running into each other. One ship: we will take what its weight is-- it is ten tons and it is making ten knots, so we will multiply ten tons times ten knots and it is going east so we have 10×10 , which is 100. So we have a line 100 units long going east on the pattern on the map on the table here. Then we have another ship going 20 knots and weighing 20 tons so we multiply 20×20 and get 400. So we have a line 400 units long, instead of 100, and it is going north. We have these two ships run into each other, and by Galileo's diagram of forces, we have two lines, one going east and one north. And we make two lines parallel to them of equal length. Then we make a diagonal from the point of running into each other to the opposite corner of the parallelogram, and we take that same line and extend it outwardly from the point and we said that that was the resultant of forces. This is MMV a game we played on a plane. One thing that interested me very much when I"

- Cite Oregon Lecture pp. 105-106, 5 July *62

Ung: Qn>njdirational Pig?? gf Force: (2)

"got into the Naval Academy, particularly when I went to sea, is that when two ships ran into each other, they didn't waltz off north-northeast 12 miles together. One of them usually went into the center of the Earth. And that wasn't in the diagram. So I felt that to give me that kind of elementary education was not a kindly form of

simplification. It was absurd. I felt there was a place where Universe just started operating and that was where she always operated. Je were operating omnidimensionally, and we might as well find out, if we could, what the minimum set of forces operating were--- and where, and how, and why, and whatever was interference did what it did."

- Cite Oregon Lecture #3, p. 106, 5 July '62

Force Lines: Pmnidirectxonul Lines of Forco: (A)

"I was told in school about Galileo's parallelogram of forces. It was drawn on a plane where you saw one body running at a certain velocity in a given direction. I on multiplied its weight times its velocity and that made the length of the line; we called such a force line a vector. Then we had another body which was on collision course with the first moving body which we had vectored. And you took the second moving body's weight times its velocity and that was the length of the second line or vector. And the second body also was going in a unique and discretely identified compass direction. You had these two moving bodies come together and then you made two other lines parallel to the first set of two vectorial lines and they made a parallelogram with the first two vectors.

"Next you made a long diagonal in that parallelogram from the point of collision to its diagonally opposite corner. Then you extended the long diagonal outwardly from the parallelogram from the point of collision, extending this line to a length equal to the diagonal"

- Cite UTOPIA UR OULIVIOI., liu.lc of the hew Life, p. 53, '0 Oec'61, ,
force I4n?B • Omnidirectional Lines of Force: (B)

'already constructed inside the parallelogram and that external equidistant extension of the diagonal of the parallelogram was called the resultant of forces. In the Kavy 1 had also been taught Galileo's parallelogram of forces. . . For some reason that I don't know of it was never considered at the U.S. Naval Academy that whrn two ships ran into each other, Galileo's force diagram told us that following the collision as indicated by the 'resultant of forces' the two ships were supposed to waltz north-northeast for 12 miles together. I saw as indeed most all sane men see that such behavior was Just what the ships didn't display after collision. One of them went in toward the center of the Earth and that wasn't in the diagram. I dccidied that this criticism was typical of my general suspicion that we were not starting with the right set of axioms or simplest concepts. . .

"So one of the two ships colliding on the wavy surface of spherical Earth goes towards Earth's center. One of them does go a few hundred feet in the direction of Galileo's resultant of forces, but not 12 miles. E'c find that in reality four forces are operating. Two accelerate conically together, rising from Earth, plus gravity, plus the resultant." - Cite UTOPla OR GJLIVIoii, i-.usic of the Eew Life,p. 54-54, 10 Doc

DEFIHtIOIJS

Force Lines: Omnidirectional Lines of Force: (C)

M`.ilhen the ships first ran into each other, they actually rose outwardly from Earth's center because in acceleration both ships were 'trying' to leave the Earth. If they could accelerate faster--- like rockets--- they could leave the Earth. So when two ships collide they usually rise outwardly, against gravity, before they subside, and then one or both go into the bottom of the sea, or go a few yards in the direction of the resultant of forces. The pattern of real force

lines looks very much like a music stand--- three vectorial legs spread out with a fourth vertical vector. And so I began to discover and study what we may call fundamental angular degrees of the vectorial interactions of universal freedoms."

- Cite UTOPIA OR OBLIVION, Music of the new Life, p.54, 10 Dec '64

RBF DEFINITIONS

Forces Ljntt: Omnidirectional Lines, of Force: (I)

"Vectors had first been developed to important extent in electrical engineering (though Galileo used them tentatively and erroneously in developing his parallelogram of forces). According to Galileo we could make a vectorial pattern of a ship A of such and such a weight, going in such and such a direction at such and such a velocity. You multiplied the velocity times the weight, and that gave you a vector \vec{E} . You then made a vectorial line AC on your diagram that was x units long, that was shown going $\vec{}$ in the compass direction that the ship was going--- let us say, 'due east.' Ship A collided with another ship B at point C. Ship B weighed such and such an amount. You multiplied ship B's weight by its speed (velocity) and it gave you the length, E , of a vector line BC. BC had a compass direction, too--- let us say, 'northeast,' reading from B to C. Galileo then constructed a parallelogram ACBD with BD parallel to AC, running $\vec{}$ west from B to D, then DA constructed parallel to BC, running northeast from D to A. Galileo then drew a vectorial line diagonally from D to C. the point of collision of ships A and B, and then Galileo extended the line DC outward of the parallelogram to E with $CE \parallel DC$. and with the angle $DCE = 160^\circ$, i.e., a 'straight' line. Galileo called"

- Cite UTOPIA OR OBLIVION, Prevailing Conditions in Arts, pp. 85-86.

Forces Ljntt: Omnidirectional Lines of Force: (II)

"CE the 'resultant of forces'--- the vector of the combined forces x, \mathbf{x} . Galileo's 'resultant of forces' was wrong because two colliding ships do not waltz gaily east-northeast 12 miles together. Usually one of the ships goes 'down'--- into the sea--- toward the center of Earth--- which multidirection vector was not in Galileo's 'plane' geometry scheme. Nevertheless I found his vectorial diagram exciting. It suggested a comprehensive geometry consisting entirely of vectors. , . ."

- Cite UTuPIA uR OBLIVIOK, Prevailing Conditions in the Arts, p. 66.
10 Oct. '64

Fgrgg lpea: Omnidirectional Lines of Force:

"I spoke about Galileo's parallelogram of forces where, you may remember, you had two moving bodies and you had their discrete angles and you have them running into each other. One weighs so much and has such and such a velocity multiplying both and making vectors, you drew two lines parallel to them with respect to where they intervened, i'hen you made the parallelogram and the diagonal of the parallelogram from the points of interception, extended it outwardly of the parallelogram, and call it equidistant, and call it the resultant of forces. I thought this was very strange because I was in the Navy, while this diagram tells me that when two ships run into each other at sea, they waltzed off 12 miles northwest with each other and that isn't what they did at all. One seemed to go to th» bottom and that wasn't in the diagram. So I felt that it was really invalid to make models that really didn't have to do with our physical Universe,'*

- Cite Ledgemeont Laboratory Address, p. 11, 15 Oct '64

RBF DEFINITIONS

Ljneg; Omnidirectional Lines of Force:

"Ships colliding on the globe after sudden acceleration reveal the inadequacy of parallel force diagrams for explaining the omnidirectional interaction of forces."

- Cite SYNERGETICS ILLUSTRATION #15, caption, as rewritten by RBF, 1971.

See Electromagnetic Lines of Force Force Distribution Geometry of Vectors Vectorial & Vertexlal Geometry Force Diagram as Music Stand Form

Force Lines: Omnidirectional Lines of Force: 12)

See Energy Event,

Galileo, 12 Jul*62

Shunting & Reshunting, Dec'61

Synergetics, Sep'64

Surface Strength of Solids, Mar'72

RBF DEFINITIONS

Force: Pon*t Oppose Forces: Use Thea:

"Don't oppose forces: use them."

- Cite: RBF to EJA, Wichita, Kansas

1946

(Attributed to "4D,"but I have not found it in "40."— eja.)

- Cite SHELTER, p.108, Nov'32

See Adversity: Turn Adversity to Advantage

See Adversity: Turn Adversity to Advantage A11time Force Energetic Functions Fields of Force Inventory of Push-pull Alternations Weak Force

See Abstraction, 28 Apr'74 Philosophy, 3928; 1946 Principle (2)

"Ford was a great conceiver. His logistics were like conducting a great orchestra. He will come to be regarded as the great artist of the 20th century.... Edsel was corruptible and did not understand."

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan*75

Ford. Henry as Poet:

See Leonardo Type, May*70

See City (A)

City as Center of Abstract Intercourse (1)

Inventory, 28 Apr'74

Johansen Guages, 16 Jun'72

Leonardo Type, May'70

Ford Motor Company Rotunda:

See Invention Sequence. (B) Tooling of Domes, (2)

capability*

See Navy: Theory Of, 22 Dec'74 Computer Programming. May'49 Hwnans as Machines, (2)

See International Affairs

See Politics, 10 Jun'71

Revolution by Inadvertence, 10 Oct*63

fcflYer-Qtherneaa

See Acceler. ion: Angular & Linear, 20 May'75

See Eternal

See Inherent, 22 Jun'?2

Forzet the Universe:

See Professors, Jun'66

Forgotten Quantlona:

See Thinking, 6 Nov'73

Form:

"The word form implies direct sensoriality. The word 'conformity' likewise implies direct sensoriality--- it

means dealing only with forms."

- Cite MEXICO, p. 101 , 10 Oct '63

Font?

"In architecture fora is a noun; in industry fora is a verb.

- Citation and context at Noun. 1936

"The general principle of producing higher performance with ever less inputs of energy, time and weight of material per any given level of accomplished functioning, produced substantially a trend toward doing as much with so little that we have now arrived at a condition where performance is approximately invisible.

"Form is no longer following function. Functions have become formless, World humanity's reality of 1900 consisted of everything people could smell, see, touch, and hear.

Now, three-quarters of a century later, 99.9 percent of all humanity's practical everyday, work ed-withfr-eaai ties are only Instrumentally (non-sensorially) apprehendable and employable by humans. The electromagnetic Universe's realities are coped with only instrumentally through macro step-up and micro step-down transformers of information.

"Therefore, I pointed out to the Habitat audiences that they should disregard their conditioned reflexes which spontaneously look only for immediately visible manifestation of new and improved ways of living,"

- Cite ACCOMODATING HUFAN UKSETTLEHENT, p,12; 20 Sep'76

"Form is no longer following function. Functions have become formless.**

- Cite RBF to Ron Goodfellow, Philadelphia, PA; 29 Jul*76

Form Cannot Follow Function: (1)

"Louis Sullivan employed the phrase 'form follows function' and it became seemingly most apt to Europeans developing this kind of simplified building. So form follows function is the phrase that most characterizes our cultural experience in the arts since the mid-twenties. . . More than a generation has been preoccupied at the cultural level with the idea that you do things in a very direct honest right way and that it should be visible how you do it. . /hen you learn how to do that in a becoming manner then form is following function. . •

"So the Germans said why can't we take this good logical kind of building. All it needs is a little refining. Give it a little cleanliness and we could give up all the orders of architecture and turn out something very pleasing in its own right, "on this began the Bauhaus kind of viewpoint and the development of architecture which is today called the international style."

- 'Cite OREGON UNIVERSITY Lecture '1, 19-20 - 1 July 1962

IBB OBBBHHMMIMHO Form cannot Follow Function: (2)

"One of the many characteristics of tensile strength is that you can't see it. . /hen we say form follows function and if a form is stronger then we ought to be able to see it. But alloys make it possible to do things with less. Therefore form is not following function at all. In the advanced technology form is not following function All the form is where you can see it. ible functions are invisible. There are not forms

following the functions at all. There is a great computer, it is just a black box. ..'hat does it do? You don't know what it does. There is no disclosure of the function whatsoever by the really advanced technology.

"In our cultural life we have been preoccupied with being very modern, conaoling ourselves, in fact boasting, that form follows function. »'e are being very frank, Je are not putting a lot of orders and decorations on here at all. But we are not being modern at all, -ie are being just the opposite and fooling ourselves because form cannot follow function. This is what we mean by the trend to invisibility,"

(Slightly adapted.)

- Cite OREGON UHIV-RLITY Lecture , 'j , pp. 21-22, 1 July »62

Form Cannot Follow Function:

See Tooloing of Domes, (3)

fora Follows Function:

See Form Cannot Follow Function

F_{prff} - Snnorlaiity;

See Form, 10 Oct'63

See Field of Cosmic Formabilities Formless Pattern Process Relationships Conformity Form - Sensoriality 1'odel vs. Form Uniform: Uniformity Nonform

See Aesthetics of Uniformity, (1)

RBF DbFINITIONS

Formless'

"I saw that, in the tides and in gavity, nature had accomplished a truly invisible, formless. structural tensional coherence."

- Citation at Coherence. 10 Oct*6j

See Amorphous Shapeless Nonform

roraulftUonQ:

"Scientists have often said that the most important part of their great discoveries occurred at the outset in the propWer formulation of the project's objectives, forgetting that those enlightened formulations were really the afterimage inducements of tail-end events of earlier and seeming failures of experimentation."

- Citation and context at Hudderlnz Sequence (6) 1y63

See Afterimage Formulation Lags Conceptual Formulation Equation
Inventory of Formulations &. Constants Problem: Statement of the
Problem Question Asking Trial Balance

See Imagination, Sep¹?!

Number Pattern, undated Pretending, 8 Apr'75

See Equation

Euler's Uncored Polyhedral Formula

Fprtrcfls K.entUlw

"The fortress mentality persisted for a long time. In World War I there were forts in New York Harbor. In World War II there was the Maginot line. And when I started in architecture in 1923 the whole idea was what was deep was beautiful. » . the depth of the reveal.

- Cite RBF to USAIF conference, Foreign Disaster Assistance Conference Room, State Dept, Wash, DC; 12 May'77

See Yesterday's Private Castle Mentality

Fortress Mentality:

(2)

See Human Unsettlement, (3)

See Inadvertence

Piano Top

Surprised

F9FtY QuegUons:

See Strategic Quest lone: Inventory Of

forward Pfiffn: Anerlca Hpg Been Thrown a Forward

See America, 22 Jul»71

52

Fossil Fuel*:

'Fifth Manifest is the spherical enmantling of biological residues

"As hydrocarbons are pressure transformed into coal and petroleum

"Which as fossil fuels stably store this cosmic energy harvest."

- citation at Manifest: Five, 1973

Fossil Fuels:

"Manifest Lumber Seven

Of Earth's cosmic functioning

Is its progressive geological submerging

Of the hydrocarbon residue concentrates

Buried ever more deeply and at increasing pressures

Either within the Earth's crust, or its hydrosphere, 'hereby these biological residues are chemically transformed Into rigid, liquid, or gaseous fossil fuels."

- Citation and context at Temperature of the Human Body (B), Jul»72
See Antientropy, (B)

**Cosmic vs. Terrestrial Accounting, (3) Sulfur, 12 Jun'6y rfind Power
Sequence, (3) Everybody's Business, (3) Building Industry, Til J**

Celestial Radiation Accumulators, 28 Apr'77
FgtaU Fuels:

See Energy Capital Main Engines of Universe

Foundation:
See Fundamental, 1 Feb'75
See Torua

Waterspout

Reverse Fountain Flow Water Fountain as System

**See Magnetic Field. May'49 Tree, 16 Feb'73 Wind Stress & Houses,
(9)**

RBF DEFINITIONS

Four:

"The number four is the beginning number and not th number one."

- Citation & context at System. 16 Feb'78

Four;

**"No insideness without four. Without four, no womb; no birth: no life...
the dawning awareness of the integrity of Universe,"**

- Citation t context at Natur_t_geralta It Sequence (3), 2? Dec'73

Four:

"...The mathematical fact remains that four is the minimum of realizable triangles that may be constructed if any are constructed.^{1*}

- Citation and context at Spherical Triangle Sequence (ii), 26 Jan
- 73

RBF DEFINITIONS

Four;

"There is a systematic interrelationship of basic fourness always accompanied by a Bimess of alternatives or freedoms.

- Citation and context at Pulsation. 9 Nov'72

Four:

"The number of vertices are always divisible by four in a structural system."

Cite P. PEARCE, Inventory of Concepts, June 1967.

KBF DEFINITIONS

 Four:

"One of the most typical tricks I hav found in humanity is to see the little small one /~triangle_7 and miss the big one and the big one is the one that counts. Then Itold him he drew four triangles. And he said, how did that happen? Well, they are spherical triangles and there is a concave little and a concave big as viewed from inside and a convex little and a convex big as viewed from outisde.

Convex and concave are not the same; so there are inherently four. In fact, you will always find that there are four there. Four is the minimum and when we get t oany kind of system there is always four there. You will get used to that fourness and get used to not allowing yourslef to become overconfined and looking at the little ones."

- Cite Oregon Lecture M, p.207, 10 Jun*62

Four:

. Experience may not be simultaneously recollected and reconsidered, but may be subdivided into plurality of locally tuneable event foci or 'pqfy-ts¹ of which a minimum of four positive and four negative points are required as a 'considerable set*'; that is, as a first finite subdivision of universe. (This fourness coincides with basic quanta strategy.)

- Cite INTRO, to UMNI DIRECTIONAL HALO, p. 125, I960

Four:

"Four is the minimum of triangles that may be constructed if any are constructed."

- Cite NOAH'S ARK, P. 3, 1950

"Polygonally all epherical surface systems are maximally reducible to omnitriangulation, thenabeing no polygon of leaser edges. And each of the surface triangles of spheres is the outer surface of a tetrahedron where the other thrde faces are always congruent with the interior faces of the three adjacent tetrahedra. Ergo, you have a four-face system in which it is clear that any four colors cduld take care of all possible adjacent conditions in such a manner as never to have the same colors occurring between two surface triangles, because each of the three inner surfaces of any tetrahedron integral four-color differentiation must be congruent with the same-colored interior faces of the three and only adjacent tetrahedra; ergo, the fourth color of each surface adjacent tetrahedra; ergo, the fourth color of each surface adjacent triangle must always be the one and only remaining different color of the four-color set system."

- Cite SYNERGETICS draft at Sec.541.20, 2J Sep'73

RBF DEFINITIONS

"In the four color theorem, three colors inwardly always break down into the tetrahedron with three faces inwardly and one outwardly »**

- Cite RBF to EJA, 3200 Idaho NW, 8 Feb*73

RHF DEFINITIONS

"The mathematical proof of the four color theorem is one of the unique discoveries of synergetics."

- Cite SYNERGETICS, Sec. 250.11 , 1971

. The omnitriangulatability of the geodesic sphere provides in its local face-to-face rotatability the solution to the age-long challenging four-color map problem."

(Edited and rearranged- EJA)

- Cite RBF Ur. to Shoji Sadao, '5 Feb. '66, p.5.

F.UT Color Thsarsm:

See Inter-triple-bonded

RBF DEFINITIONS

Four-D: 4-D:

"As a non-descriptive reference, 4 D being only the enigmatic term for time, do we use these characters as the trade mark of our industrial activity, occasioned by the new or correct basis of figuring of the infinity of time dimensions."

- Cite 4-1), TheTime Lock, Chapter 12, Kay, 1928

See Anonymity, 19 Dec'71 Tensegrity: Depolarized Orientation of Tensegrity Octahedron Universal Joint, (1) Depression: Great Depression of 1930's, (1) Primitive, 19 Jul'76

See Maet in the Earth, 10 Jul'62 Me Ball, 21 Jan'75

"Our inventory of intergeared mobility freedome is fourfold. It is four-dimensional:

- (1) omnidirectionality of united movement;
- (2) roll-aroundness (orbiting);
- (3) polarized evolving-and-involutng, and
- (4) inward-outward expandability, singly,

polarized spin; and

doubly, thre- or four-partite.

- Cite RBF rewrite of SYNERGETICS galleys at Sec. 411.34;

2 Nov'73

Four Interneared Mobility Freedoms:

See Degrees of Freedom it Bonding Four Degrees of Freedom Six
D_{orreee} of Freedom Twelve Universal Degrees of Freedom Motions: Six
Positive & Negative Dnergetic Functions Structural Functions

See Fireworks

Star Events

Four-square Scaffolding:

See Pattern, 2 Jul*62 Tetrahedron, Nov*71

See Firework#

Star Events

See Thought, 20 Jan'75 Tetrahedron. Nov¹'71 Structure, 3 Oct'72

"Tony Pugh'8 four-triangular circuits tensegrity relates to the four great circles of the vector equilibrium---the great circles generate! by the VE's eight triangular faces. It relates to the empty tetrahedron at the center."

- Cite RBF to EJA by telephone from Boulder, CO; in response to direct query from EJA; 6 Apr`77

Four-triangular circuits Tensegrity-

Pugh, Anthony holograph of 31 Jul*76 81033.019, 17 Aug'76

FQqrfpld TtfpnMS!

"There is a fourfold twoness: one of the exterior, cosmic finite ('nothingness') tetrahedron, i.e., the macrocosm outwardly complementing all ('something') systems and the interior microcosmic tetrahedron of nothingness complementing all conceptually thinkable and cosmically isolatable 'something' systems."

- Cite SYNERGETICS 2 draft at Sec. 223.07; 10 Nov'74

Four Unique Frequencies:

See Ninety-two Elements: Unique Frequency

See Mast in the Earth, 10 Jul'62

Minimum System, 1967

See Interrelationships: Fourness & Sixness Ninety-two Elements:
Four Unique Frequencies Primitive Fourness Quadrangular Quad-
rant Quadrivalent Tetrahedron: Four Unique Planes Positive 4.
Negative: Four Kinds Interconnection of Any Four Points Self &.
Otherness: Four Minimal Aspects Minimum Geometrical Fourness
Axis: Four-axial System Beginning Number

See Carrier Wave, 9 Mar*73

Consideration I960

Considerable Set, 1959

Disparate, 22 Iar'73

Domains of Lines, 19 Dec*73

Indig, 3 Iar*73

Information Transaction &. Valving Models, 9 Nov*73 Interrelation-
ships, 19 Dec*73

Interwave Behavior of Dumber, 29 Nov'72

Minimum Set, 18 Nov'72

Minimum System, 26 I'ia'y'72

Multiplication by Division, 4 Nov'73

Octave Wave, 5 Mar'73

Octahedron, 29 Kov'72; 16 Dec'73; 7 Mar'73

Omnilibrium, 19 Feb'72

Prime Enclosure, 17 Feb'73

Pulsation, 9 Nov'72*¹

Nature Permits It Sequence, (3)*

Number: Cosmically Absolute Numbers, 5 Mar'73

See Spherical Triangle Sequence (11)*

System, 10 Jul'62; 26 Dec'74? 2? May*72

Universe 16 Jun'72

Universal Joint: Tetrahedron. 9 Nov»73

Volumetric Awareness, 20 Feb*73

Zero Wave. 9 t.afc'73

A Priori Environment, (p.14) Fay* 72

Somethingness & Nothingness, 10 Nov'74

Hedra, 10 Apr'75

Octahedron Model of Doubleness of Unity, (1)•(3) Octahedron as Conservation ic Annihilation Model.

23 May*75

Halo Concept, Nov'71

Cosmic Hierarchy, 23 Jan'77

Human Beings i Complex Universe, (4) (7)*

System, 16 Feb'78*

See Four Color Theorem

Four-D: 4-D

Four Degrees of Freedom

Four Nonsimultaneous Rocket Bursts Four-square Scaffolding

Four Stars as Minimum Consideration

Four Stars: Four Star Affair

Four Unique Frequencies

Fourfold Twoness

Four Vectors Define Minimum System Four-triangular Circuits
Tensegrity Four Intergeared Mobility Freedoms

Fountewness:

"The very fourteenness of the octahedron, of the vector equilibrium's 14 faces and the 14 truncatable aspects of a tetrahedron . . . Four faces truncating its six edges plus four corners which can be truncated, making it 14. These are corresponding to the 14 facets of all the bubble associations and all the biological cells."

Cite KBF tape, Chicago, Blackstone Hotel, 1 June 1971 - p.

Fourteen:

"Closest packed spheres provide tetrahedra or truncated tetrahedra. Because $4 + 4 + 6 = 14$, truncating the four vertexes, plus four faces, plus six edges of the tetrahedron provides the fourteen faces of the vector equilibrium. High frequency agglomerations, asymmetrically truncated, account for all the shapes of all living tissue cell structures, as well as for all the shapes of bubble agglomerations, all of which are 14-faceted chambers."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes 1965, Figure &c, Caption, p. 82.

Fourteen:

"Two pairs of seven-ball, triangular sets of closest packed spheres precess to associate as the cube. . . .

This cube consists of 14 spheres whose number corresponds to the » 14 tetrahedral facets, the 14 faces of the vector equilibrium, and the 14 faces of Lord Kelvin's tetrakaidecahedron, the all-space-filling, 14-faceted symmetrical polyhedron of eight hexagons and six squares. The cube shown is the minimum cube which may be stably produced by closest packed spheres. Eight spheres will not close pack as a cube and are utterly unstable."

- Cite CONCEPTUALITY OF STRUCTURAL SYSTEMS, Ed. Kepes
1965, p. 84, Figure 7e, Caption. *

Fourteen:

"...All life cell structures, no matter how complex the total association may be, and all bubble complexes, are characterized by 14-faceted, webbed chambers, the *4 facets being an infinite variety of asymmetrical polygon sizings, but always of 14 facets. These 14 facets are then to be identified with the tetrahedron's four faces plus six edges plus four vertexes which prime aspects total fourteen. Tetrahedrons of very high frequency composition which result from piling up a triangular pyramid of ping pong balls, or of any spheres of the same size, can be truncated on each of their edges or each of their four vertexes by off balls--- which adds six facets and four facets, respectively, to the four original faces. By simply increasing the frequency of the basic layers of the spheres, the truncation of the edges or vertexes may be so patterned with the faces in such a manner as to result in 'any' polygonal shapes of a total of 14 faces."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed, Kepes
1965, p. 79.

RBF DEFINITIONS

Fourteen Axes of Truncated Tetrahedron; (1)

"The prime generation of the seven axes of symmetry derive from the truncation of the tetrahedron:

4 original faces

4 triangular truncated vertexes

6 quadrilateral truncated edges

14 faces of truncated tetrahedron, which produce seven unique pairs of parallel faces whose axes, perpendicular to their respective centers of area, generate the seven axes of all crystallographic symmetry.

"The seven unique axes of the three unique sets (4+4+6) producing the 14 planes of the truncated tetrahedron are also identifiable with;
--- the 14 planes that bound and enclosingly separate all the biological cells;

- Cite SYNERGETICS, 2nd. Ed. At Secs. 1041.10 -.12, 10 Feb'75

Fourteen Axes of Truncated Tetrahedron:

(2)

"--- the 14 Facets boundingly interbonding all bubblea in the bubble complexes; and

--- the 25 and 31 unique planes generated by the seven sets of foldable great circles, that are the only such foldably unbroken sets (i.e., the 3, 4, 6, and 12 sets of the vector equilibrium and the 6, 10, and 15 sets of the icosahedron).

"Various high frequencies of modular subdividings of the tetrahedron produce a wide variety of asymmetrical truncatabilities of the tetrahedron. The dynamics of symmetry may employ seven sets of the 56 foldable-great-circle variations of planar orientation. Thus it follows that both the biological cell arrays and the bubble arrays display vast varieties of asymmetries in their 14 enclosing planes, so much so that this set of interidentifiability with the 14 topological characteristics of tetrahedron, the prime structural system of Universe, have gone unnoticed until now."

- Cite SYNERGETICS, 2nd. Ed., at Secs. 1041.12 -.13, 10 Feb'75

See Bubbles

Carbon

Cube

Tetrakaidecahedron

Trigonometric Limit: First 14 Primes

Vector Equilibrium

See Closest Packing of Spheres, 1960 Crystallography, 14 Jan*74 Organics & the Nucleus, 28 May'72 Prime Numbers: Pairing Of. 17 Jan*74 Rollability of Polyhedra, 20 Dec*73 XYZ Quadrant at Center of Octahedron, 14 May*75 Self & Otherness: Four Minimal Aspects, 9 Jun'75 Stabilized Cube, 11 Jul'62

RDF DLFIIITIOKS

"Instead of 'three-dimensional'¹ we may say insideness-and- outsideness, or we may say four-dimensional, referring to the four planes of the tetrahedron.

"The vector equilibrium is inherently prefrequency with an a priori volume of 20 tetravolumes. The vector equilibrium is... a priori fourth powering."

- Citation & context at Starting with Divergence. 19 Feb'76
fourth Plane

"All four-dimensional patterning is controlled only by frequency and angle isodurability.*

- Citation and context at DMA. 19 Dec'73
Fourth Dimension:

"Arithmetical four-dimensionality is unidentifiable geometrically.

- Citation and context at Dimensionality (1), 28 Oct*73

"Nonpolar points, or localities, are four-dimensional--- inside out and three symmetrically Interacting, great-circle- ways-around--- producing spherical octation, with eight tetrahedra having three internal (central) angles and three external (spherical surface) angles each."

(See Nonpolar Points. 7 Nov*73 for revision of above- Ed.)

- Cite SYNERGETICS draft at Sec. 527.22, 29 Nov*72

"Planar is four-dimensionally referenced, being parallel to the four symmetrically interacting planes of the tetrahedron, vector equilibrium, and isotropic vector matrix. Planar and nonpolar-vertexMrt four-dimensionality accommodates and imposes the four positive, four negative, and neutral (nineness) of the operational interwave behavior of number."

Cite SYNERGETICS draft at Sec. 527.31, 29 Nov*72

``Four dimensionality evolves in omnisymmetric equality of radial and chordal rates of convergence and divergence, as well as in all symmetrically interparalleled dimensions.

All of synergetics' isotr\$Lc vector matrix field lines are geodesic and weave both four-dimensionally and omnisymmetrically amongst one another, for all available cosmic time without anywhere touching one another,"

- Cite SYNERGETICS draft at Sec. 966.03, 17 Nov'?2

"Time is no more the fourth dimension than it is the first second, or third dimension. No time: no dimension."

- Citation and context at Dimension, 21 Dec¹71

Fourth Dimension:

"Synergetics discloses the rational fourth. fifth, and sixth powering modelability of nature's coordinate transformings as referenced to the 60° equiangular isotropic vector equilibrium."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. *71

Fourth Dimension:

"Our omnioriented halo concept converts the parater consideration to symmetrically conceptual four dimensionality and discloses a set of parameters inside as well as outside the xone of lucidly considered star systems."

- Cite SYNERGETICS, "Halo Concept," Sec. 535.06., Nov. '71.

Fourth Dimension:

"a'hen we first look at the two unprecessed 60-ball halves of the 120-sphere tetrahedron our eyes tend to

be deceived, ' 'rfe tend to look at them 'three-dimensionally,' i.*», rectilinearly, and thus we do not immediately see

how we could bring two oblong quadrangular facets together with their long axes crossing one another at right angles. They come together in converging and diverging and not

in parallelism, rfe are dealing in a four-dimensional system.

/“See Synergetics Illustration ff k&.J

- Cite Oregon Lecture #7, p. 245, as re-written by RBF.

Beverly Hotel, New York, 14 Sept '71. Incorporated in SYNERGETICS draft /'arch '72 at Sec. 41S,1>

S'7.031

Fourth Dimension:

"That is one of the reasons why our eyes were deceived when we took the two halves of the 120-ball tetrahedron that were made out of 60 balls each.* We tended to look at them three- dimensionally, that is rectilinearly, and did not see how we could bring two oblong quadrangular facets together with their long axes crossing one anotheijat right angles. But they were coming together in converging and diverging and not in paralellism: We are dealing in a four-dimensional system."

- Cite rewrite of Fourth Dimension. 11 Jul'62, by RBF, 15 Sep'71

There are a minimum of four unique planes nonparallel to one another. The four planes of the tetrahedron can never be parallel to one another."

- Cite RBF to EJA, Beverly Hotel, N.Y., 14 Sept. 1971 'TETiteHroxov - Sec 62)
oy}

"It is a requirement of the above world-around mathematical convention that a fourth power, or fourth dimension, can be introduced into the system and expressed by the system only if a fourth axis can be found which converges intersectingly with the first three axes of the system at 90°, while not being parallel to any of the first three axes. Since no such fourth axis has been experimentally demonstrable in physical models, the fourth dimension, or fourth powering has been coped with by mathematicians as being purely imaginary, but calculable in abstract numerical processes. Inasmuch as (1) The 19th. Century science was confronted by fourth power energy relationships manifest in electromagnetics and related thermodynamics; and inasmuch as (2) The fourth power energy behaviors were experimentally reproducible at will; (3) the scientists identified physical reality with the experimentally demonstrable energy behaviors; and inasmuch as (4) the physical behaviors disclosed fourth power mathematical augmentation; and (5) physical models of fourth powers could not be demonstrated, science concluded that nature, or physical Universe energy behaviors and relationships were accomplished in a mysterious phase of Universe existing independently of humanity's conceptual models, ergo, were treatable with imaginary mathematical

- Cite RBF rewrite of SYNERGETICS draft at Sec. 771.14, Sep'71

"tools; ergo, nature's energy transformations were transacted mathematically but not geometrically."

- Cite RBF rewrite of SYNERGETICS draft at Sec. 771.14, Sep'71

HBF DtFIMTluhS

"You cannot demonstrate the fourth dimension with 90-degree models

- Cite RBF Lecture Town Hall. New York 12 March 1971

piwentuG . see. In.oil

Fourth Dimension:

"Time is not the fourth dimension and should not be so identified this was a misleading notion popularized when Einstein first became famous."

- Citation & context at Time. 1970 Incorporated in SYNERGETICS text at Sec. 529*06

"...That you are accustomed to thinking only in dots and lines and a little bit in areas does not defeat the fact that we live in omnidirectional space-time and that a four dimensional Universe provides ample individual freedoms for any contingencies • ''

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, p.132, 1969

Fourth Dimension:

"They are vector equilibrium models because their explosive and implosive forces are always equal, as is shown by their four dimensional hexagonal cross sections whose radial and circumferential vectors balance."

- Cite NhHRU SPEECH, p. 25, 13 Nev *69

Powe-tf.JC- - sec. T-? 4.0 V) ⁿ. . . Remember that the eight cubes around one point in space represent the three dimensions of 90 degreeeness. However, when dealing with the 60 degree coordination of tetrahedra, which are the volumes bound by the planes of four edge-Joined triangles, you will find that you can get fourth power or four dimensional¹ accommodation of space around a point as computed in the terms of linear module frequency of either radius or circumference of the pattern system (which also is to say that linear and angular accelerations are in one-to-one correspondence). You can get 20 tetrahedra around one point.

+ 2 - 20. Anyone using the tetrahedral concept in coordinating geometry and arithmetic would find that four dimension-ality is not an inconceivable or nonconceptual mystery, but a very simple, modelable and rational relationship arrived at by closest packing together of equi-volume tetrahedra around one point."

- Cite Conceptuality of Fundamental Structures (Kepes) p.72,1965

"The fourth power shows up to accommodate the first four primes."

- Cite Oregon Lecture #8, p. 289. 12 Jul '62

SF c.-ncToS]

"In an omnimotional Universe it is possible to take two moving systems which move four dimensionally /~See Synergetucs Illustration ,/63 J the way we saw four sets of wheels (eight wheels in all) moving perfectly comfortably. If we fasten one vector equilibrium to another pair of wheels immobilizing one of them and having an axis immobilized, the rest of the system can keep right on rolling around it. 3y fastening one such part of the Universe, literally, we don't stop the rest of the motion of Universe, in all other kinds of mechanical systems that we run into on a three-dimensional basis, if anything is blocked then everything is blocked.

Uh a four-dimensional system, not at all. '7e are able to have one local thing occur. -Ve can have two atoms Join one another perfectly well, and the rest of Universe can go right on ia its motion."

- Cite Oregon Lecture 7/7, p. 264. 11 Jul *62

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KBF DEFINITIONS

"That is one of the reasons why our eyes were deceived when we took the two halves of the 120-ball tetrahedron that were made out of 60 balls each. You tended to look tathem three-

dimensionally, and you did not see how

you could bring quadrangular facets together. But they were coming together in converging and diverging... We are dealing in a four-dimensional system."

(See citation of 15 Sep'71 for rewrite of above.)

- Cite Oregon Lecture {fl, p.245, 11 Jul'62

"The regular tetrahedron has four unique faces and so there are four unique perpendiculars to them and they make up a four dimensional system."

- Cite Oregon Lecture p. 259, 11 Jul*62

sFc~?zro<J]TP«wE«'-Jc SCC. TTt.oi'y

"... Four dimensionality Works in convergences and divergences and not in parallelism. Parallelism is uniquely characterising the three-dimensional system.

- Cite Oregon Lecture #7, P» 245* 11 Jul '62

See. 7J4.0?!

"Science had thought that it was impossible to be conceptual because it had felt that fourth dimensionality, which had been showing up time and again as an arithmetical behavior of the physics, could not be accommodated by the XYZ coordinate system and it can be coordinated by synergetic geometry. Why can it be? Because the vector equilibrium has a volume of 20. You can get eight cubes around one point and so the third power of two, which is eight, has used up all the space. But using the tetrahedra I can get a volume of 20 around one point as I do in the vector equilibrium. Mmattp Twenty is two to the fourth power plus two to the second power and it makes it quite possible to use models of fourth powering by using tetrahedroning.

"In fact, we find the vector equilibrium is unity because its edge module is one as is the cube the module of one. It is when it is one, when it is unity, that its volume is 20. When its edge module is two, it is two to the third power times 20, which is 160. and the volume is 160 where the edge module is two. It will accommodate very high powering, the sixth powering and so forth. It makes possible the actual modelling of the multi-powers. . « "

Clt. OHECONJ.ecture *tfb*, p. 233. ,0 Jul'62

FourthDimension:

"In the 1890's a fourth power relationships were beginning to show up in the physics and in relation to electromagnetic phenomena, but you couldn't make a model of it. . . . By using imaginary numbers, complex numbers, where the square root of minus one is going into yesterday one quadrant. they found they could accommodate the fourth power mathematically though they couldn't make a model of it."

Cite OREGON Lecture - p. 131 , 6 Jul '62

"Since every symmetric system contains a neutral axis, with polar points, it follows that Fuller identifies 'third powering' specifically with a symmetric swarm of points around and in addition to a neutral axial line of points. To find the total number of points collectively in all a system's layers, it is necessary to multiply the third power of the frequency by one of the first four prime numbers (times 2). Consequently these collections disclose a fourth power characteristic of the number of points in the symmetric swarm--- four dimensionality of total point population with reference to the frequency of the system."

- Cite MARKS, pp. 46-47, 1960

"All geodesic lines

weave four dimensionally amongst one another, forever, without touching one another.^{1*}

- Cite Collier's Itr, MCHALE, p. 114 Oct *59

RBF DEFINITIONS

"Fourth powering is Identified with interpolantal domain

volumes. . . ^w

Cite INTRODUCTION TO OMNIDIRECTIONAL HALO and SYNERGETICS "Corollaries," Sec. 240.44 and "Powering," Sec. MS. 774 11 1959

"Three dimensions invoked four-square scaffolding of civilisation which is o.k. at diminutive scale like a needle floating on water... as relative tension supports the otherwise untenable transgression of principle. ...

"Outbound point expands to fourth dimension: therefore is point annihilations and fissions at limits."

- Citation and context at Point: Outbound Point (1), 6 May'48

Fpurth DlnsnaIgn:

"A four-dimensional Universe from which universal dynamic •slip by* into three-dimensional aspects."

- Citation and context at Vector Equilibrium (1). Feb'48
KBF JxJ'tUfUhb

"This freed the scientist then without any need to explain to the writer what was going on. The scientists had been getting along very beautifully in our calculation about fourth power, fourth dimension, because we borrowed a little from tomorrow's clock. We do our problem, then we pay tomorrow back. You can't do that in the physical model, but you can do that on the paper mathematically. We can use the imaginary numbers, the square root of minus one, and so forth. So we get into no trouble at all just handling this with figures and algebra, so we can make a model. . . "

- Cite rtBF to Students International i.editation Seminar U. liass., Amherst, 22 July `71, p. 14

See Imaginary Number, Jun'66

Science: Gap Between Science &, the Humanities

Quantum Sequence,(1)

RDF DEFINITIONS

"You can completely spool-wrap all four faces of the tetrahedron ... endlessly wrapped as an omnidirectionally closed system. Ergo, we have a device for Mi recording all of the omnidirectionally occurring and observed data into a minimum system which is unwrappable into a flat ribbon printout with fourdimensional coordination."

- Citation <t context at Omnidirectional Typewriter (1), 10 Sep*74
Fourth-dimensional Desligi:

See Metal, Fay'28

Four-dimensional Force Diagram:

See Universal Vertex Center Model, 29 Apr*43

Fourth-dimension Limit:

See Equiangularity, 17 Nov'72

"Since the middle of the 19-th century it had been the confusion brought about by the succession of visible thermodynamics by invisible electrodynamics. The crisis was dramatized by the discovery that black bodies were demonstrated to have fourth-power rates of change. The trouble was that the world was accustomed to an eight-place omnidirectional clock (eight cubes around one point) instead of a 20-place omnidirectional clock (with 20 tetrahedra around one point. With the number 20 you can bring the the fourth dimension into modelability with no trouble at "It's been several years now since I made this point in a conversation with C.P. Snow in London and he was kind enough later to acknowledge in an article that 'an American architect had indeed shown him that the fourth dimension could be modelable.

Cite RBF to EJA, 200 Locust St., Philadelphia, PA, 24 Feb'75

See Jitterbug

Fourth Dimension: Regular Tetrahedron as Fourth Dimension Model

Triangular-cammed, In-out-and-around Jitterbug Model

See Hole in the Vltrola Disc, 24 Jan'75

Fourth Dimension; Projective Transformation:

"All other projections impose the advantage of one feature against the advantage of the other by trying to solve both convergence and parallelism by one grid. These resolved gore parts of the Dymaxion map, by treating these conditions separately, allow four-dimensional unwrapping of the sphere.

Cite FLUID GEOGRAPHY, 1*1, p. U1. Apr'U

Four-dimensional Reality:

"A plurality of points became the * building blocks¹ with which the mathematicians of the day before microscopes imaginatively constructed their lines. 'Lines' became the one-dimensional substanceless 'logs' which they floored together in their two-dimensional, planar, thicklessness •rafts.' Finally they stacked these planar rafts one-upon another to build a 'solid* three-dimensional 'cube,' but having none of the essential characteristics of four-dimensional reality---i.e., having neither temperature, weight, nor longevity."

- Cite SYNERGETICS 2 draft at Sec. 100.033; 30 Apr'77

Fourth Dimension: Regular Tetrahedron as Fourth Dimension Model:

"Since the outset of humanity's preoccupation exclusively with the XYZ coordinate system mathematicians have been accustomed to figuring the altitude of a triangle as a product of the base times one-third of its perpendicular altitude. And the volume of tetrahedra are arrived at by multiplying one-quarter of the height of the perpendicular to the base times the area of the base. But the tetrahedron has four uniquely symmetrical enclosing planes and its dimensions may be arrived at by the use of perpendicular heights above its four possible bases. That's what the fourth dimension system is: it is produced by the angular and size data arrived at by measuring the four perpendicular distances in respect to the centers of area of the four faces of a tetrahedron. As with the triangle, the perpendicular from the center of the tetrahedron's base triangle goes right through the tetrahedron's apex. The central angles converge at 109° 28'.

"The area of a triangle is arrived at by multiplying the length of the base line times one-third of the triangle's apex altitude. This is four dimensionality. A tetrahedron of a"

- Cite SYNERGETICS draft at Secs. 97t2±-+23, 27 Sep'72 [qtfc.zoj

~~JWXth~~ Dipension: Regular Tetrahedron As Fourth Dimension Model:
"given altitude with a base triangle of a given altitude is completely described. With these two coordinates alone we can describe any condition of the tetrahedron connecting any four points in the Universe."
J

- Cite SYNERGETICS draft at Secs. 971.22+23, 27 Sep'72

Fourth-dimensional Synergetics F>athematicg;

"Our synergetics mathematics is prospering.... We are challenging academia at its heart. We are saying that science requires experimental evidence and experimental proof---yet at the outset adopted mathematical tools that are not experimentally demonstrable.

"Science starts the children off by saying experience in the round is too complicated , 'so we will start off with plane geometry that is two-dimensional.* There is no Isolatable, demonstrable two-dimensionality. There are no solids, no continuums--- only discrete energy packages. Physics has found no straight lines, only waves. Universe operates four-dimensionally.

Physics employs only three-dimensional coordinates. Plane geometry employs rectilinearity and parallelism, when Universe has no parallels. Universe operates only convergently-divergently; that is, gravitationally and radiationally. Universe is always omnl dimensional and always intertransforming spontaneously

"The young world seems/prone to take on my □□□□ synergetics which is, fortunately, conceptual and sensorially testable, ergo experimentally evidenceable. There is no question in my mind any more that it is the coordinate system employed by Universe. Fortunately some great scientists now support me. This means a great revolution, really the greatest."

- Cite HUF Ltr. to Bill Strachan, Doubleday; 1Z» Dec'76

Fourth Dimension: Vector Equilibrium as Fourth-dimension

Q. "You say you think of the vector equilibrium as a

fourth-dimensional model¹? How can you say that?"

RBF: "The error is in assuming that your experience is

three-dimensional. You were given height, width, and length, but not heat, weight, longevity, and the others.

"The bicycle wheel model at the Cooper-Dewitt Exhibit shows how you have reciprocity with four dimensions. With only three axes the gears automatically block. You can brake or immobilize any one pair of the eight-bicycle-wheel model and the other six wheels keep rolling around: you can't do that in three dimensions.

"I didn't 'think' that the vector equilibrium was a fourth-dimensional model: I asserted that it was."

- Cite RDF to World Game Workshop'77; Phila., PA: 22 Jun'77

See Dimensional Supremacy

Powering: Fourth Powering

Tetrahedroning

Time is Not the Fourth Dimension

A Priori Four-dimensional Reality

See Atomic Computer Complex, (6)(7) Bonding Hierarchies. 19 Dec'73 Dimension, 21 Dec'71* Dimensionality, (1)* Equilangularity, 17 Nov'72 Gear Train: Locking & Blocking, 18 Nov'72 Gravity, (h) Halo Concept, 1960; Nov'71 Imaginary Number, 1968 Isotropic Vector Matrix, 9 Mar'73 DMA, 19 Dec'73* Nature Has No Separate Departments, 18 Mar'69 Nonpolar Points, 29 Nov'72: 7 Nov'73

Point: Outbound Point, (1)* Synergetics, (1) Tensegrity: Depolarized
Orientation of Tensegrity- Octahedron Universal Joint, (1){2} Time,
1970* Vector Equilibrium, 13 Nov'69; (1)* Cheese Tetrahedron, 20
Jan'75 Tetrascroll, (1)(2) Nature in a Corner, 12 Nov'75

See Multidimensional Accommodation, 11 Dec'75

Quantum Mechanics: Minimum Geometrical Fournasa, (1)

Three: Number Function of Three in a Four-axial
System, 24 Jan'76

Four Intergeared Mobility Freedoms, 2 Nov'73

Six Motion Freedoms Degreee of Freedom, (1)

See Fourth Dimension: Dorrowing from Tomorrow's Clock

Fourth-dimensional Coordination

Fourth-dimensional Design

Fourth-dimension Limit

Fourth-dimensional Modelablity

Fourth Dimension: Projective Transformation

Fourth Dimension: Regular Tetrahedron as Fourth Dimension Model

Fourth-dimensional Synergetics Mathematics

Four-dimensional Reality

Fourth Quantum:

"Life ie the fourth, now-you-see-it-now-you-don't quantum.

- Citation &. context at Life. 9 Jun'75

See Invisible Quantum as Tetrahelix Gap Closer Octahedron as
Conservation ft Annihilation Model Visible ft Invisible Tetrahedron as
Primitively Central to Life

See Octahedron as Photosynthesis Model, 11 Dec*75

Fowler t Gene;

See Montreal Expo '67 Dome Sequence, (4)(5)

Sunclipee, 1968

"Frequency is a multicyclic fractionation of unity,"

"A minimum of two cycles is essential to frequency fractionation."

"Angle is subcyclic— that is, fractionation of one angle,"

- Cite SYNERGETICS, "Corollaries," Sec, 240.51., 52, and .53. 1971

Er-acUoiatIng the 4igl;

(D

See Quantum Mechanic as Grand Strategy

Reduction of Myriadneas to Unity

See Proofs, J Nay* 77; S Aug` 77

See Angle: Pumping Fraction Factors

Rational Fractions

Rhombic Dodecahedron #2: Fractionated Sphere

Steel Plate Fractionation

Angular Fractionation

Subdivision: Subdivisibility

Halving

Dichotomy

Soln-halving

System-halving

See Distributive, 23 Sep'73

Equiangularity, 25 Sep'72

Modules: A & B Quanta, 10 Jul'62

Package, 23 Sep'73

Point: Outbound Point, 23 Sep'73

Quantum Mechanics: Grand Strategy. 1 Feb'75 Multiplication by Division, 20 Jan'77 Generalization i Special Case, 23 Jan'77

Frame:

"Every picture you've ever seen has been in a frame-- but there's no frame any more."

-Cite RdF to EJA, 3200 Idaho, Wash DC, 15 Dec*73

"Frame of reference: The system generates itself whenever there is an event. The system actually regenerates itself; it is an eternal re-birth system."

— Cite SYNERGETICS draft at Sec. 540.01, 24 Sep'73

"Thus we realize conceptually the ever-self-regenerative, omnidealized, eternal Integrity of the utterly metaphysical, timeless, weightless, zerophase geometric frame of transformations referencing function which is served by the vector equilibrium in respect to which all the aberrational dimensioning of all realisation of the variety of relative durations sensorial lags, recalls, and imaginings are formulatively referenced to differentiate-out into the special-case local experiences of the eternal Scenario Universe which each of us identifies to ourselves as the 'Shape of Things' which each individual sees differently yet ever intuits to be rigorously referenced to an invisibly perfect prototype in pure principle, in respect to which only approachable but never realizable •understanding* of one of us by others occurs: 'And it Came to Pass,'"

- Cite SYNERGETICS, 'Jitterbug as Energetic Model " Sec. 2,64,08 4 Oct'72

"The expression 'frame' of reference is not only 'square' as imputed by the language of youth, but its two-dimensional 3-D axes of reference, such as XYZ coordinates, require inept exclusively rectilinear defining uncharacteristic of the omniwavilinear orbiting Universe events, wherein science has not found any continuous surfaces, solids or straight lines or infinitely extensible nonclosed-system planes."

- Cite SYNERGETICS draft at Sec 1001 .OT, 27 Feb *72 Qsj

RBF DEFINITIONS

"The metaphysically permitted frame of reference for all the asymmetrical physical experience of humanity is characterized by the 60-degree coordination with which synergetics explores nature's behaviors--- metaphysical or physical.**

(Later context at Vector Equilibrium: Field of Energy. (C))

- Cite RBF dictation for SYNERGETICS. Beverly Hotel, New York 28 Feb. *71, Seew Sec. 205.S- of Oct. »71.

(>'+1

"The vector equilibrium is absolutely dead center of Universe and will never be seen by man in any physical experience--- yet it is the frame of reference. And it is not in rotation and it is sizeless and timeless. .
, "

- 15X«tape_jtninscri>t RBF to BOTH, Carbondale Dome, J May 1971
- Citation at Vector Equilibrium; 1 May'71

"Synergetics' six positive and six negative, omnisymmetrical potential realization, least effort interpatterning, evolutionary schemata reference frames are spontaneously reinstituted and regenerated in respect to specific local energy event developments and interrelationships of Universe

- Cite RBF corrections to SYNERGETICS galley at Sec. 2L0.41 28 Oct'73

See Twelve Universal Degrees of Freedom, 19 Nov'74

See Dimensional Reference Frame Dynamic Frame of Reference Field
Grid Raft Rectilinear Frame Sixty-degree Modulatability No Static
Frame of Reference Scheme of Reference Synergetics Calculation
XYZ Coordinate System Omnidirectional Frame of Reference

See Assumptions. 1946

Eternity (1J

Isotropic Vector Matrix, 16 Feb'73

Nucleus (1)

Science: Pure &, Applied, 14 Sep'?1

Spherical Tetrahedron, 10 Sep*74

Synergetics Calculation, 17 Nov'72

Vector Equilibrium, 1 May'71*

Twelve Universal Degrees of Freedom, 19 Nov'74

Scan-transmission of Pattern Integrities, 22 Jun'77

RBF DEFINITIONS

Framework:

"The frame of a structure for enclosing space, or the frame of a roof, wall or floor; used to distinguish from individual frame components of a roof, wall or floor, so as to denote the whole as distinguished from its parts."

- Cite Patent No. 2,986,241. Fay 30, 1961 SYNERGETIC BUILDING CONSTRUCTION

Framework:

"The frame of a structure for enclosing space; may
be skeletal, as when made of interconnecting struts;

or continuous, as when made of interlocking or interconnecting
sheets or plates."

- Cite Patent No. 2,682,235, June 29, 1954 BUILDING CONSTRUCTION

Frsas: Framework:

ID

See Moving Picture .

Scaffold: Scaffolding

Scenario

Sculpture as Single Frame

Single Frame

Vector Equilibrium Frame

Basic Raft

Hyperbolic Paraboloid

Outline

Window

fiſas: QanmzV (2)

See Jitterbug, 25 Feb'69

Polyhedron 1 Jan*75

Conceptuality, 22 Oct'72

Somethingness & Nothingness, 9 Jun*75

Tetrascroll, (1)

Frequency Islands of Perception, 13 Nov'75 Scenario Universe, 18 Sep'74

Energy Environment-harvesting Machines, 27 Jan'77

Frankenstein;

"Mechanisms are the antithesis of the Frankenstein concept.

- Citation and context at Technology. 1947

Frankenatein:

(1)

See

Techip.ogy:

Enchantment VB. **Disenchantment**

Frankland: Edward Frankland:

Linus Pauling "said there was a man named Frankland who was the first man working in organic chemistry who began to take notice that whatever was going on in the way of things associating seemed to have to do with the numbers on, two, three and four. Those were the only numbers that seemed to appear in the relationships."

- Cite Oregon Lecture *jf2_t* p. 73, * 2 Jul *62

Franklin: Ben:

"Franklin was very much an operational man, first a baker and then a printer. Being involved with production in your early life is a very important kind of experience. And then he became interested in economics and homely philosophy. Anyone who is really involved in discovering principles which help other people determine how they should behave, whether Franklin or Mao, is seeking to find those generalized principles governing sociology, which even to this day has failed to discover any such laws ranking with those of science.

"If Franklin had been a large landowner, I'm sure he would never have had the creativity. I'm sure he counseled himself to be as simple as possible and to concern himself with just the truth."

A Procos Ben

- Cite RBF to EJA: context at Fuller. R.B.: Franklin, 22 Jan*73

Freedom:

Stephen M, Pike paper, p.66: "Wherein 11 ee freedom? It lies nowhere and everywhere at the same instance. It lies in the concept of self and its relationship to other,..."

RBF Marginalis: Freedom "is vectorlally six positive and

six negative equieconomical degrees of freedom at each turn

- Cite RdF marginalia on Pike's paper "Geometrodynamics of Thought," ; Jan'77

Freedom:

"What do we really mean by freedom? We often hear it said that it is freedom of thought, but there is freedom of thought in Russia. People think and no one can stop them from thinking. . . Possibly a real difference ie a freedom of initiative."

- Cite Oregon Lecture #4, p. 125. 6 Jul*62

See Cosmic Freedoms

Degrees of Freedom

Free Will

Initial Freedoms

Loss: Discovery Through Loss

Man's Degrees of Freedom of Action

Motion Freedom

Individual Freedom vs. Mutual Emergency Event Freedoms Star Event

Degrees of Freedom Intergear Mobility Freedoms

See Sixness, 9 Nov'72

(2)

Understanding, 1 Apr'49

free Energy ya. Structure:

See Triangle, 1960

See Business: Businessmen

Capitalism

Enterprise

Private Enterprise

Regenerative Economic Sustenance

See Industrialisation, 1947

Status Quo, 15

Propaganda, 29 Mar'77

Technology: Enchantment vs. Disenchantment, (4)(5)

Freeways:

'The slower we get the more crowded we get.. As we leave an airport and get out onto a freeway we have the preposterousness of running in lines in opposite directions at 65 mile per hour five feet apart--- with everybody practicing steering, A decade from now this will look rather silly. With current technological trending in omnidirectional transport we will finish our great highway programs just in time to turn them into some kind of roller skating rink.'

- Cite THE YEAR 2000, San Jose State Mar'66 College

Freeways:

"It doesn't take long before the politicians begin to catch on that those people want automobiles very badly, they are very envious of the rich man who has them. They all dream of self locomotion ever covering larger patterns. They realize they would be very popular and get re-elected if they build some highways. So quite independent of what it is going to cost, they set about to build wMhighways. They don't have to worry about the costs the way the business executives do. We then see that highway building is really a very big activity, covering a lot of land and is not specialized at all. It is quite a generalized affair. . . We have the politician really coordinating the capabilities of corporations, all of which are integrated for special purposes."

Freeways:

See City

Highways

Inventions as Lifeways of Human Behavior

Traffic

Free Will:

' while alternatively events experienced by

"The Couplers literally couple 'everything, permitting all the varieties of realisable humans as the sensation of *frst Wil?*

- Cite RBF rewrite of SYNERGETICS galley at See. 954.50, 20 Dee'73

Free Will:

"In order then to have a Universe where you have all this regeneration, yet having antaImoat infinite number of degrees of choice and selections and very high frequency chances to make new channels and new actions--- the kind of experience nan really finds he does seen to have:

a certain kind of free will."

- Cite RBF Tape for CHARAS, "Everybody's Business Taped 14 March 1971 Beverly Hotel, New fork EJA Transcript, p. 5.

"...Evolution pivots on the conscious selective use of cumulative human experience and on inherent freedoms of action.

* Citation & context at Lvolution, (p.10) I960

Free Will:

"Man, in degrees beyond all other creatures known to him, consciously participates--- albeit meagerly--- in the selective mutations and accelerations of his own evolution This is accomplished as a subordinate modification and a component function of his sum total relative dynamic equilibrium as he speeds within the comprehensive and complex interactions of Universe (which he alludes to locally as environment.)"

- Cite TOTAL THINKING, I&I, p. 225. May*49

Free Will;

"Through technology alone the creative individual can of free will arrange for the continuing preservation of mankind, despite individual man's frustrating propensities Mechanisms are the antithesis of the Frankenstein concept. They represent the direct and only means of articulation of free will. Mechanisms can only be operated by man."

- Citation and context at Technology. 1947

"...Evolution pivots on the conscious selective use of cumulative human experience and on inherent freedoms of action, not on Darwin's hypothesis of chance adaptation to survival and assumption of evolution independent of individual will and design.**

- Citation context at Evolution, (p.10) 1960

free Will: H)

See Degrees of Freedom

Determinability: Optimum Degrees Of

Determinism

Discretion

Electable: Elective

Free Will vs. Darwin's Determinism

Kan's Conscious Participation in Evolution

Option

Responsibility

Self-starter

Success

Voluntary vs Involuntary Will Volition

See Evolution, 1960* Individuality. May'65 Technology, 1947* Freedom, Jan'77

Freezing the Unrxsza&le
See Plastic Flowers, Oct'70
See Frozen Kensuration

Ice

Cryogenics

Frequency:

"Frequency does not begin until you have modular subdivision.

- Citation *k* context at Quantum Sequence, (4), 23 Jun'75

"But frequency, as a word key to a functional concept, never relates to the word one because frequency obviously involves some plurality of events. As a one-frequency, ergo sub-frequency, system, the vector equilibrium is really subsize, or ^a size-independent conceptual

integrity. Therefore, frequency begins with two--- where all the radials would have two increments. When the edge module of a cube is one, its volume is eight. But When the edge module of a vector equilibrium is one, its volume is 20. A nuclear system is subsize, subfrequency. Equilibrium unity is 20; its minimum frequency state

is $160 \gg 2 \times 5^*$ This is one of the properties of 60-degree coordination."

_ Cite RBF rewrite of SYNERGETICS galley at Sec. 431.03 2 Nov'73

Frequency:

"•Frequency is operationally realized modular subdivision of the system enclosure."

- Citation and context at Prime State. 21 Mar*73

Frequency:

"Time is frequency...**

Frequency;

"Frequency the minimum

begins with three-- with triangle, which is cyclic enclosed circuitry."

- Citation at Triangle. 17 Feb*73

Frequency;

"Special case always has frequency and time

- Citation at Special Case. 1? Feb'73

EmvencY:

"All the isotropic Vector matrix identifications of experience are expressible in terms of angle and frequency. . . The frequencies are all special-case, time-space limited specifics and identify relative sizes and magnitudes of eternally conceptual generalisations.¹

- Citation and context at Isotropic Vector Matrix, 16 Feb'73

Frequency:

"Electromagnetic frequencies of systems are sometimes complex, but they always exist in complementation of gravitational forces and together provide prime rational integer characteristics in all physical systems."

- Citation and context at Package. 17 Nov'72

Frequency:

"The frequency of any system is determined by the isotropic, omni-intertriangulated, omnidirectionally considerate, vectorially modulated, subdivision enumeration of the system's radial and geodesically chorded circumferential closure's totally relevant involvement limits taken in respect to the system's independent event regenerating center. Because of the required omnitriangulation and isotropicity systems are inherently modulated only by equiangular-equilateral triangles and their regenerative center is that

of the vector equilibrium wherefore the radial and circumferentially chorded time-size, i.e., frequency wavelength modules subdivision, by which alone system frequency may be determined, are always identical."

- SYNERGETICS text at Sec. 515.02, 15 Oct'72

Frequency:

In "the frequency of the vector equilibrium... we witness experientially the quantum propagation of radiant wave after radiant wave identifiable with given wavelengths and frequencies of embracements."

- Cite RBF rewrite of SYNERGETICS at Sec. 445.06; 22 Jun'72

Frequency;

"You have to have division of the line to have frequency, ergo to have time."

— m fluVPi¹ Ku- T. ..X —1-2 '2/7 ,

- Citation 4. context at Bow Ties: Genesie 0f_T 12 Sep'71

Frequency;

"Frequency begin. with two. Frequency and Site are the same phenomena."

- Cite RBF to EJA, Bear Island, 23 August 1971, Synergetics Sept. '71 draft, Sec. 882.1

Frequency:

"Because there are no experimentally known 'continuums,* we cannot concede validity to the concept of continuous •surfaces' or of continuous •solids.' The dimensional characteristics we used to refer to as 'areas' and 'volumes,' which are always the second- and third-power values of linear increments, we can now identify

experimentally, arithmetically, and geometrically only as quantum units that aggregate as points, both in system-egbracing areal aggregates and within systems as volume-occupant aggregates. The areal and volumetric quanta of separately islanded 'points' are always accountable numerically as the second and third powers of the frequency of modular subdivision of the system's radial or circumferential vectors."

- Cite SYNERGETICS text at Sec. 515.011; RBF draft of Jun'71

Frequency:

"Frequency is plural unity. Frequency is a multicyclic fractionation of unity. A minimum of two cycles is essential to frequency fractionation. Frequency means a discrete plurality of cycles within a given greater cyclic increment, "In closest packing of spheres, frequency is the number of spaces between the balls, not the number of balls. In closest packing, frequency is equal to radius."

- Cite SYNERGETICS text at Secs. 515.30-.31; draft of Jun'71

Frequency:

"Where frequency is one ... it just means it isn't frequent.

Which means frequency must be two or more. In the vector equilibrium where frequency is one, there is only one interval: the first layer -10F²+2-12. Twelve balls of the first layer. The center ball has a value of tan two for inside- out side, convex-concave: terminal condition. But the center ball's frequency is sero."

- RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971.

Ffteowfucf of 'T —**sec.** 445"- 03]

Frequency:

in closest-packing "frequency is the space between the balls and not the balls."

- RBF TO EJa on telephone from
Los Angeles January 1971

Frequency:

"The physical Universe is an aggregate of frequencies. Each element is uniquely identifiable in the electromagnetic spectrum by its frequencies. None if them resemble each other and their interactions bring about other unique cycles and frequencies which act like great musical chords. We have a great orchestration which grows from the micro which are absolutely nondetect- able by the human senses to the very complex which are in terms of the whole galaxies. In fact the human senses are only able to tune in to about a millionth of the total known realm of identities of phenomena. Thus comes the awareness of the physical giving the metaphysical employment--- to apply its extraordinary sorting capability."

- ~~Cite RBF-Preface-for Francis-Warner, pp.3-4. -Undated.~~
- Citation and context at Eternal Slowdown (2)(3), 1970

Frequency:

"Each local system has its own orbiting and its own frequencies, and so forth. .. "

- Citation and context at Relative Asymmetry Sequence (1), Jun'69

Frequency:

"We can say frequency to the second power, or radius to the second power. Frequency I like because the frequency modulus subdivision is either the radius or the edge.

"Physics has found that there are two fundamental kinds of acceleration; linear and angular. . . . Then we find that the linear and the angular are the same. Now my word frequency embraces them both, both linear and angular. Now we have all the physics coming together and we can take care of the orbits and linears in the same language known as frequency."

- Cite RBF to Verner Smythe, NYC, Reel 1, p.2, 11 Far'69

Frequency:

"Squares and triangles can be subdivided into greater and greater numbers of similar units. The number of modular subdivisions along any edge can be referred to as the frequency of a given square or triangle. In triangular grids each vertex may be expanded to become a circle or sphere sowing the inherent relationship between closest packed spheres and triangulation. The frequency of triangular arrays of spheres in planes is determined by counting the number of intervals, rather than the number of spheres on a given edge." - Cite Caption to Synergetics Illustration / 50. May'67

Frequency;

"Electromagnetic frequencies of systems are sometimes complex but always constitute the prime rational integer characteristics of physical systems."

- Cite NASA Speech, p. * 91, Jun'66

Frequency:

"The cyclicly moduled length of the edge of any triangulated, special case, structural system can represent the basic 'standard' of relative comparison on a recycling basis of subdivision. Each increment is one unit of frequency and each increment is one unit of wave."

- QdXB-41A & A~S pffgch t PT-
- Citation at Cycle. Jun'6b

Frequency:

"We find all the hierarchy of all the crystallizations to be rationally developed in respect to the prime system. This hierarchy always can be topologically analysed in the terms of two polar vertexes which we call the additive twoness and a concave-convex multiplicative twoness, after the removal of both of which twonesses we find a constant iaa relative abundance of one vertex plus two faces and three edges times one of the first four prime numbers, times frequency of modular subdivision to the second power, frequency being the modular subdivision of the basic edges of the tetrahedron, octahedron and icosahedron."

('spherical" omitted from last sequence.)

- Cite NASA Speech, p. 90. Jun'66

Frequency:

"Experimentally demonstrable cyclic regularities, such as frequencies of the occurrence of radiation emissions of various atomic isotopes, become the fundamental time increment references of relative size measurements of elemental phenomena,"

- TXve-N£*A Speech, jn—Jun'66
- ~ Citationat Time. Jun*66

Frequency:

"The number of spheres along the edge of the icosahedron is always one more than the frequency of modular subdivisions of the icosahedron's linear edge."

- Cite RBF Ltr. to Dr. Robt. W. Horne, 1 Dec '65, p. 1.

RAF DEFINITIONS

Frequency;

"The word frequency would never relate to the word one, incidentally, because frequency involves some plurality of events. Therefore, frequency would begin at two. ... we have to have frequencies for size. Therefore vector equilibrium is really subsiie. • • • Looking at vector equilibrium as unity--- all the domain of a point ... we find that it has a volume of 480."

* Cite OREGON Lecture #8, p. 286. 12 Jul'62

Frequency:

In closest packing of spheres "we discover that the number of balls in any one layer, we could call it frequency or radius, because we have found that they are the same words.

Cite OREGON Lecture p. 239. 11 Jul'62

Frequency:

"Frequency means a discrete plurality of cycles within a given greater cyclic increment."

- Cite OMNIDIRECTIONAL HALO. p. 144_f 1960

Frequency:

- Cite OKNIDIDHECTIONAL HALU, p. 144,1960

Frequency:

"Frequency is a multi-eyelie fractionation of unity.

A minimum of two cycles are essential to frequency fractionation.

Arithmetical else dimensionality is identified geometrically with relative frequency modulation."

□ Cite COLLIER'S, p. 114 , Oct'59

Frequency Accounting:

See Distance, 16 Nov'72 Unit, Jul'71

ImUfiOCx: Alternate Wavelength Frequency;

"So the whole complex which is Intimate and comprehensive to all our great circlings and their foldabilities and the coeniic railroad tracks and holding circuits and alternate wavelength frequencies which they provide. . . "

- Citation and context at Atomic Computer Com>lqf 19 Apr'73

See Pattern Generalization, (1)

See Unit, Jul*71

Frequency fc Gravity;

See Prime .tacionai Integers, Jun'ro; /E jiy'72

Frequency; Half Frequency:

"The fundamental fiveness is introduced with the initial (frequency is $1/2$, i.e., in equilibrium, that is, poised between $1/2$ positive and $1/2$ negative) vector equilibrium interiorly defining the nuclear sphere where the vector equilibrium's volume - 2.5 (i.e., $5/2$) and the two-frequency eightfold volumetric increase is 20."

Cite SYNERGETICS draft at Sec. 527.53, 29 Nov'72

"The omni-interactions impina*on your nervous system in all manner of frequencies--- some so high as to appear 'solid' things, some so slow as seeming to be 'absolute voids.' "

- Citation at Halo Concept, 25 Apr*71*
- Oil TYMirnrirTTr* ilillfu, nCuiiLLptualityflup|llM~lCt>r

See Energy Magnitudes: Order Of Fast k Slow

Push-pull: Push Wave & Pull Wave

See Divide k Conquer Sequence. (1) Halo Concept, 25 Apr'71*»
Jun*71 Specialization, 26 Apr'71 Spheric Experience, 20 Feb'73
Thinking, 12 Mar'71 Tuning, 20 Jan'75 Cartilage vs. Bone, Dec'61
Periodic Experience, (9) Mass, 12 May'77

See Density □ High Frequency Ultra

See Telepathy. 29 Jun¹72; May*72

Womb Population, (2)

Nine, 16 Mar ` 75

Tune-in-ability, 5 Jun*75

Thinks. 11 Aug* 7&

Geodesic Domes. 24 Jan'58

Eyes, 1964

Electromagnetic Transmission of Human Organisms,

4 Jun'77

Frequency integrity;

See Triangular Topology Integrity

Frequency *b*. Interval:

See Relative Volumetric Frequency t Interval

"Though the diameter of Betelguesm in Orion's Belt is greater than the diameter of the Planet Earth's orbit around the Sun, Betelguese appears to Earthians only as a fine point of light. As in the rate of information recall by the mind from brain storage, there is also an inherent lag in the rate of human optical apprehending of newly perceived phenomena. The pulsa- tive frequency of alternating current

electric light at 60 cycles per second is designedly frequenced to coincide with the frequency corresponding to humans' 'second look' stroboscopic rate of apprehending. In a like manner the frequency rate of cinema's picture-frame running is synchronized to coincide with the rate of mental-mouthful digestability of new information receptivity which must check the new information with the old to permit recognition or new cognition. The static frames themselves---as in benday screen printing---are frequency-subdivided into local increments whose wavelength-spacing is infra- tunable by the human-brain-apprehending set. The human brain apprehending at 200 info-bits per inch appears as omnicontinuous despite the separate frequency islands of their different color light points, each of which is an island of different electromag netic frequencies. All of the spots are frequency islands like events and novents."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 2b0.22; 13 Nov*75

See Invisibility of Macro- and Micro Resolutions, (1)(2)

See Photon: Tetra Edge as Unit Radius, 17 Jan*74 Tensegrity: Unlimited Frequency or Geodesic Tensegrlties, (6)

"Wave magnitude and frequency are experimentally interlocked as cofunctions, and both are experimentally gear-locked with energy quanta."

- Cite SYNERGETICS text at Sec. 515.33; from NASA Speech (p.100) Jun'66

See Irrelevancies: Dismissal Of

Slower & Closer vs, Faster &. Far Apart

Rates &. Magnitudes

Frequency & Wave

See Environment Controls (1) Inbreeding, 28 Apr'71 Social Adjustment, Feb'72 Tetrahedron: Coordinate Symmetry, Nov'71 Unitary Conceptuality, 22 Oct'72 Thinking, 12 Jul'62 Order, 7 Nov'73 Radiation, 11 Feb'76

See Electromagnetic Transmutation of Human Organisms. h Jun'77

"This is what science has discovered: a world of waves in which waves are interpenetrated by waves in frequency modulation."

- Citation and context at Pulsation, 9 Nov'72

Frequency Modulation:

. All bodies of Universe are affecting the other bodies in varying degrees and all the intergravitational effects are precessional angular modulations, and all the interradiation effects are frequency modulations."

'There are only two possible covariables operative in all design in universe. They are modifications of angle and frequency."

- Ctt»-UUX1ATO Jun'66

- Citation at Covariables. 20 Jun'66

"By designedly synchronized frequency of reoccurrence of their constituent event patterning a machine gun's bullets may be projected through a given point in the rotational patterning of an airplane's propeller blades. Such purposeful synchronization of alternate occupation at a point by first a bullet and then a propeller blade, and repeat, is called frequency modulation, which avoids interference since all physical phenomena from largest to the smallest consist of frequencies of reoccurrence of otherwise discontinuous events. All physical phenomena are subject to frequency modulating avoidance or use of interference patterns.'*

- Cite NASA Speech, p. j>0, Jun'6b
 - Gita CmON.lALri-WXT IV_r 3? -
- For later citation see Synchronization. Apr'71

"Frequency modulation is accomplished through precession* shunted circuit synchronization. 'Valving' is angular shunting. Competent design is predicated upon frequency modulation by application of the precessional shunting principle."

- Citation and context at Shunting: Relative Motion Patterns (H, 1955
See Angle & Frequency Modulation Circuit Design Covariables: Principle Of Shunt Size Dimensionality Tunability Modular Subdivision Synchronization

See Experience, 1960

Plural Unity, 1960

Pulsation, 9 Nov*72*

Radiation-gravitation, Oct'66*

Shunting; Relative Motion Patterns, (1)*

Thinking, i960

Vector Equilibrium, 10 Nov'74

Covariables, 20 Jun'66*

Compoundings of Systems, 10 May'76

Frequency an One:

See Omnidirectional Terminal Case Corner, 13 NOT*75

ItMiwnBy.Z Pat:

See Frequency, 12 Jul'62

See Frequency, 11 Jul¹62; Jun'71
Radial Depth, 20 Dec'74

Frequency & Wave;

"Wave as a constant topological aspect is exclusively defined by angle, conceptually independent of frequency; ergo, frequency is the additional special case fifth characteristic: the generalization realized in time."

(81072.31)

- Cite SYNERGETICS, 2nd. Ed., RBF Ms. at Sec. 1072.31; 19 Dec*74

RBF DEFINITIONS

Frequency and Wave:

"Frequency and wave are covarably coupled; detection of one discloses the other."

- Cite SYNERGETICS draft at Sec. 223.90, 26 Sep'73

"The number of waves longitudinally accomplished in a given time constitutes frequency."

- Cite RBF rewrite of SYNERGETICS Ms. at Sec. 240.23, Haverford, PA, 11 Oct'71

"Wave magnitude and frequency are experimentally interlocked as cofunctions and both are experimentally gear locked with energy quanta."

- Cite NASA Speech, p.100, Jun'66
- Later Citation at Frequency & Wave. Jun*66

See .fave-frequency Relations

Radial-circumferential

Frequency & Magnitude

.favelength, Frequency &. Resonance

Relative Volumetric Frequency & Interval

Electromagnetic *fave Propagation

See Inflection, Mar'71

Tetrahedron: Coordinate Symmetry, Nov'71 Cycle, Jun'66

Isotropic Vector Matrix, (p.J2) undated In, Out 4 Around Experiences,
(1) Repetitive, 28 May'75 Metaphor, 2 Jul'75 Pole Vaulter, 2 Jul*75
Vector Equilibrium: Field of Energy, (C)(D) Vector Equilibrium: Unar-
ticulated VE, 2 Nov'73 Halo Concept, Jun'71 Feedback, 7 Nov'75 Or-
der &. Disorder, 1y64

Circumferential Modular Frequency Growth

Cyclic Experience

Dimensionality - Radial Depth - Frequency

Energetic Frequency

Equi-interval

Family of Unique Frequencies

Generalized Topological Definability

Initial Frequency

Measurment Frequency

Mass & Frequency

Ninety-two Elements: Unique Frequencies

Omnifrequency

Prefrequency

Rate

Spun Frequency

Subfrequency

Tensegrity: Unlimited Frequency of Geodesic

Tensegrities

Time-size

Radial-circumferential Modular Growth

See Topological Aspects: Inventory Of

Unique Frequencies

Wave-frequency Aberrations

Wave-frequency Relations

Wavelength k Frequency Event System

Zero Frequency

Infinity = Frequency

Rates & Frequencies

Frequencyless

Relative Volumetric Frequency & Interval

Radial ..ave 1'odular Growth

Interference c; Noninterference

See Behavioral States, May'72

Conceptuality Independent of Size 4 Time, 2 Jun*74

Cycle, Jun'66*

Dimension. 16 Nov'72

Eternal Slowdown (2)0)*
 Einstein, 16 Nov'72
 Integral, 11 Mar'69
 Isotropic Vector Matrix, 16 Feb'7J*
 Line Between Two Sphere Centers, 12 Sep'71
 Nature, Dec'?2
 Nonlimit, 16 Nov'72
 Package, 17 Nov'72*
 Prime State, 21 Mar'73*
 Relative Asymmetry Sequence (1)*
 Resolution, 5 Jul'62
 Resonance, 18 Jun'71
 Bow Ties: Genesis Of, 12 Sep'71*
 Life, May*49

See Seven Axes of Symmetry. 13 May'73

Special Case. 17 Feb'?**
 Tidal, May'72
 Time, 16 Nov*72; 6 Mar'73*» Jun*66; (1)
 Touch, 29 Dec'53
 Tunability, 16 Nov'72
 Individual Universe, 0)(2)
 Quantum Sequence, (4)*
 Prime Rational Integer Characteristics, Jun*66
 General Systems Theory, (1)

Machines vs. Structures, 13 Nov*75

Seven Minimum Topological Aspects, 12 Feb'76

Primitive, 18 Jul'76

See Frequency Accountable

Frequency: Alternate Wavelength Frequency Frequency Congruence

Frequency - Experienced Physical Energy

Frequency: Half

Frequency: High

Frequency: High k. Low

Frequency Integrity

Frequency Limit

Frequency t Magnitude

Frequency Modulation

Frequency / One

Frequency • Radius

Frequency & Wave

Frequency Islands of Perception

Frequency as One

Frequency Ac Gravity

Frenuency lk>del Frequency <: Interval

See Awavilinear Koninterfenable J.'nnint erefence Uninterfenable

FrffflugncYlgggi

(2)

See Gravity, 11 Feb*76

Freah;

`` The parent tells the child 'Don't be Fresh!' when fresh is just what speech should be. , . ``

- Cite RBF to EJA, 3200 Idaho. Washington. 3 October 1971.

Fresh:

See Resources: Fresh

. Waste

Freud. Sigmund; (1856-1939)

See Responsibility, Dec*69> 14 Oct'69

Friction:

. Local physical systems Are always exporting energy In one manner or another, Such as by friction."

- Cite RBF DpaXt-, BRAIN & MIND

Friction:

"Where Friction is dominant

there time is winning out over energy."

- Cite SECOND HAND GOD. P. 46

9 Apr'40

Friction:

See Interfriction

Friction:

See Love, 30 Nov'60

Froe:

See Snake Swallowing Frog

tomtict: hsisxAw

(i)

See Fuller, R.B: As Harbinger of Society Outlaw Area

Frontier; Frontierinz:

(2)

See Floating City, Aug'72

Rearrange the Scenery (1) Intellect, 1972 Public Relations, 28 Jan'75

Genius: Children Are Born Geniues,(2)

cm

Front OITled Switchboard: Universal Mind'a:

See Intuition: Hot Line Of, 15 Aug'72

Frost: Robert:

Q. "I understand you were rediscovering Robert Frost the other night?"

A. `` Yes. I had some antipathy to Frost. I felt him to be too obvious. I was very pleased the other night to find myself really intrigued with some of his subtleties. I was very pleased to find myself wrong; all along I couldn't understand how my fellow men could think so much of this man while I thought so little of him. . . "

- Cite "Books and Buckminster Fuller," by Mitael J. Bandler, BOOK WORLD, 11 Jun'72

Frost: Robert:

"I had always had some kind of an antipathy to Frost.

It all just seemed part of the New England language and so obvious that it didn't get me at all. But reading him now I am intrigued with some of his subtlety. I was very pleased to find that I was wrong. I had assumed that I was wrong. . . that I had just read the wrong samples, since I knew my fellow man had though he was such a good poet.'

- Cite RBF to Hike Handler, 'dash. Post, 'Portrait of a Fan Reading,' 3200 Idaho, Wash DC, 29 May'72

Frost: Robert:

"Frost writes of the wavering and oscillations of local truth, which he identifies very well--- and it made him very popular--- but he doesn't go anywhere with it."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 25 May'72

frozen Mensuration of the Pant:

See Synergetic Constant, (2)

Fruit:

"We tend to applaud only the flower and the fruit .

- Citation and context at Organic Model. Oct'66

Fruit:

See Apple Banana Oranges

See SSRCD

Fudging:

*** If nature uses jji she has to do what we call fudging of her design, which means improvising, compromisingly."**

- Citation and context at Bubbles in the Wake of a Shin

See Cosmic Accounting Sequence. (4)

Windmill, (2)

Wind Power Sequence, (1)

See Alcohol as Fuel

Feed

Fossil Fuels

Chemical Fueling

Celestial Radiation Accumulators

Fireplace Log

See Lever

Oar: Vacuum-fulcrumed Oars

Earth Model as a Bundle of Nutcrackers Interfulcrum

See Buckle, 10 Nov*73

Curvature: Simple, (1)

Fuller Brush M_n:

See Rearrange the Scenery, (2)

fuller, Mat-garat:

See Conversation Sequence, (1)

FULLER, R.B. PERSONAL REFERENCES

Fuller, Allegra:

See Conversation Sequence, (1)(2) Cosmic Fish Sequence, (1) Lecturing, (1)

Fuller, R.B.: Alexandra Theme:

(1)

See; Brain and Hind, pp. 159-161

i-usewutns as instruments of Education in the New devolution j'y initial Teleological Preoccupations (i&l Uh. #1), Pp. o - 10,

Later Development of Ey Work,* (I&l), Pp. 4a - 50.

S11.L Address, u.i-ass., Amherst, 22 July *71, Talk 13, p. 5, et. seq.

RcSIGWINfr A NEW INPUSTRy, P. 1\$), J. c_{ape} „a, .VrtTTS TAPE, p, 33
et. seq. 19 Oct '70 HOUSE & GARDEN, p. 198, May '72

INFLUENCES ON MY WORK, pp.22-25, 141, Jan'55

TEXT CITATIONS

ZXLUr, Alexandra Thane:

(2)

RBF - Michael Ben Ell Interview, AD, Dec*72

Fuller, R.B.: Alexandra Theme:

See Natural, 20 Jan*75 Telepathy, 2 Jun'71

Fuller, R.B: I am Apolitical:

Q: (Sen. Humphrey): "What do you think we politicana should do?"

A: (RBF) "I really do not have any suggestions because my whole way of thinking is apolitical. I think in terms of artifacts, of reforming the environment and not of reforming humans by laws. I am just very proud that you wish to have me come and speak, and I know all of you and am moved by your sincerity.

- Cite RBF in committee transcript, US Senate, 15 May*75

aaISE, KsMx: His Associate,: *k CXuttvrs*: Ctwfoer Of:

See Skwmwi Deputies

Cosmic Fish Sequence Applewhite, E.J: Sublimation, 21 Oct*71

Fuller, R*B: H_i_s_ Aversion to Artistic Exploitation of Synergetics Models:

"On the 'artistic' use of synergetics models, I am not talking about what other people may do; I am just saying that I don't do it myself."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 5 May'74

H)

Hie Aversion to Artistic Exploitation of Synergeticsf Models:

Fuller: R.B.:

See Tensegrity: Depolarized Orientation of Tensegrity- Octahedron Universal Joint Synergetics: Effect on Art and Architecture Aesthetics: Invisible Aesthetics Objets d*art

Octet Truss in Yale Apt Gallery Invisible Aesthetics

BULsr: frtB; Pooka R_c^ad in Hla Youth;

"The books I enjoyed in my youth were: 'Robin Hood* 'The Faerie Queen,* Shakespeare, Dickens, 'Quo Vadis,* and John Galsworthy.'*

- Cite ATTACKS OF TASTE, Ed. by Evelyn B. Byrne and Otto M. Penxler, Gotham Book Mart, NYC, 1971

Fuller. Kxl: Books, Read in Hie Youth:

See Philosophy, 11 Aug'76

Reading Out Loud, 29 May'72

NOW-AN COUSINS QUOTATION

Fuller. R.B.;

Cousins_f Norman: Inscription to RBF:

` ` On a wall in his office at Southern Illinois University, Carbondale, Illinois, I saw a photograph of the boot of Italy taken from a plane, seeming to show the earth's curvature. His friend Norman Cousins, former editor of Saturday Review (later to launch a new review. World) sent it, inscribed:

. of all the human beings I know,

You have liberated yourself most from earth constrictions--- not just specific gravity but general modes of fixed thought.'"

- From JHOLi-Y RLUND,p.121, Holt, Rinehart «c Wionton, NY, 1973 by Rasa Gustaitis.

^{Fu}U?r, R.J.J.: Commitment to Humanity. 1927-1932;

See Artifacts. (1)

Dyamxion Artifacts, (1)

Fuller_r R.B: On Creativity:

"There've been Bucky Fullers that were going to Hell, I'll tell you! And some that were going to Heaven, too! It's always touch and go . . . Because what I'm saying is there--- it had to be there in advance. . . We have a billion potentials."

(BO'ft Comment: The latter part of this remark refers to RBF's view that there is no such thing as 'creativity' --- everything is already there and it is imply up to us to discover it--- or rediscover it--- actually.)

- Cite RBF to BU'k, Kent, Ohio, 2 J i-ay'72

Fuller. R.B: Crisis of 1927:

"...I realized how facile at popping off things that others had given me; so for ten years I didn't use words to see if I could really understand what I was WHHHi thinking."

- RBF quote recorded by Neva Kaiser as shown on screen at Harvard Commencement & reunions, June'75

"Dear Ked:

"I thank you very much for letting me know about the college endowment program which is an excellent one.

**i want you to know a little bit about my own case. I do not have any securities or interest-bearing business investments, m 1927 I committed myself for the rest of my life to undertaking the solution of problems which were not being attended to by others which experience taught me would, if effectively solved, greatly advantage society and if left unattended, would bring about comprehensive disadvantage for all.

"There was no one to pay me for these tasks. No direct bargaining could be undertaken. I saw that the Universe operated regeneratively on an indirect, complex circuitry of intersupport.

"All biological life on Earth is sustained exclusively by star (bun) radiation. The radiation is vegetation-imposed by photosynthetic chemistry, which proliferates hydrocarbon molecules.*

- Cite KBF Ltr. to Robt. H. Davison, Boston, 12 Jun'73
RB; Crisis of 1927: (c)

"of inadvertently to the cyclically regenerative functioning, I would find myself surviving without direct accountability and only by surprise income sources. This 46-year-old assumption seems to have proven valid as the sums of money which have come to me annually have just about matched my ever-increased funding of original research and development. For the last 20 years the income has averaged greater than \$150,000 a year, all of which I have reinvested in further research, ergo, no savings,

"I have not attended directly to developing any income for my heirs. I have, however, inadvertently developed income for them because of the 12 books I have written and published, royalties from which will accrue to them for some time. This means that I do not have any of the guaranteed income-producing capabilities of many amongst our classmates who I am confident will be able to participate in the new endowment program. As I have done throughout all the last 56 years, I will keep on giving annually to Harvard until I die, and will try to increase the giving.

I hope that whatever benefit I may be to Harvard accrues to the work I have done. I know that some of my books are already used by Harvard classes."

- Cite RBF Ltr. to Robt. H. Davison, Boston, 12 Jun'73
Fuller. R«B: Crisis of 1927?

"To avoid dehydration by Sun exposure the vegetation puts down roots through which, by osmosis, it draws water through its whole system, launching that water into the atmosphere to return some day as rain.

"The vegetation gives off gases that keep the animals going. The mammals give off the gases that keep the vegetation going. Honey bees going after their honey only inadvertently cross-pollinate the vegetation, which vegetation being rooted, could not reach other vegetation to procreate its Kind, in the same way the money-bee (sic), humans, going after their profit inadvertently cross-proliferated general production tooling but only for warmaking, which all inadvertently in due course provided swiftly amplifying, world-around life support not foreseen by the money bee when underwriting the development of arms production.

"I saw that all living organisms were given genetically incisive drives which, in their accomplishment, inadvertently fed into the complex regenerative pattern of life on planet Earth which has now come to be known integratedly as ecology.

"I decided 11 1927 to assume that if I attended directly, instead*

- Cite RBF Ltr. to Robt. H. Davison, Boston, 12 Jun'73

"I hope that in /eager degree I am fulfilling William James's •The purpose of life is to spend it for something that outlives you,' I pray that this makes my position clear.

Affectionately and faithfully yours,

H, Buckminster Fuller."

Mr. Robert H. Davison Haussermann, Davison & Shattuck Fifteen
State Street

Boston, Massachusetts 02109

- Cite RBF Ltr. to Robt H, Davison, Boston, 12 Jun'73

*When I was 22 a major change came about in my life. Up to then I had been conditioned, both lovingly and harshly, to live in accord with inspirations, biases, values, concepts, resolves, laws, loyalties, and credos evolved by others.

"In 1927, I resolved to do my own thinking, and see what the individual starting without any money or credit-- in fact, with considerable discredit, but with a whole lot of experience--- to see what the individual, with a wife and new-born child, could produce on behalf of his fellow men, I have been in this second stage of my life for approximately half a century now."

- Cite RBF interview by Michael Ben-Eli, AD, Dec'72

Fuller, R.B.: Crisis of 1927: (1)

"I felt I was a low-average man. It occurred to me that the world was largely made up of people precisely like that. So I resolved to determine if there was something the little Individual could do to help his fellow man, to see if there was something the individual could do that all the vast corporations couldn't. . .

"There is nothing in the system of checks and balances of giant corporations that produces a breakthrough. We keep the system going by deliberately introducing inefficiency. • •

"Humanity has been doing the right things but for the wrong reasons. We're told that the Golden Rule is beautiful and all that, but the hard economic fact is that there's not enough to go around. It's you or the other guy. I tried very hard to play that game until I was 32. But I discovered then that I wasn't doing my own thinking, according to the rules of the game, I was told I was impractical. So I tried to open up again the valves of sensitivity. I resolved to discipline myself not to talk to anyone else unless they asked me. . . and then to give them my very best insights."

- Cite RBF to 'Im. C. Lyon, Philadelphia Inquirer, 1 Nov'72

Fuller, R.B.: Crisis of 1927:

(2)

"You see, we spend so much time trying to persuade others to see things as we do that we don't really listen to each other. And we must be economical with our time. . . It's so short. . . I try to overcome my own reflex. . . the way we act in moments of stress. . . to see things not as I was convinced they were yesterday, but as I found them, even if they are different--- today."

- Cite RBF to Wm. C. Lyon, Philadelphia Enquirer, 1 Nov*72

"Thia / the birth of Allegra 7 precipitated my absolute determination to peel off. I had really been through a great deal. But I had gone into Harvard with high honors in physics. I had very rich boyhood experience with boats. In my Navy, I had looked into electronics, the chemistries, and navigation. I had papers to command unlimited tonnage on the ocean. I could fly. But I had kept pushing things, trying them out. And it always seemed to come to a dead end, I decided I'd better call myself to account, with this new child to care for. Or get myself out of the way, because I was a mess.

"This is really where I started. I was not called an architect. I was not called anything. I was simply faced with the problem of organizing myself and really starting to use me* I had to educate myself in a great many ways to pursue such a course. But I found it's actually possible for an individual to make first moves, and that these will incite various others."

- Cite RBF to William Farlin, Architectural Forum, Feb*72

BW, flrjlg 1927: (B)

"So I said to myself, 'If this gets anywhere it's going to take 50 years and unless you're willing to spend 50 years, don't touch it. Because it's too important. It's too big and right. Don't flub this one, or you'll discourage a lot of others coming along.'

"I said to myself, 'What can I do to help my fellow man without trespassing on him?'"

"Let's say you're looking at me. But I can see behind you. And a rock is tumbling downhill and it's going to hit you in the head. Let's say I divert it. You'd have been killed if I hadn't. You didn't even know you were going to be killed. You might say 'Why did you do that? I wanted to die.' Well, I would say, 'Then jump out that window over there. There are many ways for you to die if that's what you really want.' But I want you to have the option of saying whether you want

- Cite RBF to William Marlin, Architectural Forum, Feb*72
faller. R.B.: Crisis of 1927:

"At the age of 32 I decided to reorganize my effectiveness-** to recapture the capabilities we were born with."

- Cite RDF to EJA, New York, April '71

"I resolved to apply the rest of my life to converting my pattern sense, through teleological principle into design and prototyping developments governing the pertinent, but as yet unattended essential industrial network functions, necessary to removal of such housing chaos by physically effective and lasting technology. As a corollary I resolved to eschew further acceptance of conventional recourse to political or moral reforms which, lacking physical energy effectiveness, must in the face of physical inadequacy adopt peaceful or forceful palliation through political action... I sought only to allow myself to articulate my own innate motivational integrity instead of trying to accommodate everybody else's prefabricated credos, educational theories, romances and mores as had occurred in my first life!"

— RBF interview in "Friends," (London) 14 Apr'70 "In 1927 I gave up forever what I thought was a fallacy of most of my contemporaries-- in fact, it seemed to me all of my contemporaries. They all said: 'I have to earn a living.' And that had the highest priority in what they were studying at school. The phrase 'earning a living' I thought was wrong. The words really meant you had to prove your right to live; you had to prove that you were worth living; in the face of Darwin and Malthus, there was nowtr near enough to go round and survival only of the fittest. And I felt that all this was wrong, so I said in 1927: I'm going to give up forever this concept of proving my right to live. I'm going to find out what it is that I've experienced, that I see needs to be done, that nobody else is attending to and that my experience tells me I know how to solve. Most people were attending to very narrow things; therefore it forced me to concentrate on big things, and employ the biggest pattern-comprehending capability with which we are all born."

- Cite RBF in "The Listener," transcript by John Donat, 26 Sep'68
JtuF UtFIM'i'IOhS

"While both Anne and Allegra know that in 192? I fave up entirely the idea of trying to use my capabilities to develop special economic and physical advantage for them and instead committed myself to the proposition that if those whom I love were indeed the kwind of human beings I thought-them to be that they would not like finding themselves in a position of special economic and physical adavantage won at the cost of deprivation of others and likewise that their true happiness could only develop through an awareness that our efforts were always In the direction of progressively increasing advanstage for all humans without any biases whatsoever."

- Cite KdF Ltr. to Gene Fowler, 6 June 1967.

Fuller. R.B.: Crisis of 1927:

SIMS Address, U.Mass., Talk 13, pp.4-8, 22 Jul '71

Designing A New Industry, p. 155 (J. Cape, Ed.) 1946

Mexico '63, p.9 et. seq., 10 Oct *63

Museums Keynote Address, Denver, pp.4-6ff.

New Yorker Profile, 8 Jan *66

Fuller, R.B: Crisis of 1927:

(D)

See Dymaxion Outset

Blind Date with Principle

Commitment to Humanity

Thinking: Doing Your O_{TO} Thinking

Fuller, R.B: Moratorium on Speech

Fuller. R.B: Crisis of 1927:

(2A)

See Architecture, 2 Jul'62 Boltzmann Sequence, (2)-(4) Desovereignization Sequence, (1) Doing './hat Needs to be Done, 26 Jan'75 Dome: Montreal Expo'67 Dome Sequence. (2) Environment Events Hierarchy, (1)-(3) Dome: Rationale for the Geodesic Dome, (i)(2) Equilibrium, 2\$ Feb'69 Geodesic Dome, (1) Gravity, 15 Oct'64 Individual Economic Initiative. Dec'72 Industrialization: Curve Of, (1) Intuition Sequence, (i) Invisible Man, 22 Jul*71 I-ian as Local Problem Solver, (1) Navy Sequence, (7) Question Answering, Sep'73 Reflexes, 2 Jun'71 Reform of Environment Rather than Reform of Man,

10 Oct'63

Fuller. R.B; Crisis of 1927:

(2B)

See Robin Hood Spouence, (1H2) Thinking, (1); 12 Jul'62 Words, Jun' Psychiatry, {1}~(5)

FULL?r» RtB» ? HJfl Discovery and Disclosure of Coordinate Svsten Of
Universe

See Synergetics, 1959

Energetic/Synergetic Geometry: Original Publication in 1944

KxB: Discoveries of 1913:

See Calculus, (2)

Nature Has No Separate Departments, May¹72

Fuller. R.B; Decision to Be a Doer. Not a Perauader:

See Anonymity, 19 Dec'71

Design, 1970

Dome: Rationale For, (1)(2)

Rearrange the Scenery, (2)

Reform of Environment Rather Than Reform of Man

10 Oct'63

Philosophy, 1946

Supreme Intellect, 3 Nov*64

~~fuller.~~ SAB • PuPrinklrr. Lliquor:

Q. "la it true that you used to drink? Why did you

do it?"

RBF: "In the 1910s when I had that great resnonsiblility

of exploring our highest scientific capabilities.., when I had the burden
of proving that politics just might be invalid.

I had to regard myself as the custodian---but not the proprietor of the
rules of Universe, and not JUst our little local rules called politics.

"I did not want to be a leader, playing the political game. But this was in the depths of the depression when I sometimes got a decent meal only every two or three days and when some of them in the street didn't get that much. And I found that people listening to my ideas started treating me as a messiah, as some kind of guru---and I didn't want that so I deliberately took to drink and when the people saw me stumbling out of bars or coming out of a brothel and things like that, well I can tell you that it shook off all those disciples all right."

Cite RBF to World Game Workshop*77; Philadelphia, PA; 22 Jun*77

RBF PERSONAL REFERENCES

Fuller, R.B: Ecological Predictions of 1927?

*It was 50 years ago when I started my projections of what the world was going to be up against, but 50 years ago no one was interested in what was going to happen 50 years from then."

- Cite RBF to World Game Workshop*77; Philadelphia, PA; 22 Jun*77

?.DF PERSONAL REFERENCES

Fuller, R.B: Ecological Prediction of 1927:

See Dymaxion Artifacts, (1) Ecology, Dec*72

K.B. Fuller & FIMTULIS

Fuller, R.B.: Ego's Desire to Avoid an Unnatural Epitaph:

See American *HM| 22 July '71

Fuller, R.B.: Meeting with Einstein:

"The Listener", 26 Sep'68 - Transcript of interview with Robert Donat

Fuller, R.B: Energetic Geometry: I Began the Search in 1917:

See Acceleration of Change (1) Cyclic Unity, 20 Jun'66 Invention Sequence (A) Newton vs. Einstein (1)

Fuller, R.B.: Described as Engineer-Saint:

"I regard Bucky as one of the world's most valuable natural resources and I hope that the main function of the Institute will be to conserve that resource. • • I think he's valuable because he's in a unique position: he inspires hope among the young people, and this is absolutely essential because we now have this curious malaise among the young--- interested in astrology, mysticism, and witchcraft and this sort of nonsense, which, you know, could be a sign of a disintegrating civilization. • . he is one of the people who inspire hope among the next generation upon whom everything depends. I hope I won't embarrass him by repeating my description of him.

I think he's the world's first engineer-saint."

- Cite Arthur Clarke at DSI Press Conference, NYC, 28 Jun'72

Fuller, Qg 'ferner Erhard & MV

Q. "You say that Werner Erhard and est are all on

the side of youth, truth, and love. Why?"

RBF: »I have never studied eat and so I cannot talk about it. I know Werner Erhard as a fcood huimn beln.**

- Cite RBF to World Game Workshop'77' Phila., PA; 22 Jun'77

RBF JFINITluNS

foXler. ILB.; nig A<M?gi9n. .gf. Err.?r.?

"Both Hugh Kenner and thia professor at Stanford have pointed out my mistake In dating the publication and recognition of i-althus's work. I will write them both and thank them. But I have already made the first amende of public admission of my error at a great university— when I opened my tai* yesterday at Harvard, at the Faculty Club, toiling them that I have beenwrong about the dates.

First of all I welcome corrections, but at Fortune I got into the habit of being casual about dates because we always had researchers to check everything. I talked to the head of the East India Company studies about this. Even though palthus didn't get his degree till later, he had access to all the facts and figures. And the

people around him recognised that his first surmise— about population— was so valid that he really had earned his professorship, long before it was actually awarded. As far as that date goes. ... It is a part of my personal discipline to make a public acknowledgement of my errors, it's not a question of excusing myself. There's no vacuum in Universe about this: your face is what it is. The welcoming of attention to error is of the greatest 'importance.'¹

- Cite RDF to EJA on telephone from Somerset Club, Boston, 1 Kar*72

Fuller, R.B: His Admission of Error:

See Error, 5 Feb*77 Frost, Robert, 11 Jun*72

Fuller; fkb: fijg Imaginative ^EVYP1Q19K1?S :

**My capacity. mycaPaceT. Pace - peace, ca - against.

- RBF to EJA on returning from men's room to pot of tea at Royal Scots Grill, NY, 20 Jun'72

Fuller: K.B.: His Imaginative Etymologies:

See Realm: Real: Royal

(1)

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Consider

Fittest

Real. 20 Apr '72

CipKer

Algebra

Funambulist

Sinus

Education. May'49

Fiscal Lunatic

Stpry-TelMnfi 18 Jul'72 Wizard, 18 Jul'72 Octet Truss. 8 Jan'55 Inhibit. 29 Oct'72
Enterprise. 28 Nov*72 Touch. 29 Dec'5S

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Division. I960

Truss, 25 Jan'73

House, 1938 shelter, 1938

Noun. 1938

Talent (1)

Menauratloq, Aug>73 Vessel

**.Logistics, 10 Dec'73 Confusion □ Fusing Phoenician, 28 Jan'75 Sin, 7
Nov'75**

HBF DEFINITIONS

Fuller. Jkfis Hla Imaginative EtvnoloKlMt (3)

See Penis. 12 Jan*74

Geometry, 1 Oct•71

Phoenician Phonetic Sequence, 23 Jan*75 Navy Phonetic Sequence.

23 Jan*75 Veritas, 7 Nov'75

Expensive □ Nonthinking, 24 Jan'76

Polygon, 14 Oct'76

Triclinic. 31 Aug'76

Understanding, 30 Sep'76

Fuller, R.B: Evidence Published by Others: Qualified Acceptance Of:

See Octahedron: Eighth-octahedra, (1)

Greater Intellect, (1)

Fuller. R.B; Hla Eyeajght:

"My color aenae without glasses--- or before I wore then as a kid--- is always heightened by the lack of detailed definition,"

- Cite RBF to World Cane Workshop, Phila. PA., 22 Jun»75

"Now I don't think ill of any of my fallow man. Each one has hia own evolutionary pattern; but I am intent, wherever I can, to free my fellow men of their entrapment in ignornace and shortsightedness.^{1'}

- Citation and context at Pollution: Infinite. Roon to.Pollutey 22 Jul`71

Fuller. R.B.: Meeting with Fernandez-Moran: (1)

Bill Lear had arranged for RBF to meet (fnu) Fernandex-Moran. Director of the Fermi Laboratory, University of Chicago. Thia was also the site of RBF's one-day meeting with Cyril Stanley Smith in 1950. RBF also recalled that Fernandez-Moran was at MIT at the same time RBF was--- 1955* At the invitation of Fernandez-Moran RBF met with him and hia top people in the Chicago Laboratory, from 8.30 - 10.30 a.m., 5 Apr'73.

"They showed me everything they had--- the largest superconductor in the world, their laser diamond cutter, absolute zero conditions with no energy loss at all. There was a man named Wolf who had won the Scott Medal in Philadelphia and was the head of the electron microscope work in the laboratory. Wolf was the top mathematician at

Cambridge. Fernandez-Moran and Wolf said that RBF's mathematical discoveries were really confirmed by the latest developments in nuclear physics. They said that Fuller ranked with Einstein and Dirac as the only other two men whom they knew in their lifetime to make original mathematical discoveries of such significance. (They said Dirac was as mean as was Einstein modest and generous.) They ranked me with Einstein and Dirac as most important personal"

- Cite RBF on telephone from Palatine, Illinois, to EJA, 5 Apr'73

Fuller: R.B.: Meeting with Fernandez-Moran: (2)

"acquaintances. I said to them that radiation has shadow while gravitational does not. They said that was true but that no one had ever said that to them before. I said that second powering relates to points and not to surfaces. And they understood and they said that that was so. . .

"They said they had known of my work for many years, since the 1940`s--- before World War II,

"With their holography they were able to make models of concentric spheres getting smaller and smaller. And I told them about spherics and there is a rhombic dodecahedron around every point in the isotropic vector matrix. I explained my billboard model successively activating each point in an isotropic vector matrix. They understood. And I told them about the 'Coupler' and how the center of the face of the rhombic dodecahedron is congruent with the center of volume of the asymmetric octahedronal 'Coupler'; it has eight faces and brings in the octave system, with the value of one,... The interior octahedron of the vector equilibrium made up entirely of energy-conflerving A Quanta Modules..."

- Cite RBF on telephone from Palatine, Illinois to EJA, 5 Apr'73

"It was the head of the Soviet Academy of Scientists who first made the comparison of RBF with Edison and Franklin.

"He gave the summary address to the 100 guests of the final formal dinner of the 1961 10-day 'Dartmouth Conference' held that year in Leningrad, between what the Russians called the leading representatives of across-the-board fields of the USA and USSR economied with 30 Russians and 25 USA's partici

pating. Amongst the USA team of 25 were Arthur Larsen, Norman Cousins. Dr. Paul Dudley White (cardiologist), James Michener (author), John Galbraith, Norton Simon, David Rockefeller and B. Fuller. The Russian team had five of its science academicians—

also their leading philosophers, writers, economists, sociologists, the head of the moving picture institute, and the editor of Pravda. Both sides had the representatives of their air sefvices and the professional disarmament negotiators.

"It was decided by both teams and mutually agreed between them not to have a final summary of the proceedings. Instead, on the last day's morning a Russian team member would to make a comprehensive forecast of world affairs, and in the afternoon"

- Cite RBF to EJA, 200 Locust, Phila., 22 Jan'73, as rewritten by ' * BRU'

"Che USA member would make his comprehensive forecast which, to some extent, would disclose what hope the meetings might have engendered or not discouraged. The head Russian meteorologist gave the Russian prognostication and B.F. the USA,

"Referring to B, Fuller's prognostication which had received applause from both sides, the President of the USSR Academy of Sciences made the statement that, as a consequence of my prognostication and my domes and map that henceforth I would be ranked in the USSR with Edison and Franklin.

Franklin was very much an operational man, first a baker and then a printer. Being involved with production in your early life is a very important kind of experience. And then he became interested in economics and homely philosophy. Anyone who is really involved in discovering principles which help other people determine how they should behave, whether Franklin or Mao, is seeking to find those generalized principles governing sociology, which even to this day has failed to discover any such laws ranking with those of science."

RBF. - Cite RBF to EJA, 200 Locust, Phila., 22 Jan'73, as rewritten by

"If MFranklin had been a large landowner, I'm sure he would never have had the creativity. I'm sure he counseled himself to be as simple as possible and to concern himself with just the truth.

"It's like what Jasper Moore once said to me about why I would never be a success. He said you are always trying to make things simple, when the first rule of success is to try to make things complicated."

- Cite RBF to EXA., 200 Locust, Phila., (as rewritten by RBF), 22 Jan'73

: Oft GallX Pf.Mfg:

"I met with Bruce Carrick today from lac mi Ilan and I told him that Thornton Wilder (who was a mathematician though many people didn't know it) said that my mathematics book--- if it is right--- would be more important than Newton's.-"Principle." ... Now we know that

it is right and 8® tactically it is more important than the "Principle"---
the Greatest Book. I talked Navy to him as a young man and told him
I was rather miffed at being stood up for lunch Monday. I told him
about our requirements for color plates and he agreed,

"I explained to him in some detail about wr method of composition.
How a thing is clearly whenl write it down on paper, *nd how much
clearer it is again when it comes back after you (txJA) have typed it
up. But you really can see vastly more only after it has come back to
you as galley proofs. That's when the real writing can begin. This is
not a question of being careless. 1 explained about meeting Winston
Chnnchill's secretary at the N.Y. World's Fair and how we both had to
go through seven drafts. Chutchill had his speeches and other draft-
sxet up as galleys. With me, my use of galleys is not facetious: it is
part of the process of being adequate and thorough,"

- Cite RBF to EJA, telephone from Beverly Hotel, NYC, 11 Oct'72

fPlItEi KI,PI Un Harvard Ian:

"God tall# a Harvard man what to do."

- Cite RBF to EJA_t Somerset Club, Boston, 22 Apr *71

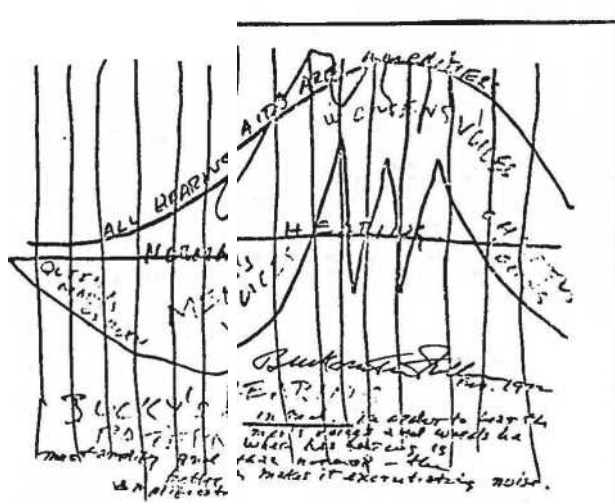
"Hearing aids just train the mind in compensations."

- Cite RBF at Videotaping session, Philadelphia, PA., 1 Feb*75

ADF

Fuller: H.B.: His Hearing:

Lee Attached sketch, 17-19 Feb '77 Hearing Aida



ZaUstr, M.; 2aJllsfi£U:

"I am not a genius, but I am a terrific package of experience

- Quoted by Hugh Kenner. Flap copy of BUCK!, N.I., 1973

itbh PERSONAL REFERENCES

Fuller: R.B: On Himself:

(1)

See Self: I Would Like to be Myself

Creator, 1971

Average Human Being Invisible Man

Fuller, R.B: On Himself: (2)

See Charting Alternating Experiences of Man <k Nature, (6), last sentence

Guinea Pig, 27 Apr'71

Fuller. Hla Imaginative Statlatlta:

(1)

See Dollar Bills: \$200 BilHon One-dollar Bills Circulating Around Earth

Energy Slave

Gross World Product

Heartbeat Magnitude Sequence

Locomotion: Radius of Man's Locomotion Metals: Recirculation of
Metals Industrialization: Curve Of

(2)

Fuller, R.B; Hie Imaginative Statistics:

See Air, 26 Sep'68: 22 Jan'75

Artificial, (2)

Automation of Metabolic i Regenerative Processes, Kay*65

Building Industry. (1)-(12)

Differentiation. 10 Dec'64

Explosives, 1970

Human Unsettlement. (t)-(6)

Metabolic Flow, (1J

New York City, (7)

Slenderness Ratio, lay*72

Vegetable Crop Harvesting, 12 Jun'69 ./ar: Official & Unofficial, (1)

Weapons Technology Sequence, (A)(9) Earth, 17 May'77

Fuller: Indexing RBF Ideas: p)

"I gave Constance Abernethy a job that has really been a very difficult kind of job. I knew she knew me so well, my philosophy, and was so astute in managing and organizing things. ... And incidentally at this time I was being beset with requests for writing. And I hoped that she might be able to make transcriptions of my talks-- which usually take about seven rewritings; and I thought she might be able to put them together in articles.

"It turned out she couldn't do that. But I said, Constance, I'd like you to take everything I've ever written and have any number of xeroxes you need of anything and take it apart in actual idea increments, maybe there's a paragraph--- maybe three paragraphs long--- and begin to collate those ideas. Time and again I've found myself having to talk about those same ideas, but they actually get progressively treated and they get a little better. So if we had a file where you kept cutting things out and were able some way to identify that idea and were able to catalog it so you finally have seven statements of the same idea and pick out the best one or going over them find out what I've left out in several."

- Cite tape transcript //6, Side A, p.10; RBF to Barry Farrell. Bear Island, 16 Aug'7u

Fuller's Indexing RBF Ideas: {2}

"There might be a composite where all the parameters, all the variables, are in there. Make one composite. She did this job for several years and she found it mentally very tiring. And I think it would be awful to try to remember that you've seen this there and here and put all those together. She was very devoted. And she'd gotten to the point of identifying different idea increments with different kinds of names and tried to get up some kind of proper indexing. A really expert indexer would be able to cross reference them so they could be called up very importantly.

"I hoped she would be able--- when she had a tape recording of a talk I'd given some place and they wanted it transcribed to be printed someplace-- that she'd be able to say that's paragraph number seven and this is paragraph so-and-so, and she'd be able to pull out those paragraphs and put a composite together. I thought that could be done. She never has been able to literally do that. I still think it's

actually possible. But the point is she has worked very hard and has a very large collection of work, very large and very valuable. She's now going to stop working for me and Dale's going to pick that up in New York.'*

- Cite tape transcript /'6, Side A, p.14; RBF to Barry Farrell;
Bear Island, 16 Aug'/O

Fuller: Indexing RBF Ideas: (3)

'But this also related to things you've been asking me about the archivist. I would like really very much to know what the package of my ideas really are when they are sorted out where there is no redundancy."

. Cite tape transcript *fib*, Side A, p.11; RBF to Barry Farrell;
Bear Island, 16 Aug*70

Fuller's Law:

Robt. W. Marks - "Dymaxion World of RBF," Caption to Figure 1-8,
page 138

Introduction to fIMN I DIRECTIONAL HALO, RBF - p. 126

fuller'g law:

So® gElPie Number Inherency and Constant Relative Abundance of
Structural Systems: Principle Of;

(Above terminology adopted by RBF in course of writing SYNERGETICS as refinement of second paragraph of p. 126. of INTRODUCTION TO OMNIDIRECTIONAL HALO.)

RiP» • XnyKpUfiw

Fuller stands on random stages across the world--- he wants to see what pattern his invitations will exhibit without influencing them himself, so he goes where he is called.

- Johns Hopkins Magazine, p.32, Nov*73* Based on interview w/ RBF.

Fuller. R.B:

Lecture Invitations:

See Montreal Expo'67 Dome (B)

Fuller_f R.B: His Metaphors:

See Sequences: Metaphors

Fuller. R«B; Milton Academy;

See Race (1)

EMIIST, i.iQdtta Operand! s

Q. What are you going to do with the years remaining to

you in this life?

RBF: "The most Important thing for me to do the rest of

my life?... Our friend integrity."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb'75

Q. "Should this be taped?"

RBF: "This should be on tape. I don't have any off-record life."

- Tape transcript, p.1; RBF to W. Wolf. 200 Locust, Phila. PA, 15 Jun*74

"The space is a priori mystery that the space vehicle goes in. And you don't think that it's a mysterious thing that he had the capability to get there? It's all part of the same mystery.

'•People who listen to me say, 'Here's a man who's selling screw-drivers... they don't realise how mysterious screwing is. ... I've been identified only with the physical so far. I went through 25, 30 years of people saying: this is the bathroom man, or the automobile man---that's all they thought about me. It's only in the last couple of years that they discover I'm a thinker. And I started off as a thinker.

I didn't start with bathrooms. I started off with God and my charge was to work with the physical. That's where I had the capability; that's why we're here. I accepted this. And to find myself identified, then, with just being a fishing-pole salesman! I find this thing echoed when you say that about my analogy, 'cause I use a very good tool there. I have helped to shock man into realizing he's on board a space vehicle. He's a passenger on it and he's intimately related to it."

- Citation and context at Spaceship (F), Feb'73

Fuller, R.B.: Modus Operandi

"... You don't go to Bucky and ask him a specific question. He gives you a huge view so you can then go back and find the answer. You have to get into a different state of consciousness, really, to hear him. He answers very much according to the way he intuitively you. He'd be different with a molecular biologist, a crystallographer, a mathematician."

- Quoted by Rasa Gustaitis in Wholly Round, p. 152. Holt. Rinehart & Winston, NY, 1973 - Feb'73

"I realise you have this very big love and you want to do some very fine things with it. But I'm afraid you won't be able to do anything beneficial until you really start to think and get inside what's causing this love. You are going to have to think very clearly about basics and about what moves you can make to bring about changes in the things you see wrong. It doesn't do any good to get angry. And it doesn't do any good for you to sit here with me unless you can find in all this something of your own to say,"

- Cite RBF to young student. Pacific Palisades. Christmas. '971. quoted by Wm, Marlin. Architectural Forum, p.74 < Feb'72 ¹

PERSONAL REFERENCES

See Fuller, R.B: Decision to Be a Doer, Not a Persuader Chronofile
Concrete Poetry Cosmic Fish Sequence: Cosmic Fishing Guinea Pig
Individual Economic Initiative Invisible Man Intuition: Eye-beamed
Thoughts Inventorying of Experience Lecturing Mark Your Paper: No-
body to Mark Your Paper Problem: Statement of the Problem Profess:
Profession Promote: I Don't Promote Publish Reading Self-querying
Secrecy of Mathematical Knowledge

See Thinking; Doing My Own Thinking

Thinking Out Loud Reduction to Practice

Fuller, R.B: Evidence Published by Others:

Qualified Acceptance Of
Optimism: I Am Not an Optimist

Verb: I Seem to Be a Verb

Fuller, R.B; His Modus Operand!: (2A)

See Airport, 13 Mar*73
Anonymity, 19 Dec'71
Assumptions, 1946
Bibliography, 2 Jul'62
Carbondale Office, 10 Aug'70
Comprehensive, Feb*72
Comprenensivist, 1970
Cui de Sac. 30 Dec*73

Dome: Rationale for the Big Dome (1)(2) Emotion, May'65

Evolutionary Checks <5c Balances, 26 Aug'75
Flight. Oct'73
Generalise. 9 Feb'?6

Humanity, i Feb'75

Immunology Series, 15 May'72

Indispensable, 22 Jun'75

Inventability Sequence, (1)-(3) Life, 25 Mar'71 Order, 1971

Plumbing, (1)(2)

Fuller. R.B: His Modus Operand!:

See Principles, 1 Feb'75

Questions: Answering Questions, Sep'73 Rearrange the Scenery,
(1)(2) Selfishness, 22 Jun'75 Sin, Feb*72 Semantics, 20 Feb*73
Spaceship Earth (e) Subversive, 1 Feb'75 Tapestry, 14 May'72 Tele-
ology, 15 Jan'74 Philosophy, 11 Aug'76 Squatters, (1)(2) Building
Industry, (10) Black Holes 1 Synergetics, 1 Mar'77 Special Case, 26
Apr'77 Synergetics, 22 Jun*77 Will, 20 Apr*78; (2)

(20)

TEXT CITATIONS

Fuller. R.D • His Modus Operand!:

s?86.OO:

s.986.011-986.090

s986.110-986.190

s986.200-986.240

S986.301-986.310

S986.610

3986.710

^Fullfir, RxB: Moratorium on Speech: (1)

"The conditioned reflexes, they absolutely astonish me..., because 50 years ago, I went into a speech moratorium so that when I made a sound I would know that I really meant to use that word. I saw that we---like parrots---could make sounds so easily.... How we can learn

patterns and know absolutely the right way for school without really knowing anything. I think many of us got very good marks in school. If we are honest, we admit that we really don't know anything. I think it is very different from reasoning.

"So talking about conditioned reflexes, one person says a cliché and another person pops back with the appropriate other one. This sort of nonsense goes on. This was on my mind and I thought that I must shut off the proclivity in myself for that cliché or countercliché... and I must use words only because I intend to use the words... and obviously at that time I said all the blasphemy, and so forth... but It has actually no meaning. It would be impossible for any human being to be the son of a dog, or whatever It may be. It would be impossible to hold sexual intercourse with a grandmother who was no longer alive---so I said I was forever"

- Cite transcript pp.8-10, RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Fuller, Moraxorlun on Speech: ¹²

"going to give up those kinds of expressions. I had not grown up with such language, but when I came to have my first job in New York, the second time I was kicked out of Harvard, I found that all the workmen there thought that I was probably a homosexual because I spoke the language I had learned at Milton Academy and Harvard and it sounded so absolutely different from their language which was 50 percent obscene or blasphemous, that I sounded so queer to them that they thought I was a sexual pervert or something. I was sure I wasn't, but the only way I could convince them, I couldn't teach them my language, and I got pretty good at the horrible cursing and blasphemy, so that it was... in there from way back before World War I, so I am talking about 65 years ago.

"So in 192?, 50 years ago, I said I'm never going to use any of that blasphemy ever again.

"I will be driving in my car and suddenly someone will ha come out of a side road very dangerously and I will say ¹ son of a bitch!' and I am so absolutely shocked I will say 'Jesus Christ" that this could come out of me. I want to_n emphasize to you psychiatrists how very deep these things

- Cite transcript_p.11 RBF taped interview with Dr. Michael Bpuwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

'are to somebody who has determined not to use these words, it is always under surprise. It is always because it is a dangerous surprise and you have to alert yourself very fast to avoid an accident. I try very hard not to allow it any more. I was driving with my wife and her young nephews and nieces Quite a few years ago and one of those things happened. One of her nephews was standing next to me and about an hour later someone came out of a side road, and the nephew said, 'Uncle Bucky, aren't you going to call him a son of a bitch?*' And you realize how terrible and unbecoming it was. That's the subconscious we are talking about here—conditioned reflexes in which things we haven't done or thought about for a long, long time and a surprise element will bring them. out.

"You have a very difficult one to cope with there, don't you? thgt these things could be so organized in the subconscious?"

- Cite transcript p.11, RBF taped interview with D_r. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb*77

See Fuller, R.B: Crisis ot 1927 Thinking: Doing Your Own Thinking

See Sleeping & Thinking, (2) Words, Jun'5S

^FUller, K±B' On. Christopher t-orley:

"Christopher i-orley was the greatest scholar I had known.

He was the editor of Bartlett's Quotations; he was a comprehensive reader, and an editor of the Book-of-the-Konth Club.

"HQ gave himself very much to the other man. He had allegiance to his intuitions and to the universal phenomenon of love, dust ask a scientist to give you the difference between a stone and love, bclonre is absolutely wrong in thinkinr that the physical--all that chemistry lying there--is life, when it has nothinr to do with what life is.

**Christopher --orley about he'nr utterly
 loved life so much, metaphysical.' '
 He was courageous
 - Cite HBF to */orld Game workshop'771 fhila., PA; ?? Jun'⁷?
Fuller, R.B: His Neo-Platonism:
 Synergetics text, 2nd. Ed. at Sec. 526.12
 See Ideal Tetrahedron
 Ideal Synergetics
 Invisible entries
 No Absolute Identity
 Reality as Structural Interaction of Principles
 World as Idea in the Mind of God
 Image: All We Do is Deal in Images:
 Ideal vs. Real
 See Eternity, (1)
 Identity, 20 Jun'66
 Immaculate Conception, 25 Jan¹72
 Individual Universe, (2)
 Nucleated Systems: Idealistic Vectorial
 Geometry Of, 15 Feb'72
 Ilan as a Function of Universe, 20 Jun'66
 Principle, 22 Feb¹72
 Set, 5 Jul'62
 Thought, 31 I ay'71
Fuller. K«B.; Nobel Prize. References to Nomination For:

**UTOPIA OR OBLIVION, Sedond covert "Mr* Fuller was nominated for
 the 1969 Nobel Peace Prize.**

[RBF found this extremely distasteful]
 £LU1£C, Hja Decision He Must Not Be A Persuader, But A Doer

"I made up my mind that if you really develop the tools and abilities and don't waste any time or effort trying to persuade people to look at what you're doing, and you find out whether your designs will work or not, that when and if they do work, someone will say, 'What is that?' And you will tell them. And the news of your invention will get around and in due course if what you have developed is needed in an emergency, the world will come to you for it."

- Cite RBF to At. Karlin, Architectural Forum, p.73, Feb'72

Rd? JLUPIONS

Fuller Projection:

See Transformational Projection

Fuller, R.B.:

Personal Research File Colors: (Tab Colors) :

'VIOLET - Sublime (Cosmic Discovery and Kost Intellectual)

BLUE - (Very Impressive)

Gkr.EM - (Looks important)

Yellow - (Could be Important)

ORANGE -(Amusing)

KtD - (Ridiculous. Least intellectual and most mechanical.)

- Cite Mike Paterra to EJA, Carbondale, Ill. 17 Nov. '71,

Fuller; R.B; On Social Impositions:

"I was born into an enormous amount of social imposition on me as a child about what is au fait. . . . And the critic says that is absolutely au fait, you get the prizes and they go into the museums, or whatever it may be. And you and I might not exactly, as a kid or a child say : I think that's great. It was part of the way society was operating."

- Cite WHITS TAPE, p. 13, 19 Oct '70

Fuller, R.B., Ag Harbinger of Society:

A# a child he had such a bad eye defect that he thought his sister was telling tall tales when they compared notes about their visual world.

His vision was corrected with spectacles (he now also wears a hearing-aid), but, as an original independent thinker, his mental view of the universe has never quite coincided with that of other people.

At school he fell into the pattern of accepting authority, but "I didn't seem to see things the way other people did," he says.

Today, he describes himself as a harbinger of society--- a citizen of the world with a post office address at Southern Illinois University, a man "living in the frontier of the breaking pattern of humanity.¹" rest of society not long after," he says. "If economics are going badly for me, for instance, I feel very sorry for the rest of the world because it's going to happen to them not long after," (At the moment, he adds, his personal economics are doing well.)

- Cite RBF quoted by Marian Bruce in Vancouver SUN, 14 Jun¹73
Fuller R.B.: His Life As Harvester:

See Observation. Mar'71

RbF PERSONAL REFERENCES

Fuller. R.B: As Technologist & Technocrat:

See Capability, 20 Apr*72

RDF DEFINITIONS

Fuller T. Thinking Me:

"You have done a magnificent job! I find it fascinating. This is good, for in relevant contrast I have been unable to read more than 100 pages of Hugh Kenner's 300-page book about me; not more than 10 pages of Alden Hatch's on the same subject. This is because I soon

found that they were not about the real me, which is the thinking me. Their books are about legendary-type characters that they (and many other writers, too) have spontaneously fabricated from too little data and too narrowly-focussed a viewpoint. Neither of them let me see their manuscripts nor checked any 'facts' with me."

- Cite H:iF Ltr. to Louise Morley Cochrane, Wiltshire, England, 18 Dec'76

RBF DEFDIITIONS

Fuller, R.B: Unpublished Mathematical Discoveries:

"'Certain it is on my own part That I have made several mathematical discoveries Of fundamentally unexpected and unpublished nature. As I realized my discovery I always have had The same strange sensation That this newly realized conception, Previously unknown to terrestrial humans, Had been known To the human mind Sometime vastly long ago."

- Cite BRAIN & i-llND, p.170, Kay*72

Fuller, Unpublished Mathematical DlggQYSrIW:

See Energetic/Synergetic Geometry: Original Publication in 1%4

« * Fuller Vector Constant:

See Synergetic Constant;

Fuller, R.B.: What I am Trying To Do:

"'All science starts with absolute mystery... I'm not discontent with the fact there's a priori mystery.. I'm only interested in how useful I am to the other guy. If I'm not useful to the other man I'd like to do away with myself quickly...

"I'm only interested in the rest of man; I'm only interested in love. I'm not interested in self."

- Quoted by Rasa Gustatitis, WHOLLY ROUND (HR&W, NY) p. 158, Feb'73
Fuller: R.B: What I Am Trying To Do: (1)

"Acutely aware of our beings' limitations and acknowledging the infinite mystery of the a priori Universe into which we are born, but nevertheless searching for a conscious means of hopefully competent participation by humanity in its own evolutionary trending, while employing only the unique advantages inhering exclusively to the individual who takes and maintains the economic initiative in the face of the formidable physical, capital and credit advantages of the massive corporations and political states, and deliberately avoiding political ties and tactics, while endeavoring by experiments and explorations to excite individuals' awareness and realization of humanity's higher potentials, I seek through comprehensive anticipatory design science and its reductions to physical practices, to reform the environment instead of trying to reform men, being intent thereby to accomplish prototyped capabilities of doing more with less, whereby in turn the wealth-augmenting prospects of such design science regenerations will induce their spontaneous and economically successful industrial proliferation by world-around services' managements, all of which chainreaction-provoking events will both permit and induce all humanity to realize full lasting economic and physical"

- Cite ./HAT I AK TRYING TU DO, 2 Mar'68
Fuller: ft,B.; What I Am Trying To Do:
(2)

"success plus enjoyment of all the Earth without one individual interfering with or being advantaged at the expense of another."

- Cite WHAT I AM TRYING TO DO, 2 Mar*68
Fuller, R.B: What I Am Trying

To I "But the fact is I really am pure guinea pig to me, . . . Back in 1927 ... I committed myself to as much of a fresh start as a human being can have--- to try to go back to the fundamentals and see what nature was really up to. But I was all alone, and up against the massive corporation and the massive state. 'Can the unsupported individual really get anywhere?' I asked myself. Because I'm not impractical I'm not a blind idealist. How could I work in the system without capital backing? And I came to the following conclusion: In the Universe everything is always in motion, and everything is always moving in the directions of least resistance. That's basic. So I said, 'If that's the case, then it should be possible to modify the shapes of things so that they follow preferred directions of least resistance.' I made up my mind at this point that I would never try to reform man--- that's much too difficult. What I would do was to try to modify the environment in such a way as to get man moving in preferred directions. . . "

- Cite Calvin Tomkins, The New Yorker, 8 Jan. '66. p. 64.

B: What I am Trying to Do:

Blind Date with Principles Commitment to Humanity Dymaxion Outset

Fuller, R.B: Crisis of 1927 Fuller, R.B: Modus operandi!

Fujier, : Hi? Writing Style:

"I write like a sculptor. A sculptor starts by chipping away from the stone. . . and then he chips away a little more. . . . always taking things away. And in the end it comes out to be more incisive.*"

- Cite RdF to Sue Liberman at ?/ANU-FK taping, Wash, DC: 26 Apr'77
ftbF PfiHSONAL REFERENCES

"You say I write omnidirectionally. That is so. I write like a sculptor."

- Cite RBF to EJA, Philadelphia, 22 Jan'75

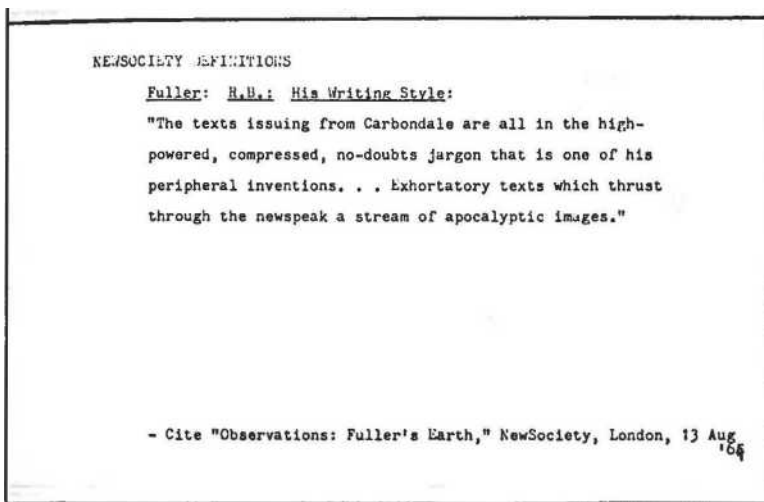
"Marshall McLuhan says that my expressions are old-fashioned.

He says I shouldn't say that man backs into his future; he says that's rear-mirrorism. • Marshall is very good at explaining things to society. He extends other people's ideas, but he is a man of integrity."

- Cite RBF videotaping sessions Philadelphia, Pa., 1 Feb'75

"Now, writing about Hucky has its peculiar difficulties, of which the leading one is that it is almost impossible except in his own idiom. There is a very good reason for this--- that his creative thinking does genuinely seem to be done in the grammar and syntax he uses when speaking. Problems are simultaneously bulldozed frontally, undermined terminally, and outflanked by relative clauses lasting up to six weeks. All this is fine while Bucky is telling the tale himself, except possibly for people sitting at the back of large audiences who cannot follow his facial expressions or the subtleties of his hand-actions. Comprehensibility survives into print, if the text is Bucky's own, but if it is written by another hand. ... trouble! In Robert Tarkenton's 1960 book on Bucky, the interference between his own manner of writing and Bucky's manner of thinking, produces a style that falls apart--- ponderous and pedestrian on the facts, which it fails to illuminate, turgid when it turns to narrative, which it fails to animate."

- Cite Reynier Banham, "The Dymaxicrat," Arts magazine, London, Oct '63, p. 66.



RriF PERSONAL REFERENCES

hlllfX, .R»B; Hia Writing Style:

See Dymaxion, (1)(2)

Poetry, undated

Farrell: "How much time do you have to write?"

RBF: "There's no regularity, old man. I do the writing in

enormous drives and spurts and then go on to something else."

Farrell: "How are you doing with the book?"

RBF: "The book? It takes such high concentration that I've

had to wait for a time. I'm going to spend some time on it later this month. It's been with me for a really long time and I think it will have to be rewritten several times more."

Farrell: "Do you expect to publish it within the next year or two?"

RBF: "I pray that I/can. yeah. I'm confident it's the most

important thing I'll ever do in my life."

Farrell: "It's been in preparation many years now, hasn't it?"

RBF: "An adequate number of years, yes."

- Cite transcript of RBF tape to Barry Farrel, Tape #2, Side A, p.3; Bear Island, 11 Aug'70

Fuller. R.B:

See Anonymity

Idea Stealing

Spontaneous Deputies

Nobody to Mark Your Paper

Reality: Fuller's Reality vs. Popular Reality

Do Inr ./hat Heeds to B_e D_{one}

Guinea Pig

Promote: I Don't Promote

Fuller, R«B?

See Anger, (1)(2) Belief, 20 Feb'77 Inexorability, 11 Aug'70

fMllfir, fi*B: (12 Jun 1895 -
(3A)

See Alexandria Theme

His Associates & Collaborators

His Aversion to Artistic Exploitation of Synergetics Models

Books Read in his Youth

Cousins, Norman: Inscription to RBF

Commitment to Humanity of 1932

On Creativity

Crisis of 1927

His Discovery and Disclosure of Coordinate System
Of Universe
Discoveries of 1913
Ecological Predictions of 1927
Ego: Desire to Avoid an Unnatural Ego
Meeting with Einstein
Energetic Geometry: I Began the Search in 1917
Described as Engineer-saint
His Admission of Error
His Imaginative Etymologies
On His Fellow Men

Fuller. R*B:

See Meeting with Fernandez-Moran

A Propos Ben Franklin
On Galley Proofs
On Harvard Man
His Hearing
On Himself
On Himself as Subject of Experiment
Fuller's Law
Lecture Invitations
His Metaphors
Milton Academy
RBF Modus Operandi

Moratorium on Speech

His Neo-Platonism

Nobel Prize: References To

His Decision He Must Not Be a Persuader, But a Doer Fuller Projection

RBF Persqril Research File Colors

Fuller,. R.B:

See On Social Impositions As Harbinger of Society His Life as Harvester His Imaginative Statistics As Technologist &. Technocrat Unpublished Mathematical Discoveries Fuller's Vector Constant What I Am Trying To Do His Writing Style Writing Synergetics The Thinking Me Evidence Published by Others: Qualified Acceptance Of

On Werner Erhard &. est On Christopher Morley

Full Potential:

See Powering: Third Powering, 15 Oct*72

Funambulist:

"Many, if not most, of the important scientific events that have occurred have appeared first in fun and play, as for instance, the suspension bridge which appeared first as a Chinese tight-rope-walker!s frame. Funambulist □ rope `` walker; funis « rope; ambulare = walk. 'Fun' --- 'rope' --- Will Rogerws --- line --- tension --- the 'fun' of Life."

- Citation and context at Time, p.142, 1938

&F1 fc Play:

See Games

Scientific Events Appearing in Pun *k* Play

OQ

Functions:

'•Functions always and only co-occur as subsystem relativistic characteristics, inherencies, and proclivities. Functions occur only as parts of systems."

- Citation and context at System. 26 May»?2

RBF DEFINITIONS fyncUpn-

"Not being simultaneous

Universe cannot consist of one function.

Functions only coexist.

Universe while finite is not definable.**

Citation & context at Undefinable. Oct*66

Functions:

"There is a plurality of coexistent behaviors in nature which are the complementary behaviors. That caused the mathematicians to generalize further. They developed the word functions. Functions cannot exist by themselves. Functions only exist with other functions. They are sometimes covariables."

- Cite SUMMARY VISION 65, p. U8

23 Oct'65

IQ

Function;

"We are dealing in a Universe of functions..."

A Citation and context at BuillinE Blocks (1), 9 Jul'62

,iUF JjF'IhxTlu.S

Function:

"Functions are never independent of one another. Ko tension member is innocent of compression and no compression member innocent of tension. Tension and comoression are in respect to one another like tides--- one is in high tide while the other is in low tide--- or you might

say low tide of visible apprehendability. They are strictly functions in regard to one another. The meaning of a function is that it is part of a complementary pattern and there is no function existing by itself, X only in respect to Y, so your tension and compression are interfunktioning with weight variables of relative importance in the local pattern inspected,"

~ Cite vHwGui. Lecture 5 - p. 157, 9 Jul '62

~stc. | toTTFI

Functions:

"I felt that we didn't have functions that weren't part of a system and the Universe was clearly a plurality of systems

Gim Qrrtiin iviiifw IG; 1 VI-iT-.TurCiT

- Citation & context at Unity la Plural. 6 Jul'62

Functions:

"Functions do not occur exclusively of one another. Functions occur only as inherently cooperative and accommodatively varying subaspects of synergetically transforming wholes."

- Cite OMNIDIRECTIONAL HALO.p. 134 , i960

"The principle of functions states that a function can only and always coexist with another function as demonstrated experimentally in all systems as the inside-out, convex-concave, tension-compression couples

- Cite RBF Glossary of Terms bound with "The Live Book Squad," 1967

"In the principle of functions... any function always and only coexist with another function. Then we can generalize still further by reducing the theory of functions to the one word •relativity.•?"

always- and-only coexist. I give you three kinds of always-and-only coexisting functions: tension and compression, concave and convex, and proton and neutron. Now we can develop something we call the theory of functions where we have x and x^{aa} the two covariables and have the x standing for tension, convex, and proton and y standing for compression, concave, neutron."

- Cite RBF in Franklin Lecture, Auburn, Ala., p.83, 1970

TEXT CITATIONS

Functions: Theory Of:

ZIC-IZ

Synergetics, 2nd. Ed. draft Sec.

See Dog Pulling on a Belt Functions: Principle Of Generalization: Third Degree

See Generalization Sequence, (1)(2) Intellect: Equation Of. (1) Quantum: Event-paired Quanta, Jul'66 Relativity, Jun'66* Universe, 22 Apr'68

See Cofunctions

Complementarities Covariables: Covariation Energetic Functions Externalization of Ilan's Own Functions Form Cannot Follow Function Integral Functions of Fan Interfunctioning Inventory of Functions i'ian as a Function of Universe Proclivities Structural Functions

See Building Blocks, (1) Differentiation, 27 Fay*72 System, 26 May*72* Unity Is Plural, 6 Jul*62* Undefinable,)ct*66*

See Ninety-two Elements, 9 Apr'40

Prime Otherness, 23 Sep'73

RBF DDFHHTHMS

Fundamental:

'•I don't like the word 'fundamental' because it's Just the wrong way to start out thinking, de may use the word 'primitive' to describe the self-starting condition of divergence."

- Citation & context at Starting with Divergence. 19 Feb'76

RdF DEFINITIONS

Fundamental:

"I don't like the word 'fundamental' because I don't really believe that there are thinge you could call foundations."

- Cite RBF videotaping, Philadelphia, PA., 1 Feb'75

See Basic

Rate: Fundamental Rates of Change of Number Three-and-only Fundamental Structural Systems

See Trigonometry: Spherical Trigonometry (3) Starting with Divergence, 19 Feb'76* Particle, 19 Feb'76

Fungus: Fungi:

See Organic Model, Oct'66

See Leaders Can Yield to the Computer, 4
Far'69

Furniture of Chemical Elementa:

See Economic Accounting System, (A)

See See Dreams, 2 Jul*62

See Universe, 16 Jun'72

Furniture of Remembered Experiences:

"Image-ination involves reconsidered and hypothetically rearranging the □furniture¹ of remembered experiences as retrieved from the brain bank."

- jjUM-rcgryrtn-hf¹ Kan-Straight
l.-hnoySer Draff, May ' 7.1
- Citation at Imagination,. Mar'71
Furniture of Lie.;
See Lien, 2 Jul'62
See Finite Furniture

Rearranging the Furniture Atomically Furnished

See Information, 1971 Invisible Tetrahedron, 13 Nov'69 Space, 20 Oct»72
See Furniture: Atomically Furnished Furniture of Chemical Elements Furniture of
the Dreams Furniture of Experience Furniture of Remembered Experiences Furniture
of Information Furniture of Lies
Furniture;
Synergetics : Sec. 780.10
Fusing:
See Confusion • Fusing
Fusion:
See Radiation, Feb'71
Future:

**"The future 1b not linear.... It probably coneiets of omnidirectional
wave propagations."**

- Citation and context at Now. 7 Nov'73
Future:

"Life 18 the Now event with its reaction Past and resultant Future."

- Citation at Life. 1 Jun*71
Smtnnlin nil GTllEBfnTTrT
Future;

"The future is not something linear. So we seem to be talking about a greater range of known cycling... We're talking a complete 'now¹,"

Citation *It* context at Time. 19 Oct'70

Man Backs Into His Future;

- 'Crabs walk sideways; but only human society keeps its eyes on the past as it backs into its future...."

- Citation *k* context at Nature Permits It Sequence (2), 27 Dec'73

Man fockfl faitQ Hia

"It is one of those strange facts of experience that when we try to think into the future, our thoughts lump backwards. It may well be that nature has some fundamental law by which opening up what we call 'future*' also automatically opens up the 'past*' in equal degree. Time is not linear, but probably consists of omnidirectional wave propagations. Because every action has both a reaction and a resultant, every 'now' must have a 'past' and a dawning 'future,*"

- Cite RBF as quoted by Jm. Karlin, Architectural Forum. p.80, Feb'72, (Possibly composited by W.M. from EJA file entries.)

"It is one of the strange facts of experience that when we try to think into the future, our thoughts jump backward. It may well be that nature has some fundamental metaphysical law by which opening up what we call the future also opens up the past in equal degree. The metaphysical law corresponds to the physical law of engineering that 'every action has an equal and opposite reaction.'"

- Cite SYNERGETICS draft at Sec. 529.10, Nov'71

HBF DEFLECTIONS

"...The Doppler effect may be operating in our history so that the relative frequency and wavelengths of approaching vents are compacted, and receding ones thinned. It could be that by traveling mentally backward in history as far as we have, any information about humans could--- like drawing a bowstring--- impel our thoughts effectively into the future."

- Citation and context at Doppler Effect. 2 Mar'68

"The greatest overall misapprehension regarding the complex continuities is that which assigns a static or 'at rest' analysis to the sum total sensation of individual experience and consequently to the sum total of all individuals' experience. Against the inertia of a seemingly static whole each new harmonic incorporation of life therefore seemingly impinges as a dynamic perversity. This is why we frequently remark, 'Man tends to back up into his future.'"

- Citation & context at Periodic Experience, (4), p. 49

Future: Man Backs Into His Future:

I&I, Total Thinking, pp. 230 + 239

Synergetics, Sec. 534.02

See Action Always Has an Equal & Opposite Reaction

Doppler Effect

Historical Event Cognition

Adoption of the New Only as Last Resort Evolution by Inadvertence

See Doppler Effect, 2 Mar'68*

History, 2y Aug'64 Ignorance, (1)

McLuhan, Marshall, (1)

Nature Permits It Sequence, (2)*

Ruddering Sequence, (5)

Time, 2 Mar'68

Fuller, R.B: His Writing Style, 1 Feb'75

Life, f'ay'49

Periodic Experience, (4)*

future

See No-time~and-away-ago, 26 May*75 Tetratuning, 30 May»75

Futgr§ Sgt:

"...Sight (what only may be next) la the future act. (We can seem to see, but we have not yet come to it.)"

- Citation and context at Senses (1), 22 Nov'73

"Synergeticb augments the prospect of humanity becoming progressively exploratory. There is clearly disclosed the desirability of com encl ng scientific exploration with synergy-of-synergies Universe: metaphysical and physical. While synergetics seems to open new ranges of cosmic comprehension, we assume that the time will come when the Inventory of experiences that have catalyzed both its conceptioning and inception will have become overwhelmed by vaster experientially based knowledge and may well become progressively useful but, in its turn, obsolete. Because the generalized principles cannot be principles unless they are eternal, and because human experience is inherently limited, there can be no finality of human comprehension."

- Cite SYNERGETICS text at Sec. 217.04, as adopted 27 Sep'73

"Synergetics facilitates and augments the prospect of humanity becoming both progressively and successfully exploratory. There is clearly disclosed the desirability of commencing scientific exploration--- as permitted by synergetics--- with synergy-of-synergies Universe: both metaphysical and physical. While synergetics seems to open new ranges of cosmic comprehension, we assume that the time will come when the inventory of experiences that have catalyzed both its conceptioning and Inception will have become overwhelmed by vaster experientially based knowledge and may well become progressively useful but, in its turn, obsolete. Because the generalized principles cannot be principles unless they are eternal, and because human experience is inherently limited, there can be no finality of progressive human comprehension."

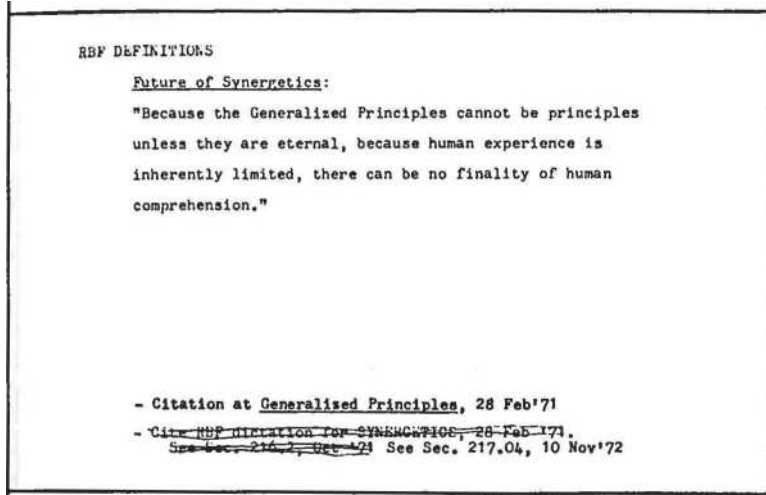
--- Cite SYNeRuLTaCS galley at Sec. 217.04J RBF rewrite of 26 Sep*73

KBF Uc.FlwlTluhS

"Synergetics bids fair to being progressively exploratory. There is clearly disclosed the desirability of attaining and commencing scientific exploration with the synergy-of- synergies Universe: metaphysical and physical, while synergetics seems to open new ranges of cosmic comprehension, we assume that the time will come when the inventory of experiences Which have catalyzed both its conceptioning and inception, will have become overwhelmed by vaster experientially based knowledge and nay well taw in its turn become progressively useful but obsolete, Because the generalized principles cannot be principles unless they are eternal, because human experience is inherently limited, there can be no finality of human comprehension,"

- Cite dBF dictation to EJrt for SYNERGETICS, Beverly Hotel, new York, 2g Feb. '71, See Sec. CRE

zr*>- 217.04, 10 Nov'72



"Synergetics recognizes the history of progressively larger and more incisive conceptionings which have eliminated previously uncomprehended behaviors of local Universe. It recognizes that the elegant conceptionings of one period which greatly widened the horizons of human understanding reached their limits of informative capability to be progressively obsoleted by ever greater conceptioning accruing to the ever-mounting harvest of cosmic experience.

- Cite RUF dictation to EJA for SYNERGETICS, Beverly Hotel.

New York, 28 Feb. '71. lufn,

Incorporated in SYNERGETICS draft at Sec. 217.01

10 Nov*72 '

RBF DEFINITIONS

"The inherently endless scenario model of Einstein's Universe in which truth is ever approaching evolutionary • . . catalogue of alternate transformative options of ever more inclusive and refining degrees wherefore Metaphysical might continually improve the scenarios by conceptual discoveries of new generalized principles.**

Citation 4 context at

Hmm in ml fi inn Pendulum Model VS Scenario Model. 23 Dec*68I
Incopporated in biritKuLTxCS'Draft at 3cu. 2T7.03, 10 Nov 72

nbF DuFIKITIOKS

"The rate of chance and number of special-case self- retransformings of physical evolution tend ever to accelerate, differentiate and multiply; while the rate of change and numbers of self-remodlfyngs of generalized law conceptlonlngs of metaphysical evolution tend ever to decelerate, simplify, consolidate and ultimately unify,

- Citation at Metaphysical & Physical. 22 Apr*6S
- $e^*n^*w=a^*r-$

Incorporated In SYNERGETICS draft at Sec. 217.02, 10 Nov'72 *secs* 1. —, 313

"I am . . . thoroughly aware that there is a whole new generation of young people who are becoming preoccupied with this field. I am aware that the return of science to full conceptuality ... is leading to ultimate popular comprehension of the vast ranges of science's nuclear, chemical, and biological explorations wherein, for a century, it had been assumed that nature developed her energy patoriings and transformation without modelability.

"As a result of my energetic-synergetic geometry breakthrough, we are entering a new era in which the transactions and transformations of nature have become so lucidly, rationally, and simply conceptual that children will be playing games of nuclear, chemical, and biological structuring as a fundamental kindergarten preoccupation. The great awkwardness of irrational constants characterising today's and

yesterday's physics will vanish. The awkward irrationalities were the consequence of man's attempts to measure the omnidynamically transforming fourth, fifth, and sixth dimensional Universe with a static three dimensional system."

- Cite RBF Ltr. to Steve Baer, 19 Apr'66

"There is a question-asking-possibility that omniscience may be transcendent in velocity to the definitive physical speed of energy omnipotence. The synergetic anticipatory capabilities of intellect (in respect to conceptual formulations of evolutionary transformations^a ing potentials of universe and the anticipatory stratagems evolved by intellect to test such hypotheses) imply the possibility of a velocity transcendence of omniscient functioning over omnipotence functioning which could mean an intellectually regenerated evolutionary extension of universe in generalized synergetical integrity. Intellect's comprehensive anticipatory objectivities indicates a speed of functioning transcendental to physical events. Intellect may be 'creating' finitely extending and re-fining universe as it asks each next good question."

- Cite Omnidirectional Halo, p. 163. 1960

"A complex reorganization of mathematics will probably occur within the next quarter century (or generation) with all the so-called elementary phases relegated to nonsense and the ever most advanced intuitions shifted to elementary priority in the effective informing of the new life by the old."

- Citation and context at Geometry of Reality, May'49

See Ideal Synergetics

Unknown: All the Unknown

See God, 26 May'72; 3 Apr'74

Generalized Principles, 28 Feb*71* Geometry of Reality, May'49*

Metaphysical t Physical, 22 Apr*68*

Pendulum Model vs. Scenario Model, 23 Dec*68 Star Tetrahedron t
Icosahedron. Oct'71 Synergetic Hierarchy, 19 Apr'60

Geometry of Reality, May'49

See Future: Man Backs Into His Future Future of Synergetics Histor-
ical Event Cognition Prognostication About Future of Man Tomorrow
Unseeability of Far Forward Events

(2)

See Environment, 15 Feb'66 History, 2y Aug'64 Life, 1 Jun'71» Macro-
cosm, May*72 Now, 7 Nov*73*; 25 Apr'71 Surprise, May'49 Time, 19
Oct'70'

G

Gadgets:

See Ohnoxica

Obnoxico

Secondhand Gadgetry

See Harvesting

See Female 17 Oct<?2; May'65 Girl, 13 Dec'73 Male 4 Female, 19 Dec*?1

Caln at the. Jape nae of Another:

See Expense: Without any Individual Profiting at the Expense of Another

Galahad, Sir:

See Child Sequence, (3)

Galaxlea: Interpulsation Of:

See Black Hole, (2) Omnilibrium, 19 Feb'72

(D

See Solar System

Sweepout: Spherical Sweepout

Nuclear &. Nebular: Nucleus & Galaxiee

See Black Hole, (1)

Cosmic Structuring. (2)

Parallax, 23 Sep*75

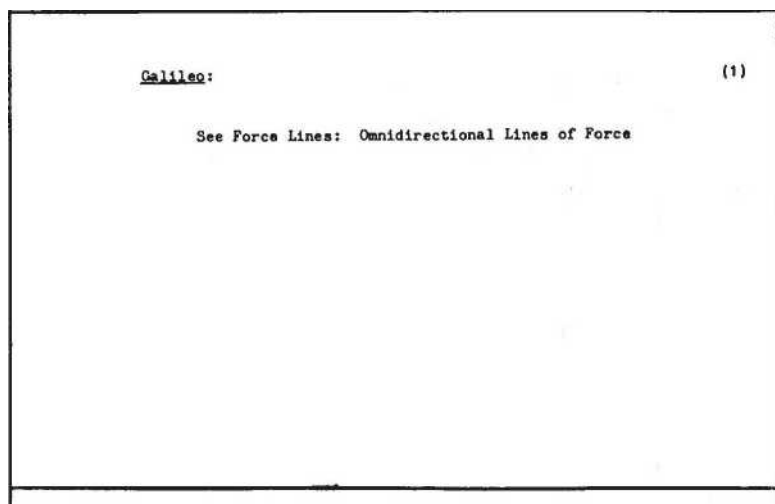
Touch, 29 Dec'58

Omniequilibrium, (2)

Invisibility of Macro- and Micro- Resolutions, (2) Energetic Information, 23 Apr*76 Black Holes & Synergetics, 1 Mar*77

" I liked what Galileo had been doing with his force diagrams even though they did turn out to be inadequate because he did it on a plane instead of omnidirectionally. But it was good thinking that things did run into each other and there were a resultant of forces. You could prove things on the billiard table showing that Avogadro was right. So there were lengths of vectors that were lengths of vectors that were proportional to the mass times the velocity and there were unique directions in Universe."

(For follow-on text see Javelin + Geometry of Vectors. 12 July *62) - Cite Oregon Lecture #8, p. 297. 12 July *62



See Acceleration, 1 Apr*67 Blind Man's Buff, 1 Oct'71 Geometry of Vectors, 10 Oct'64

Gravity, 12 Jun'74

111

Galileo:

Intuition, pp.24-26, May *72

521.30-521.31

1009.80-1009.81

1009.94-1009.95

1210 (p.738)

Seo Fuller, R.B: On Galley Proofs

"The deep seated proclivities of humans to gamble their monies is founded on the working assumption of human consciousness that individuals are inherently programmed for failure and that only cultivated luck can divert the individual from his negative plight."

- Cite RBF transcript of panel discussion following Centennial Seminar, Univ, of Kansas, "Man and the Future.

teEbln£:

See Political Mandates: Inventory Of, 27 Dec*73

10

Games:

human games are ways of Initiating disorder to be parried by converting the disorder to order,"

- Citation and context at Problems. 13 Dec'73

Gamefl:

"There are only two kinds of games--- you or me and you and me. They are equally good games. The competition in you and is to see who can help the other most effectively...

- Citation 4 context at Competition, Jan*72

See Intuition of the Child, (3)

tf CogPXC HlgtPrx:

"There is the Game of Cosmic History, in which Universe goes on approximately unaware of human nonsense while accommodating its omnilocal game-playing. Flies have their game. Mosquitoes have their game. Microbes have their game. Lion cubs have their game. Whatever games they may be playing, positive or negative, all the games are fail-safe, alternate circuits, omniconsequential to eternally regenerative Universe integrity. It's all permitted. It all belongs."

Citation &. context at Nature Permits It Sequence (1), 2? Dec*73

See Chess: A Priori Intellect Invents a Game Called "Life

See Involuntary Feb'71

Life's Original Event, Kay'72

Game of Maska & Monuments:

See Nature Permits It Sequence (2)

"The game called money originated as the exchange of life support efforts of human beings, but it was taken over by banka and the money always ends up in just one pocket."

- Cite RBF at Penn Bell videotaping, Philadelphia, 29 Jan*75

Game Called Money:

See New York City. 31 Jul¹75 Wealth, 8 Dec'75

Qf Hearty:

See Cosmetry, 1 Oct*71

"We thought... we could have complete substitution of symbols for numbers and play the game of symbols."

- Citation and context at Conceptuality. 11 Jul*62

Game; Synergetic a as a Game:

(1)

"Energetic Geometry is, as mathematicians say a game; and it is a game of solitaire I started playing in 1917. "it is now no longer a game of solitaire. Certainly. I have many friends like Duncan /Stuart/ who are playing the game with us and we find it very fruitful. When a game becomes fruitful, whereby you can get information from the game itself, one can transfer it to the larger game of life.

"Energetic Geometry started as a game before it had the nice name of Energetic Geometry. It started in 1917 when I was in the Navy and was interested in trying to give myself an additional education which I did not receive in college.

I suppose the education I was trying to give myself would have arrived in very fine order if I would have had the chance of going on in college; and I assumed that what I began to discover in the game was territory that had been well covered by students long ago. In some instances that would seem to be the case. In other instances, it would seem that we have rediscovered arrangements of phenomena that, if they have been known to man, have long since been forgotten. I must say that when you play a game like this you get a strange feeling when you come into view of arrangements of components of your energetic Universe with which you are not at all familiar and" - RBF talk to students at Design School, Raleigh, NC, 1950

Game: Synergetics as a Game: (2)

"which you are quite sure men have not seen recently. Yet you have the astounding feeling that someone was here only several thousand years ago, or something like that. You get the feeling of a close kinship to the intellectual speculation of all time. You sometimes feel that this time you can make it stick,"

- Cite RBF talk to students at Design School, Raleigh NC, 1950
focig Theory;
See Neumann, John von
Game of Universe:

'With 12 omnidirectional, equally-most-economical, alternative move options accommodating each event, each multiplied in optional diversity by myriads of alternate frequencies of occurrence rates, it is inherent to

the »game« of Universe that complex redistribution of event identities swiftly ensues as with a vast omnidirectionally observed kaleidoscope in ever-accelerating acceleration of pulsatively transformed pattern continuities

- Cite SYNERGETICS draft at Sec. 1002.12, 9 Feb'73
See Cheas: Game of Universe
Individuality & Degrees of Freedom

**See Dynamic Frame of Reference (1) Individual Universe, (1)-IJ
Miniature Universe, 13 May'73**

Games of Words:
See Politics, 1960
See Baseball
Blind Man's Buff
Checkers

Children's Games

Chess

Chess: Game of Universe

Chess: A Priori Intellect Invents a Game Called "Life Competition**

Euler's Game of Crossings

Fun & Play: Scientific Events First Appearing

In Fun t Play

Football

Gambling

Intellectual Development Game

Profit: Man-invented Game of Quick Profit

Scoring

Sports

Toys

Unique Way of Playing the Came

musical Chairs

Craps

See Omnidirectional Games Invisible Games Balance-of-Power Poker Game

See Architecture, Nov'66

Business, 2 Jun*71

Cosmic Accounting, 2 Jun*74

Feed, 16 May'72

Hyphenated Sciences. 18 Apr'63

Mathematics, undated: 18 Apr'63

Specialization, May'05 Synergetics, 20 Jan'75 Technology, 13 Mar'73
Topology, 10 Dec'75 Particle, 1y Feb'76 Psychiatry, (3)-(5) Buddha:
Christ: Mohamed, (1)(2) Reality: Fuller's Reality vs. Popular Reality,
20 Feb*77

No Energy Crisi, (B)

RHF nmtlTTTGK

See Game: Dying as a Game

Game of Life

Game of Life's Order of Play

Game of Reality

Game of Symbols

Game Theory

Game: Synergetics as a Game

Game of Universe

Games of Words

Came of Cosmic History

Game of Masks and Monuments

Game Called Money

faasv

See Cosmic Gamut

See General Systems Theory, 4 Jan'70

Politics, 4 Jan'70

TEXT CITATIONS

Gandhi:

- World-Around Problems That Have to Be
Solved by Bloodless Design Science Revolution, 29 Jun'72

Gandhi,:

See Passive Resistance

Gap:

See Closing the Gap

Science: Gap Between Science & Humanities

Young World: Generation Gap

Tetrahelix Gap Closer

Garden of Eden:

See Parable, Feb*72

Gas:

"The single bonded tetrahedron system is like an engineering pin joint: it can move in any direction. It characterizes the behavior of gas."

{See Illustration #21 }

- Cite SYNERGETICS ILLUSTRATIONS, Caption #21

May»67

Saa TurMMi

See Cosmic Accounting Sequence, (4)

See Chemical Bonds Kinetics of Gases Load Distribution Manualian-
vegetation Interchange of Gases Methane Gas Engine Metaphysical
Gas Incandescence Univalent Monovalent

See Domains of Actions, 21 Dec'71

Incandescence, 5 Jun'73

tetrahedron: Coordinate Symmetry, 15 Oct'64

Thermal, 6 Ear'73

Vacuum, 11 Sep'75

Aural, 22 Feb'77

Bubble Bursting, 20 Jan'78

Gathering Point:

See Planet Earth, 14 Aug'70

See Local Information Gatherer

G-C-T-A: DNA:

See DNA-RNA Tetrahelix

Viral Steerability

Gears:

"The old-fashioned physicist used to put one nail in the wall fasten a rope to it, and stand back and throw a whip into the rope. The whip goes to the nail on the wall and then comes back to his hand and stops. That is the prime characteristic of waves. They always make a complete cycle. That is why, for instance, gears are always whole circles. A gear is a fundamental wave phenomenon. Electromagnetic waves always close back upon themselves."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 522.09, 7 Nov'73

HBF UEFINtriors

Gears:

"Frequencies in waves may be thought of very realistically in the terms of cycles, and you can think then, for instance, of a gear, a mechanical gear which has teeth; they represent waves when they come back to the cycle. And in designing the wave phenomena of the Universe, when the Universe has a lot of energy to invest she®. doesn't do it as often, with a finite amount of physical energy she does big things very infrequently, and little things very frequently. It's exactly like a gear where you have a few big teeth and many little teeth for the same amount of circumference, the same amount of metal."

- Cite KEF at U. i.-ass., AmhqQnt, 22 July '71, Talk 1J, p. 9. v

Gear-locked:

See Frequency k Magnitude, Jun'66 Synergetics, Nov'71

"...A gear is designed to mesh with other gears. But one loose gear put into the machinery will strip all the others. When it is on the right pinion it meshes with the other gears and can bridge a gear-train gap. That's exactly what happens to copper and spinach..."

- Citation and context at Spinach. 11 Feb'73 ' • Having different sized teeth, and rates of revolution, Two such gears cannot mesh, butm associate only tangentially. Consequently, their axial centers must be farther apart Than are those of meshable gears.

Omnidi'pcttonally pulsative systems

Are. in effect, spherical gears.

Their inwardly and outwardly pulsating and rotating 'teeth' Consist of multifrequenced circumferential and radial waves Of fifty-six great-circle subdivisions of spherical unity, Often nonmeshing with other local systems.

The universally infrequent meshing of wavelengths and frequencies Produces an omnicondition

In which the new omnidirectional system's center must, as each is created,

Continually occupy omnidirectionally greater domains of disorder.

- Cite BRAIN & MINO, p.B9 bay'\$2

Gears: Toothed Gears:

"Toothed gears correspond with wave frequency cycles.

waves are cyclic. .Whatever the number of teeth might be we can call the wave frequency. Two gears that do not mesh can only be brought into tangent proximity and take up more room than do meshing gears. Frequencies given off entropically that don't mesh with energies given off by other systems take up more room in Universe."

Cite Museums Keynote Address Denver, p. 12. 2 June '71

Gear Train; Locking and Blocking:

"In three-dimensional, omni-intermeshed, unclutchable, mechanical systems, if any gear is blocked, the whole gear train is locked. In a four-dimensional unclutchable gear system a plurality of local gears may be locked while the remainder of the system interarticulates freely."

- Cite SYNERGETICS draft at Sec. 966.08, 18 Nov'72

"...Now along comes a third sphere and it nests in the valley. This makes a train of gears with each one geared to the next one. Even numbers of gears will always reciprocate and the odd numbers will always block. So no longer can those balls roll in a plane on the triangle which they form. If one tries to go one way it will make the next one go the other way; and one can't be moving in two different ways, so odd numbers will always block."

- Citation and context at Balls Coming Together (1), 25 Feb'69

See Interlocking

Lever Complexes

Meshing & Nonmeshing

See Industrialization: Successive Halving Time of National Industrialization. (1)

Icosahedron: Contraction from VS, 11 Jul'62

Sear with Two Teeth:

See Ellipse, 14 Feb'73

See Brain May be Lacking certain Gears Interlocking Meshing i Non-meshing Metabolic Gears Omnigeared Ovational Gearing Intergear nobility Freedoms

See Balls Coming Together (1)* Critical Proximity. 10 Feb*73 Frequency * Wave, Jun*66

Energetic Function, 1954 Lever (D) Monkey Wrench, 9 Jul*62 Quanta Wave Phenomena Sequence (1) Precession (b); (II) Skinning undated Spinach, 11 Feb'73* Time-sizing, 30 Nov'72 Wow (1) Atom, 30 May'75 Worab of Permitted ignorance, (1)

Male &. Female

General Case:

'The general case is tensegrity: three-way greatcircling of islands of compression. Polarized precession is special case. Omnidirectional orecession is generalized.

- Cite SYNERGETICS draft At Sec. 1005.61, 16 Feb*73

General Ca«:

See Omnidirectional, 23 Sep'?3

General?

"I've been asking some large questions--- when you are a generalist you learn to look towards big patterns--- and I ask myself the question, 'Does man have a function in the Universe?'"

- Citation and context at Man as a Function of Universe (A), 26 Sep'68

Generalists & specialists:

Q. "You say you are holistic and opposed to specialists.

But cannot generalists be employed to coordinate the work of the specialists'?"

RBF: "Yes. The specialists were all generalists anyway

until they got to the graduate level. So they lose authority. An effective generalist just learns all of the generalized principles; the specialist just seeks the special cases-- with ever less and less chance of finding a new generalization.

"The specialists don't see the applications of their knowledge} they are encouraged not to. It's like the blacksmiths vs. the Nobel prize-winners, the system tries to make them smaller than they really ar".

- Cite RBF at World Game Workshop'77; Phila. PA; 2? Jun*77

"There are eternal generalisations which embrace a plurality of generalizations. The most comprehensive generalisation would be that which has U - MP, standing for an eternally regenerative Universe of M times P, where M stands for the metaphysical and P stands for the physical. We could then have a subgeneralization which says that the physical $P * E^r \ll E^{ra}$, where E^r stands for energy as radiation and E^a stands for energy as matter."

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS text at Sec. 162, 1J Mar'73

Generalization!:

"Generalizations are of the mind and are omnipermeative."

iembracing and

Radiation-Gravitation

Generalization:

"Generalization is independent of size and time but the generalization principle must be present in every special case of whatever size or time nagnitude."

- Cite SYNERGETICS draft at Sec. 1011.35 17 Feb'73

Generalization:

"... A vector is a partial generalization being either metaphysically theoretical or physically realized, and in either sense an abstraction of a special case..."

- Citation and context at Vector, 26 May*72

GgpjrailZAAap:

"...Generalization itself is sequitur to experience

- Citation & context at Mathematics. 1J Mar'71

Generalization:

"A generalized principle holds true in every case.

If there is one single exception then it is no longer a generalized principle.

No one generalization ever contradicts

Another generalization in any respect.

They are all interaccommodating."

- Cite Lecture "The Function of Man in Universe" Town Hall, New York, 26 Feb 1971

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"There's no drive we have quite so great as the sense of order and the urge to employ the sense of order. The best I can see of man's function is the one of the mind. The mind has the ability to generalize. We don't have any experimental suggestion that the physical would be able to generalize. The physical is always a special case. Each of the neurons are keeping the special case incident, but in mind we see the ability to run them over and find out that which is generalized among them. For instance, we said the other day that we have the theory of functions where X can stand for tension and Y for compression; where X could stand for photons and Y for neutrons; where X

could stand for concave and Y for convex. These are always normally coexistent. That's the theory of Functions, that is, a generalization of generalizations. And there are generalizations which embrace a plurality of generalizations.

"There are very basic first-degree generalizations, and second-degree, and third-degree, and fourth-degree. We find there are five degrees of generalizations where one embraces the others, and we finally get to a word like 'Universe.'"

- Cite RBF to World Game, Jun-Jul'69

Generalization Sequence: (2)

"We find that 'Universe' itself has to be complementary because there is the conceptual and the nonconceptual automatically.

"We have nothing else to indicate mind present anywhere in other animals, or in mountains, or in the physical. There is nothing in our experience with little dogs, our affection for a little dog, or whatever it might be, to suggest that little dogs could develop the theory of functions. We find that the ability to generalize is absolutely unique to mind and that the little dog has brains, beautiful brains, but not mind.

"We have no experience of the mind except in terms of the human being; the mind of the human being, which is able to apprehend and comprehend generalized principles. All the generalized principles have been discovered by human mind. The people who have discovered them are usually called scientists. Sometimes there's a poet, but really the sort of artist-scientist is the one who discovers them, and every time he discovers them, he's prone to make a record of the fact that he discovered it, and that he didn't invent it."

- Cite RBF to World Game, Jun-Jul'69

"The great scientists and artist-scientists finding these life principles find them all never contradictory one of the other. They are intercomplementary; they are interaccommodative. There can't be a principle that has a 'beginning' and an 'ending'. We cannot suggest that an abstraction could have a beginning and an end. The words 'beginning' and 'end' have to do with the physical,

"So we have, then, this extraordinary a priori set of absolutely weightless, pure metaphysical principles which all interaccommodate and therefore are extraordinarily orderly. And they can only be discovered by intellect or mind. They seem to be quite clearly purely metaphysical, and in their orderliness and metaphysicality, they seem to be intellectual in their own right. There seems to be an a priori greater intellect operative in the Universe.

"Anyone who discovers anything about his physical Universe begins to be overwhelmed by it. Just to start off with, there is mass attraction. You learn how mass attraction operates. But no scientist has the slightest idea of the why or how of mass attraction. The more you discover scientific-

ically - Cite RBF to World Game, Jun-Jul'69

"the more you are overwhelmed by what we don't know.

We're dealing in a fantastic mystery, and yet that mystery does have all this extraordinary orderliness, so that you can't help but realize that it can only be found by intellect. Apparently we learn it subjectively, so apparently there must be an objective intellect. There seems to be an a priori greater intellect than that of man operative.

"I don't have to do anything about it. Nature knows exactly what to do. Nature is never caught off guard. /RBF throws coin into the air I haven't the slightest idea really how to resolve it when I threw that coin in the air. But nature knew how to handle it. Nature is never non-plussed about what to do. But you and I get tremendously nonplussed about what to do."

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul*69
Satrun Film transcript #327, pp.13-16. ⁵

Generalization:

"If you try to remember all the special case experiences of which your life is composed, your brain will be very quickly overloaded in the given category of recall. It is going to take too long to get this information back and sorted out to use. Instead of trying to deal in all the special cases, deal exactly with the opposite; work towards the great Generalizations. Mathematics is one of the great generalizations and so I've worked and kept myself at nBthematics, By understanding the fundamentals of mathematics, I can now understand special case behaviors very rapidly. This is one of the major strategies."

- Cite RBF address at Univ, of Rhode Island, 26 Aug. '66. p.195
RBF UaFIHITIw.S

Generalization:

"You begin to be able to do away with thousands and thousands of what we call special cases when you get into generalizations. Generalization gives you great strength so what I had learned in chemistry, physics and mathematics began to be very useful. I readopted mathematics because mathematics contains all the great generalizations and there are not really many generalizations. I discovered that if I could be master of the generalization# that I could develop a very high capability."

- Cite OREGON Lecture //2 - p. 55, 2 Jul '62

Generalization; Degrees Of:

"The degrees are then progressive omnibus stages Of generalizations of generalizations."

- Cite BRAIN 4 KIND, p.1J9 fey »72

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"The whole process of generalising generalisations fores a pyramid whose base consists of all the special cases of direct physical experiences. But when we said, 'We take a piece of rope and tense it,' we did not in fact have a rope in our hands. We have all had so many rope experiences that we generalised MH the concept. This was a first degree generalisation. The discovery of always and only coexisting tension and compression was a second degree generalisation. Finding a whole family of always and only coexisting phenomena was a third degree generalisation; and conceiving therefrom a relativity was a fifth /sic_7 degree generalisation.

•'In this pyramid of generalisations, the human mind then goes way beyond the biologicals in its development of an Increasing and diminishing conceptual Universe. So we find the metaphysical not only balancing the phydcal-- which should have been expected--- but also encompassing the physical by one tetrahedron, and thereafter reducing its myriadness to unity. The metaphysical, as with the circumferentially united, great-circle chord vectors of the vector equilibrium, coheres the physical.

"...Man is the great antientropy.

- Cite NASA Speech, p.89, Jun'66

"Each degree of generalization

shrinks the number of component concepts

from the original myriad of special-case experiences.

Fan's mind is therefore

the most powerful anti-entropy

manifested in the universe."

- Cite MERGERS k ACQUISITIONS Spring 1966, Vol. 1., No, 3. p. 46

Generalization: Degrees Of:

How Little I Know, pp.28-29, Oct '66

Music in the New Life, p.14

Generalization: First Degree:

'It was a first-degree generalization When I said, 'I take a piece of rope,' And in describing my purposeful tensing of it. There was nothing I said Regarding the piece of rope That in any way contradicted Any experience that anybody In an audience has ever had With any piece of rope.'

- Cite BRAIN 4 MIND, p,139 May *72

"What I have done for you in differentiating out these behaviors and finding always and only coexistings, is what we call a first-degree generalization. . . Insideness and outsideness. . . Concave and convex. . . Action and reaction ... proton and neutron. . . Tension and compression.

Those are all first degrees."

Students International Meditation Seminar, Amherst, 22 July *71, p. 10

- Cite RBF at

U. Mass.,

RBF DiJIMThNS

Generalization. First-Degree:

"By abstraction I mean an Idealized empty-set, first-degree generalized statement such as one of my own, 'Let's take a piece of rope and tense it.' This refers to any rope and is a first-degree generalization.**

- Citation at Abstraction. 10 Dec'64
—0<D OF -6,

See Pattern. 1954-59

Eternal. 13 Mar*73

"It is a second-degree generalization

To find an additional generalized principle

Operating within the generalized piece of rope;

Such as the always and only

Coexisting tension and compression.

IL is also a second-degree generalization

To find the concave and convex within generalized systems.

- Cite BRAIN & MIND, p.1J9 May *72

"it was a second-degree generalization to find the theory of functions embracing generalizations. Here is a erali- zation of x and £ embracing a number of clearly differntitted yet nonetheless generalized principles."

- Cite RBF at Students International Meditation Seminar, U. I-ass., Amherst, 22 July '71, p. 10 "And within the specialised occupational categories An ever multiplying host

Of second degree specializations

Are frequently being instituted

All in perverse disregard of the fact

That humans are born with universal curiosity, And omnifunction inventing capability With which to cope extracorporeally With ever evolving

Environmental challenges. . . "

- Context and citation at Generalized Principle (3t> + (4)» Jan'69

Generalization, Second-Degree:

"Next I say, 'Tension and compression are only coexistent'--- when you tense a rope its girth contracts--- ergo compresses. This observation is a second-degree generalization. **

- Cite MUSIC, p. 14 t 10 Dec'64

Second Degree:

``When a second order of pattern distillation as a generalised conceptual principle emerges, but this time exclusively from the emergently-induced coordinate consideration of a plurality of generalised conceptual principles themselves, each independent of any special-case sensoriality, and in such a regeneratively recognisable manner of patterning as to provide a means of mathematical accounting and therefrom a tentative forecasting capability, not only of generalised developments but also of special forward experiences in the terms of specific sensorial conditions, and those calculated forecast condition materialize, and the forecasting capability is subsequently verified by recurrent experimental demonstrations under controlled generalized conditions, then we may tentatively assume that we have discovered at least a clause of 'natural law,* For example, we tentatively assume that radiation is generalized compression and that gravity is generalized tension and that tension and compression are inseparable, precessionally complementary functions of universal structure*"

- Cite INTRODUCTION to OMNIDIRECTIONAL HALO, p.120, 1959

Generalization; Third Degree:

"It's a third-degree generalization

Or a generalization of a group of generalizations,

To develop the Theory of Functions ' ./herein the X and Y could stand
For any one second-degree coexistence generalizations.

- Cite BRAIN 4 MIND, p.139 May '72

Generalization: Third Degree and Fourth Degree:

"bo i found there was a hierarchy of generalizations of generalizations.
..e go into relativity as a third degree generalization and Universe as
a fourth degree generalization.

- Cite RBF at Students International meditation Seminar, U. Mass.,
Amherst, 22 July '71 , p. 10

RBF DEFINITIONS

"Only coexisting phenomenon tension and compression, convexity
and concavity, and electromagnetic charges are each special cases of
the generalized mathematical case of the only-coexistence of func-
tions of a system. This statement is a third-degree generalization
which generalizes generalizations.**

"Forty years ago I generalized this third-degree abstraction even fur-
ther by saying that 'unity is plural and at minimum two.' This is a
fourth-degree generalization."

- Cite MUSIC, p. U , 10 Dec'64

Generalization: Forth Degree:

'*It is a fourth-degree generalization

To develop the word 'relativity.'**

- Cite BHAIN & MIND, p.139. May»72

"When we get to the fifth-degree generalization, Universe,

We have increased our numbers-of-experiences base To all the expe-
riences

Ever known to and remembered by humanity, Including all the expe-
riences

With all the atoms and their nuclear components.

"Thus, the human mind

Has collected, combined, and refined All experiences of all humanity,
In all-remembered time, Into one single concept. Universe, Which is,
ipso factor, The ultimate generalization."

- Citation at Universe, May'72

"And it's a fifth-degree generalization

To employ the word 'Universe'

To embrace both the relativity and complementarity.

- Citation at Universe, May'72

~~CxU> BTUAMP, 1 May i'/i~~

"Life is a fifth degree generalized principle Permeating the gamut
Of special case, inanimate, Physical energy events.

Live animals have no reaction to dead animals Animals do not think
about life and death."

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan*69

Generalization. Fifth-Degree:

"Einstein's 'relativity' and the physicists' 'fundamental complementarity' of universe constitute fifth-degree generalizations, for they abstract, condense, and reduce the generalizations into single words."

- Cite Music of the New Life, U. OP-P* , 10 Oct'64

"The Cosmic Hierarchy of Comprehensively Embracing And Permeating Generalizations-of-Generalization - gg".

- Cite SYWEHGETICS draft at Sec. 1056.20, 13 May*73

TEXT CITATxUhb

Generalizations of Generalizations:

Synergetics text - Sec. 1056 -13 May*73

Sea Hierarchy of Hierarchies Truth t Love Generalization: Degrees Of Pyramid of Generalizations

See Embracing & Linear. 16 Feb¹73

Eternal Designing Capability Sequence (4) Metaphysical & Physical, 20 Jun'66

Generalization: Mathematical ya Literary:

"In literature the word generalization means Covering too much territory Too thinly to be convincing.

However, we have in science a term 'generalization,' Which does not have the literary connotation.

A generalization in science refers to A principle discovered by experiment To be operative in every special case."

- Cite BHAXN & MIND, p.1j6 May '72

"The word generalization in literature usually means covering too much territory too thinly to be persuasive, let alone convincing. In science, however, a generalization means a principle which has been found to hold true in every special case."

- Cite Nehru Speech, p.8, 13 Nov'69

' 'The term generalization

!./hen used in a literary sense Frequently suggests

That a statement has been made

Which tries to cover

Too much territory too sketchily

To permit the implication

Of significant pattern disclosures.

On the other hand

A scientific generalization

Has powerful significance."

- Cite GENERALIZED PRINCIPLES, p.1, 28 Jan'69

By generalization we mean "'pattern generalization' as used in a mathematical sense, in contradistinction to the word 'generalization' as used in the literary sense. The latter often means a too-ambitious subject range which consequently permits only superficial considerations of any specific case data.

(Adapted.)

"Then the uniquely emergent generalized patternings become describable by us in mentally regenerative conceptual terms, as completely divorced from any one of the specific sensorial conditions of any of the special experiences out of which they emerged, yet apparently, as seen in retrospect to have been persistent in every special case, then we may tentatively assume such unique mutual pattern content to be a generalized conceptual principle, as for instance the conception of tension as opposed to compression independent of textures, smells, color, sound, or size of any one tension dominated experience."

a Citation & context at Pattern Generalization (1)(2), 1959

See Science: Gap Between Science & the Humanities Scientific Generalization

Generalisation & Special Case:

"...A minimum thing always has separable parts. A thing is always special case. Special cases always have timefrequency relative siting, whereas the minimumsystem, the tetrahedron, is generalised, prefrequency, siteless, timeless yet, conceptual, ergo, does not have separable parts, but-- being primitive (timeless)—does have primitive fractionability into structurally conceptual, timeless, omnirationally accountable, symmetrical, differential polyhedra of the cosmic hierarchy.*

- Citation 4c. context at Finite Event Scenario, (1); 23 Jan'77

Generalisations of Generaliyationa:

See Embracing 4. Linear, 16 Feb'73

**Eternal Designing Capability Sequence (4) Metaphysical &, Physical,
20 Jun'66**

HBf UtFIMTIUhS

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- Cite bHalN & KIND, p.136 May »?2

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tern content to be ^a generalized conceptual principle, as for instance the conception of tension as opposed to compression independent of textures, smells, color, sound, or size of any one tension dominated experience."

a Citation & context at Pattern. GfInRraI.izaU.on 1959

See Science: Gap Between Science & the Humanities Scientific Generalization

See Lever, (a)

Pattern Generalization, (1)

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- Citation &. context at Finite. Event Scenario, (1); 23 Jan*77

Generalization & Special Case:

"I make each Individual as special ease but consciousness as the generalization. Like that bumper sticker this morning (DC license # 160t585)THE REAL WORLD IS SPECIAL C1SE.

Reality is special case. You and I are sitting here and no one else can be sitting right where we are. But the newspapers miss this: they write about reality as if we were all the sane realities, as if we were all the same things. If you and I were sitting here we couldn't possibly be anywhere else.

That is the differ- there is only one

"There are a lot of different realities, once between reality and generalization; generalization."

(8537.44)

- Cite RBF to EJA, 3200 Idaho, Wash. DC; 12 May'75

Generalization *it* Special Case:

"Special cases are inherently terminal. Brain would like to have everything begin and end. But principles are eternal, a word with which brain is not familiar.

"All inputs to the brain are finite."

Cite RBF videotaping session Philadelphia, Pa., 20 Jan'75

"Our method of demonstrating the nature of the special-case experiences out of which the pure mathematicians¹ imaginary generalized case of his pure straight line was evolved, also contains within it the complete gears-interlocking of quantum-wave mechanics and vectorial geometry, which are coordinately contained in synergetics with computer binary 'bitting'."¹

- Cite SYNERGETICS text at Sec. 522.36; Nov'71

"If you try to remember all of the special case experiences of which your life is composed, your brain will be very quickly overloaded in the given category of recall. It is going to take too long to get this information back and sorted out to use. Instead of trying to deal in all the special cases, deal with exactly the opposite: work towards the great generalizations.*¹

- Cite RBF Address to Geographers in Rhode Island, 26 Aug'66

TXT CITATIONS

Generalization & Special Case:

(1)

104	504.04	1003.11	S200.06	S537.44
101	505.01	1005.50	<u>5260-269.07</u>	5537.46
105	515.12	1(X»5.00	0326.07	3900.21
229.06	515.14	1009.41	S326.21	3900.31-900.32
305.02	521.01	1010.14	S326.40	31005.611
323	522.36	1011.21	S502.05	S1006.34
363	528.06	1012.01	s504.11	s1044.12-1044.13
411.11	540.04	1012.33	s505.53	S1052.57
445.11	020.08	1012.36	S526.33	31053.824
501.04	905.42	1054.01	8531.06	\$1071.10
502.21	981.02		S532.18	\$1072.21

See Generalized Principles, Once Discovered, Become Special Case

Whole to Particular

Quantitative vs. Qualitative

Conceptual vs. Quantitative Concept vs. Information Wholes Ac Parts

Brain Ac Kind: Distinction Between Irrelevancies: Dismissal Of Eternal Temporal i-'odel vs. Form

Generalized Dichotomy: Grand Strategy Symmetry Ac Asymmetry

See Angle & Frequency Modulation, Jun¹66 Convex &. Concave Tetrahedron, Aug'71 Cosmic Absolutes, 13 Jul'74 Design, May'67 Domain & Quantum, (2) Individuality &. Degrees of Freedom, (3) In, Out &. Around Experiences, (1) Mathematics. 18 Apr'63 Metaphysical & Physical, Jun'66 Mind, (1) Pattern. Jun'66 Prime, 20 Dec»74 Primitive Regeneration, 27 Dec'74 Plumbing, (17(2) Quantum Mechanics: Grand Strategy, Jun'66 Generalized Dichotomy: Grand Strategy, (3) Atom, 8 Sep'75 God, 7 Nov»75

See Science: Pure & Applied 14 Sep'71
 Spheres & Spaces. 14 May*75
 Synergetics, (p.ioi) Jun'66; 12 May'75
 Things, 19 Feb'72
 Truth, 30 Jun*75
 Wave &. Particle Definability, 27 Dec'74
 Vacuum, 11 Sep*75
 Unstructurings & Restructurings, 8 Sep»75
 Angle <fc Frequency Design Control, Jul»71
 Vector Equilibrium, Oct'75
 Vector Equilibrium Involvement Domain, OB 10 Dec'75
 Symmetry k Asymmetry, 11 Dec'75
 Apprehension + Comprehension - Awareness, 26 Jan'76
 Concept, 20 Dec*74
 Finite Event Scenario, (1)*
 Proofs, 8 Aug'77
 Will, 20 Aor'78; {1}(2)

See Information vs. Entropy, 15 Nov'74 Organic & Inorganic,
 Nov'71 Tetrahedron, 2 Jul*t>2 Truth, J1 Jan'75 Hadlration, 1959
 Export-import Centers, 20 May'75 Frequency 4 Wave, 19 Dec'74

"... The total rope experiences is perhaps ten thousand kinds, and
 we've gotten that down to only one piece of rope. Then we took all the
 myriad kinds of experience with concaves and convexes and with pro-
 tons and neutrons; we got that down into the theory of functions, and
 then we embraced that even further, getting just the word 'relativity.'
 And finally we got this word 'Universe.' What we have here is a pyra-
 mid of all the special cases working up to generalizations, and gener-
alizations to one word. That's as orderly as you can get.

"We were looking for a phase of Universe where things are contracting and increasingly orderly. Nothing could be more orderly than those generalizations."

_ Citation and context at Intellect: Equation of Intellect (1) 1970

See Idea Increment®

Puzzle of Washington Crossing the Delaware

Generalize:

"As part of my broad strategy when I started out I thought I could generalize machine tools---or alloys--so they could be better understood."

- Cite RBF to EJA, Wash., DC; 9 Feb '76

-fiMWraUWj Boat:

See No Generalized Boat

-Generalized Design:

See Valving, 19&0

QgMralUed PlghQtORY! Grand Strategy?

"I do not mean to infer any set of special case paired dichotomies.

"I first developed the concept of synergy, the behavior of whole systems unpredicted by the behavior of the parts considered separately, which automatically Identifies the unique behavior of the whole as resulting from the interrelationships existing between but not in any of the parts.

"Next I pointed out that there was nothing in atoms per se that predicted their association as chemical compounds; there was nothing in chemical compounds per se that predicted biological protoplasm; I said there was nothing in biological protoplasm per se that predicted camels and palm trees; nor the respiratory interexchange between those mammals and botanicals.

Quite clearly, the more complex systems were never predicted by the behaviors of the lesser systems.

"I next pointed out that there is what we call synergetic grand strategy. The synergetic strategy is that the known behavior of the whole and the known behavior of some of the"

- Cite RBF Ltr. to Dr, Wm. R. Cline, San Francisco, CA, 26 May'75 *parts may frequently provide the capability to discover unknown parts or all the unknown parts.

"I pointed out that Euler's topology provided mathematical means for dealing with the whole of visual experience reducing it into points, areas, and lines and we found there was a consistent generalization of the relative abundance of those three irreducible aspects of experience.

"I then pointed out that Willard Gibbs, at the beginning of the 20th century had been able to provide a formula for relative abundance of the tactile experiences of liquids, crystallines, and gases; and with the known behavior of the whole and the known behavior of some of the parts quantitatively predicted, the behavior of the unknown parts and energy inputs we could arrive at the factors necessary to establish the equilibrium of a substance.

'Having found, then, that humanity had three successful grand strategies for proceeding from the whole to the particular, I produced my scientific definition of Universe; and I produced the concept of a system; and was able to find an equation for*

- Cite RBF Ltr. to Dr. Wm.R. Cline, San Francisco, CA, 26 May*75

Generalized Dichotomy: Grand Strategy: (3)

*the conceptual system and the known conceptual but finite nonsimultaneous scenario Universe.

"I then Introduced a series of deliberate dichotomies of Universe, drawing out the successive irrelevancies, identifying the number of dichotomies of the residual relevancies, identifying the number of such dichotomies, and culling of the residual relevancies as the number of bits in cybernetics.

Many such dichotomies are necessary to reduce the net relevant components of the net system sought with exact knowledge of all the topologically identified components of the net relevant system.

"In other words, I use a generalized dichotomy and not a special case . Obviously, when each special case use of my grand strategy occurs, then we will have a series of special case dichotomies."

- Cite RBF Ltr. to Dr. Wm.R. Cline, San Francisco, CA., 26 May'75

See General Systems Theory Irrelevancies: Dismissal Of

Generalized Law:

"if the systems are unstable they are not inherent to generalized law.
if the systems are stable they are inherent to all generalized law."

Systems.

Stable & Unstable 23 Jan¹72

- Citation i context at

See Metaphysical, 22 Apr'68

Eternal 4c Temporal, 4 Sep*7?

See Orbit, 14 Feb'73

Generalised Principles:

"Universe is the aggregate of all the generalised principles."

- Citation & context at Individuality & Degrees of Freedom. (4) 1 Jul'75

Generalised Principles:

"Generalised principles can only be expressible in abstract mathematical terms."

- Cite RBF to EJA, Pagano's Rest., Phila., PA., 22 Jun»75

Generalized—Principle:

"Many principlea as yet undiscovered are nonetheless operative...."

- Citation and context at Understanding, 7 Nov*73

"If the only momentary and optically illusory system consideration proves to be unstable, it does not manifest generalized principle. If systems are stable, they are inherent in and accommodate all generalized principles."

- Citation in context at Stable Unstable Systems, 2 Nov'73

Generalized Principle: (A)

"Human mind has discovered a number of generalized principles, each quite different from the others: one, for instance, being mass attraction; another being leverage; another being refraction of radiation; another being precession, etc. in order to qualify as generalizations, these different principles found by science must be devoid of exceptions. Therefore, principles must be both eternal and mutually interaccommodative. Humanity apparently discovered a plurality of a priori, absolute, weightless, abstract principles, each displaying unique mathematical relationships, realization of which generalizations can be employed physically by humans but only in time-limited special cases-- for instance, to produce a lever of such and such a length of wood or other substance.

"Only through a succession of many subjective, special-case physical experiences do we humans gradually come to discover a generalized principle. Later we also discover that we can objectively employ those generalized principles. But then we find they can only be employed in special-case physical ways. Only the human mind can discover and think conceptually in generalized terms. Physical life is always a special-case."

- Cite GbuViEW i, "Ko Title," (Part 1), World lag., p.34, 22 May'73

Generalized Principle: (B)

"Human mind alone has the capability to process and conceptualize in eternal, weightless, timeless metaphysical abstractions. it follows that while all human organisms exemplify and embrace a large number of generalized principles, each human demonstrates the complex interaccommodation of an aggregate of generalized principles.

What we have discovered, then, an eternally regenerative universe consisting of a complex of eternally generalised principles, wherein none of the generalized principles has ever been found to contradict the others, and, indeed, all are found to be interaccommodative at exponential rates of synergetic inter-augmentation, as for instance, the efficiency of an electromagnetic generating and distributing system increases as the square, i.e., as n^2 , of the rate of the system's voltage increase."

- Cite libuVitJ 1, "Mo Title," (Part i), Worldlag., p.J4, 22 way'73

RBF DEFILITIUt.b

Generalized Principle:

"Synergy manifests itself in the generalized principles and their exponential rate of interaugmentation."

- Cite RBF in Baccalaureate Address, University of Virginia Charlottesville, 3 Jun'72

Generalized Principle "... All the generalized principles Thus far discovered

Are uniquely identifiable Exclusively as 'Behavioral interrelationships' Of two or more

Separate components..."

- Cite Intuition, p.28 May '72

"The physical universe is a self-regenerative process. Its regenerative interrelationships and intertransformings are governed by a complex code of weightless, generalized principles. The principles are metaphysical. The complex code of eternal, metaphysical principles is omni- interaccommodative. That is, it has no intercontradiction. To be classifiable as 'generalized,* principles cannot terminate or go on vacation. If indeed they are, they are eternal, timeless."

- Cite Dreyfuss, Preface, ' "Decease of Meaning" 28 April 1971, pp. 4,5

RBF DEFINITIONS

"Because the generalized principles cannot be principle auto unless they are eternal,_A because human experience is inherently limited, there can be no finality of human comprehension."

trans

Generalized Principle:

"A generalized principle hold true in every case.

if there is one single exception then it is

no longer a generalized principle.

No one generalization ever contradicts

another generalization in any respect.

They are all interaccommodating,"

Cite Lecture ' "The Function of Man in Universe" Town Hall, New York,
26 Feb 1971

Eternalized Principle:

"To date, we have gained vast inventories

Of trial-and-error experience

From all of which information we have developed A family of generalized scientific principles Which are weightless pattern concepts."

- Cite RBF Draft, BRAIN k MIND, p. 10 1971

Generalized Frjnr<r.l>- *' th' of weightless

- Citation at Reality. 13 N_Oy>69
- <as*=a49, »5=Si^zraC»tF

is.

Generalized Principle:

(D

"To qualify scientifically as generalized principles The concept relationships Must endure limitlessly

And hold true without exception .While also being transcendental To the locally coming-to-pass Separate experience sensations, Within whose only superficial novelties They persist unobtrusively.

"Generalizations are also transcendental To beginnings and endings.

"In his endeavor to cope subjectively
With the information explosion,
And objectively
With socio-economic survival problems,
Lan has developed a myriad

Of specialized academic, technical, craft, And repetitive labor tasks.

-Cite GhhUUULED PRINCIPLES, p.2, 28 Jan'69

Generalized Principle: (2)

"Having concentrated all their

Cognitive faculties and reflexes

In responding exclusively

To the inventory of characteristics

Of certain experiences

The 'special case*' data on which

Agglomerate astronomically

Frequently to overwhelm

The brain's physically limited

'Special case' data

Storage capacity.

"The alternative intellectual discipline strategy

To that of specialization

Is to extract from all

The special case experiences

Of our total life's inventory

The easily rememberable

Few hundreds

Of thus far intuitively discovered

And experimentally verified Generalized principles.

And because the generalized principles

Hold true in all cases," Cite GENERALIZED PRINCIPLES,p.2, 28Jan'6!

Generalized Principle: (3)

'All special cases can be understood By those familiar with

The inventory of generalized principles

For the latter must hold true In all special cases.

"There is apparently a complex family
Of immortal and omni-interaccommodative
Generalized principles

Which altogether govern Universe--- Indeed constitute Universe.

Comprehension of that family
Provides comprehensive understanding
Of all experiences.
"And within the specialized occupational categories
An ever multiplying host
Of second degree specializations
Are frequently being instituted
All in perverse disregard of the fact
That humans are born with universal curiosity,
- Cite Gr.hUbiLiZr.1) PRINCIPLES, p.3, 28 Jan*69
"And omnifunction inventing capability
. • /ith which to cope extra corporeally
With ever evolving
Environmental challenges;
In lieu of burdening or distorting
Their integral organisms
With special tool functions
Or even with hybrid evolved
New organic appendages
To cope with special case
Environmental conditions
As do all other
Biological species.
In evolving his hybrid
One ton tail
With which to bash loose

Likely food items.
The dinosaur developed two small brains,
One in his head
And one in his tail
And apparently
Jagged himself
Disordantly into extinction.”

- Cite GENERALIZED PRINCIPLES,p. 3

RBF DfiHkl'ilUi.!,

Generalized Principle:

' 'Because of his ever multiplying Transfer of
essential functioning To his organically detached
tools, Xan's degrees of freedom of action And
magnitude of Universe penetrations And velocity
of information harvesting Have become ever
regeneratively amplified.

` ` The histories of biological species Teach us
that special extinction Has always been caused
By overspecialization And loss thereby

(5)

Of general adaptability.”

- Cite GENERALIZED PRINCIPLES, p.3, 28 Jan'69

Generalized Principle: (t>)

"but we must recognize also

The irreversibility aspect

Of generalized principles

./hich show that

Though they can be distilled
And abstracted from
A multitude of special case experiences,
Their net significance economically isolated
And their unique characteristics defined,
They cannot be employed
In total universally ranging performance.
You can abstract
From many experiences
With floating objects
The principle of displacement
As did Archimedes, But you cannot design A generalized displacement Nor a generalized boat."

- Cite GENERALIZED PRINCIPLES, p.4, 28 Jan'69

Generalized Principle:

"The inter-accommodative generalized principles seem to constitute a body of anticipatory, comprehensive, intellectual abstractions weightlessly governing universe, evolution and humanity's fate therein. Thus the great u scientists are beginning to discover God at first hand, as the most comprehensive generalization of the invisibly finite reality. «»'e have then these great generalized principles , of which the average man is unaware, operating supremely and bringing about the evolutionary rearrangements in our total experience of being aboard a planet."

-Cite ARTS & LETTERS GOLD MEDAL, p. 10

May'68

KBF DEFINITIONS

"Pure principles are usable. They are reducible from theory to practice."

- Cite Oregon Lecture #3, p. 102. 5 Jul'62

Generalized Principles, Once Discovered, Become Experiences:

See Mind, (1)

Universe: All the Known, 15 Jan'74

Special-case Experience, 6 Nov*73

See Cosmic Law Family

d)

Cosmogony: Orderliness Operative in Nature Discovery of Generalized Principles Equatability of Generalized Principles Eternal Principles Generalization

Inventory of Principles

Inventory of Characteristics of Principles Metaphysical Synergy

Principle

Pure Principle

Undiscovered Principles

Interaccommodation: Interaccommodative

SsasEaUtai-EEiaslBisa

(2)

See Comprehensive, Feb'72

Eternal, May'72; 13 Feb'73

Hierarchy of Constellar Configurations, 1959

Metaphysical, Jan'68

Metaphysical Environment, 13 Nov'69

Metaphysical *it* Physical 22 Apr'68; 27 Dec'74

Reality, 13 Nov'69*

Synergetic Surprise, 9 Apr'71

Tension, (1)(4}

Understanding, 7 Nov'73

Stable & Unstable Systems. 2 Nov'73* Individuality & Degrees of Freedom, (4)* Wealth, 8 Dec*75

(D

"Generalized principles have topologica¹ •ystem definability of angle, number, and constancy. Special cases have unique frequency dimensionability. Wherefore we propose that all recallably thinkable experiencings, physical and metaphysical, are fivefoldedly characterized:

- (1) systematically,
 - (2) topologically
(topo-aspectively),
 - (3) angularly,
 - (4) numerically
(topo-interabundantly),
 - (5) frequency definable
(special case: physical).
- } Generalized
(metaphysical
& physical)

"All conceptually thinkable exclusively metaphysical experiencings are fourfoldedly characterised as above. All generalized principles are conceptually thinkable and fourfoldedly definable."

- Cite SYNERGETICS, 2nd. Ed., at Secs. 1072.21 & .22, 27 Dec'74

"Generalization is conceptually (i.e., systematically) imaginable independent of (5) frequency.

"The fifth characteristic, (5) frequency, is the unique special case variable. Physical experiencings are dependent not only on the four generalizable characteristics, but also on (5) frequency (i.e., size)."

__ Cite SYNERGETICS, 2nd. Ed. at Secs. 1072.22 i .23, 27 Dec'74

General Systems Grid:

See Lkistics, Aug'72

See Basic Triangle: Basic Disequilibrium 120 LCD Triangle, 20 Dec'73

genprel Syatws Thflpry:

"General systems theory usually relates to arbitrary parameters; I relate general systems theory to Universe.*

- Cite RBF at O.B. Hardison dinner party, Wash. DC., 18 Dec'74

*Juat now, man is coining into technical discovery of general systems tfteorv. The experimental probing of the potential! of the computers awakened man to a realization of the vast complexes of variables that can be mastered by general systems theory. So far, man has dealt but meagerly and noncomprehen- sively with his powerful planning capability. So far, he has employed only limited systems theory in special open-edged systems--- *tic-tac-toe¹ rectilinear grid systems and planar matrixes. The arbitrary open parameters of infinite systems can never be guaranteed to be adequate statements of all possible variables. Infinite systems engender an infinite number of variable factors. Unless one starts with Universe one always inadvertently starts with open infinite systems. Only by starting with finite Universe and progressively dismissing finite irrelevancies can one initiate finite, locally limited, general system theory to assured satisfaction in problem solving?¹¹¹

. Cite RBF rewrite of SYNERGETICS galley at Sec. 537.33, 8 Nov'73

General SystAma Theory: (1)

"The 12 universal degrees of freedom govern the external and internal motions of all independent systems in Universe. In order to take synergetic strategy advantage and thereby to think comprehensively and anticipatorily, in terms of total systems, we have to start off with Universe itself as a closed finite system that misses none of the factors. We must also include all the universal degrees of freedom, and the approximately unlimited range of frequencies in the use thereof, which cover all variable interrelationships of Universe.

They become the controlling factors governing general systems and, thereby govern such supercomplex systems design as that of a nation's navy or a fundamental program for comprehensively considerate and efficiently effective use of all world resources.

- Cite SYNERGETICS text at Sec. 537.31; galley rewrite, 7 Nov'73
SYBfHgTheoryj (2)

"The general systems approach starts with the differentiation of Universe, including both metaphysical and physical, and permits progressive subdivisions in cybernetical bits to bring any local pattern of any problem into its identification within the total scheme of generalised system events. Problem solving starts with Universe and thereafter subdivides by progressively discarding irrelevancies thereby to identify the 'critical path*' priorities and order of overlapping developments that will most economically and efficiently and expeditiously realize the problem's solution by special local problem identifications and location within the totality of the problemsolving scenario."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 537.31, 7 Nov'73

"General systems theory treats with phenomena that are holistically comprehensible. The objects of our experience are finite systems. Their superficial outlines close back upon themselves multidirectionally as a systematic continuity of relevantly contiguous events.

"Maximum system complexity consists of a dissimilarly quantified inventory of unique and nonintersubstitutable components. That is, Euler's irreducible-system aspects of vertexes, areas, and edges exhibit the respective dissimilar quantities 4, 4, and 6 in the minimum prime system, the tetrahedron. This demonstrates the inherent synergy of all systems, since their minimum overall Inventory of inherent characteristics is unpredicted and unpredictable by any of the parts taken separately. Systems are unpredicted by oneness, twoness, or threeness. This explains how it happens that general systems theory is a new branch of science.

"General systems theory is another example of evolution by inadvertence. It developed fortuitously to accommodate the unprecedented and vastly complex undertakings of the late twentieth century, such as the 10 million separate and only"

- Cite SYNERGETICS text at Sec.s 400.22, 23 & 24, 26 May'72

General Syattma Thwry? tB)

"partially overlapping 'critical path' tasks that had to be accomplished and tested to foolproof reliability en route to countdown to eventual blastoff, Koon landing, and safe return to Earth, which found all conventional mathematical theory wanting. It required the development of the computer and star-focused instruments and computer programming arts together with operational research, which guess-improvises the inventory of parameter of variables that must be progressively programmed into the system in order to further reduce the magnitude of tolerated errors consequent to trial 'bird' (rocket vehicle) 'flight' (trajectory) control as the vehicles are progressively zeroed-in to progressive target rendezvous with celestial entities. Neither differential and integral calculus, nor

'probability* statistics, nor any branch of specialized hard science has accredited synergy as an a priori assumption. General systems theory, which recognizes synergy as inherent, was discovered and named by the biologically inspired Ludwig van Bertalanffy,"

"...The computer operational research and general systems sciences and their equipment will help... to progressively dispense with opinion judgments. They, as in the space operations, can cope effectively with all the tactical variables."

- Cite RBF Ltr« to Indira Gandhi, p.7» 4 Jan'70
jftntral flrrtwia Thogry?

"General systems theory 1* central to all the successful prognosticating. This theory has been employed in the logistics and ballistics of world-embracing naval theory for at least a century. It involves all the fundamental variables entering into the problem. Its strategy is to start with the most comprehensive family of variable factors possible, and by progressive elimination of those factors irrelevant to the special case problem, to arrive at logically predictable condition /sic/ at a given time and place. The most desirable results often require invention and development of new tools and instruments. Thus,*the physical novelties of tomorrow are often the consequences of a complex family of variables."

- Cite the AG* OF THE DOI'X, Jul<69

"In a great matrix we can call out the frequency and once we have the frequency, we know how many there are in that layer. . . So we would be able for a given frequency to know how many special-case informations we have stored there and how many relationships there are.

"Now it's very possible that we are getting to general systems theory. For a given frequency, what ever number of cells there are in that outer layer, is exactly what you are going to have to have for your general systems theory. Those are the number of variables at that level of discretion. You can generalize it more, or you can get down to less generalized levels."

- Cite RBF to Verner Smythe, NYC, Reel 2, p.2, 11 Kar'69

"The General Systems Theory is deductive and states that

only if we begin with universe and consider it finitely and comprehensively in terms of total systems, can we deal effectively with the maximum and minimum number of limiting factors of the combined and complementary physical and metaphysical subdivisions of universe."

bound with the "Live Book Squad"

- Cite RBF Glossary of Terms, you with `` The 11... ¹⁹⁶⁷

"How may we organize our self-disciplining to deal comprehensively and capably with the maximum and the minimum MM of limiting factors of the combined and complementary physical and metaphysical prime subdivisions of universe?"

- Cite NASA Speech, p. 24. Jun'66

"The sphere is complex unity and the triangle is simplex unity. Here and here alone lie the principles governing finite solution of all structural and general systems theory problems...."

- Citation and context at Unity; Complex and Simplex 15 Feb'66

General Systems Theory:

EDUCATION AUTOMATION, p_D. b6-67 s2O1.21

400.22-4CO.24 s}04

537.30: 536.31-537.34 5326.24

707.01

901.18

1238.80

See Bertalanffy Bridgman Differential Operational Problem Solving
Question: Original Question Starting with Universe Parameters Vari-
ables: Theory Of Irrelevancies: Dismissal Of Systems Alter Other Sys-
tems Grand Strategy Comprehensibility of Systems Critical Path Ge-
ometry of General Systems

See Octant, 20 Jul'73

System, (1)

Twelve Universal Degrees of Freedom: General

Systems, (I)-(IV)

Unity: Complex &. Simplex, 16 Oct'72; 15 Feb'66*

XYZ Coordinate System, Jun'66

Generalization i Special Case, Nov'71

See Absolute Generalizability

Contractively Orderly Generalization: law Of Design vs. Generaliza-
tion Ideal Generalization

Partial Generalization

Pattern Generalization

Scientific Generalization

Subgeneralization

Scientific Generalization

Ultimate Generalization

No Generalized Boat

Mathematics " Generalization
Metabolic Process Generalization

Reality vs. Generalization

Avogadre: Generalized Avogadro system

See Frequency, 16 Feb*73

Integration, 10 Oct'61

Lever (2)

Mathematics, 1965; 2 Jul'62; 13 Mar'?1*

Point, 20 Feb'73

Quantum Mechanics, Jun'66

Radiation-gravitation, 6 Mar'73*

Transcendental 28 Jan*69

Vector, 26 May'72*

Metaphysical & Physical, 19 Nov'74

Prime Thinkability, 26 Dec'74

Truth as Progressive Diminution of Residual Error, 1 Feb'75

Otherness Restraints & Elliptical Orbits, (2)

See General Case

Generalist

Generalization

Generalization: Degrees Of

Generalization: First Degree thru Fifth Degree Generalizations of Generalizations
Generalization: Mathematical vs. Literary Generalization
&. Special Case Generalization of the Special Case Generalizations
Reduced to One ./ord Generalize

Generalized Boat

Generalized topological Definability

Generalized Design

Generalized Dichotomy: Grand Strategy Generalized Law Generalized
Orbiting Generalized Principles

Generalized Principles, Once Discovered, Become Special-case Experiences

General Systems Grid

See General Systems' Mathematical Control Matrix General Systems Theory

See Broadcastingly Generated Electively Generatable Electromagnetic
Generating Omnisymmetrically Generated Propagate Radiantly
Gnerated Regenerative System Generates Itself Prime Generation
Nuclear Power Generation

SfnemiQn p-

See Young World: Generation Gap

cmretiwi:

See Older Generation TV: The TV Generation Young World

Generation: Generations:

• <2)

Bee Mb

Regenerativity, 17 Jan'75

Generators :

"Electric current generators unpeel the gravitationalals.

They unwrap the orbitals and precess them into linearly focussed paths. Their generated output is Induced by remote closing of a wired circuit between the user and the generator, which local switch closing allows an electron train to be tensed toward the generator which releases the power flow away from the generator toward the user's switched-in 'outlet.'"

- Cite kBF 19 Feb *72 re-write of 1? Feb entry.

Generators:

"Generators unpeel the gravitationalals. They unwrap the orbitals and turn them into the linear8."

- Cite fBB RBF to EJA + BO*R, 5200 Idaho, Wash DC, 1? Feb*72

See Circuitry: Thermionic t Political Analogy, 23 Jan `72

See Electric Motor Electromagnetic Generating Electrostatic Generating Flywheel Power Generation Windmill Wind Power Sequence Energy Harvesting

Generators: Electric Power Generatorc

See Energy, Jun'66

(2)

Pollution Control, (1)-(3)

Generous:

"So here we are then in this fantastic dileirnja--- all specialized. Whereas I am perfectly confident that it is perfectly possible for all humanity to freally be what they are born to be. To be generous."

- Cite Univ, of Chicago Address, p.11, 5 May^f72

Generous:

See Unselfish


Geneaia of M-od elability - Vector Equilibrium:

See Modelability, 12 Sep'71

See Conceptual Genesis Primitive Regeneration Bow Tie: Geneels Of

Genetic:

"Genetic - A priori code of discrete instructions.

Dia-logue means two-way feedback, logoscommunication as always referenced to an a priori complex integrity of abstract weightless, mathematically ordered equatability of generalized, and only scientifically

discovered, gBfBMMMjjjr inci pies."

s_gterna_j

s_gterna_j

- Cite RBF marginalis at Eccles' "Facing Reality," p. 3, 14 Feb '72, as rewritten same date.

Genetic:

"Genetic - a priori code of discrete instructions.

"Dia-logue as two-way logo s-conununicat ion all with a priori complex of philosophies."

- Cite RBF marginalia at Eccles, 'Facing Reality,' p.3, 14 Feb'72

Genetic - Instructions:

See Genetic, 14 Feb'72

Cenetlca: Senetie Code;

(1)

See BNA-RNA

Viral Steerability Biogenetic Experimentation

£SM.Ugg« Genetic Coda: Gene a:

(2)

See Metaphysical Independent of Inbreeding. (2)

Race, (1)-(4)

Science: Comprehensive Integration Of, 4 Apr*73

Personality, 9 Jan'75

Human Beings at the Center, (1)(2)

Genghis Khan:

See Child Sequence, (3)

Genius:

"I have powerful reasons for assuming that genius is
omni-innate*

Our first child was born at the time of

World War I /"and

so on, into the Alexandra Theme .J *

- Cite Address to Am. Assn of Museums, p. 1.

2 Jun»71

DEFINITIONS

Genius?

"I am grateful for being so generously introduced. But I hasten to
jnnt out that all humans are born geniuses. However they 'are usually
degenlused rapidly by perverse circumstances. Most perverse is the
ignorantly and lovingly lavished don¹t or do that cultivates that which
does not 'come naturally,' and discourages much of what does 'come
naturally,' There is nothing innately exceptional about me. I was just
lucky."

- Cite Museum Keynote address, Denver - p. 1. 2 Jun'71

Genius;

"The genius, as discovered by genetics is characterised by a combination of highly divergent physical life cells that are representative of widely cross-bred parent chains. These cells engage in a ceaseless polar tug-of-war for dominance of the specific human offspring and the result is a dual or multiple personality manifestation. Each progressively revealed momentarily prevailing personality is a summary of the dominants of the whole hereditary line.

"Dual or multiple personality provides, then, two or more viewpoints---equivalent to the two eyes of a range finder, an instrument which mechanically widens the distance between the two human eyes; or to the multiple eyes of the Fairchild aerial camera. Thus genius has the ability to 'fix' events by the convergent angle of two or more 'sight lines,' not only in time (or space) past, but, also, in time (or space) ahead, from the central perspective of self-now. Resultantly it becomes possible for genius first to analyze teleologically such 'fixed' phenomena, and then to objectify them in a precise time-energy composition. Genius's dual or multiple personalities may be said to be representative of a breadth of viewpoint, more-than-average, highly worldly, and having an exquisite

sense of Timeliness

- Cite NINE CHAINS TO THE MOON, pp.96-97, 1938

Genius: Children Are Born Geniuses: <¹)

"All children are born geniuses. Out of every 1,000 some 999 are swiftly and inadvertently degeniused by the grown-uns. Because millions of human beings in all the years of their history have always been born naked, helpless, and though superbly equipped cerebrally, utterly lacking in experience, ergo utterly ignorant. Their delicate sensing equipment is as yet untried.

"Born with built-in hunger, thirst, curiosity, and procreative urge, they could only learn what humanity has earned by trial and error---by billions upon billions of errors. Lest humanity be utterly dismayed by these errors, humans were also endowed with easily self-deceiving pride by all those witnessing their errors---nroclaimed to themselves and others that they (the witnesses) knew the answers all the time. Motivated entirely by love, but also by fear for the future of the children they love, parents in their ignorance act as though they know all the answers and curtail the spontaneous exploratory acts of the genius of their children.

"Genius does its own thinking--- has confidence in its own exploratory finding, has confidence in its own intuitions."

“ Cift, R?5)jGg5PrefaCe for i: rS* John S: Lillard » Lake Forest,

Genius: Children Are Born Geniuses: (2)

"Nature has her own gestation rates for all evolutionary development* The behaviors of the parents represent the checks and balances of nature's gestation control. Humanity can evolve healthily only at a given rate. Maria Montessori was fortunately permitted to maintain, sustain, and cultivate her innate genius, Maria's innate genius Involved her awareness of the genius inherent in all other children. The intuition and initiative of genius inspired Maria to discover ways of safeguarding the genius while allaying the ignorant fears of the childrens' parents---but not all parents---far from it. Hers was the difficult frontiering task of genius."

- Cite RBF draft preface for Mrs. John S. Lillard, 28 Aug'75

"By genius I mean those who act spontaneously with imaginative realism--- that is. by subconscious coordination of brain by mind-- as stimulated by intuitive insights regarding the interrelationship significances of fa their successive experiences; such geniuses are to be contrasted to those who respond only to external considerations, self-conscious disciplines and pre-conditioned nerve and muscle reflexing.

"All children are born geniuses but almost all are swiftly degeniused by environmental events. By environment I mean all of the Universe that is not self.

"Great artists and great scientists are the same. They cannot be one without being the other. Both realize their inspirations through intuitions. Both have complete confidence in the validity of their intuitions. Both have the courage to commit themselves to the testing of their intuitions."

- Cite UNESCO TIFLIS 1968, p. 8

Q: "How can you say everyone is born a genius? Can

you really mean that?"

RBF: "Yes. There is originality in everyone. There is

not anyone who can't in some way add to the Universe and contribute to humanity."

- Cite RBF to JZA, 3200 Idaho, Wash., DC, 8 Apr'75

See Life is a Sumtotal of Mistakes,(1)

Genius:

(1)

See Capability Degenius Originality Regenius Talent

Genius:

(2)

See Fuller. R.B: On Himself. 1973

Intuition of the Child, (1) Fear & Longing, 1938 Twilight Zone, Feb'73

Geodesic:

Geodesic being the most economical interrelationships of a plurality of events.'*

- Citation and context at Stemea of Reference. 24 Sep*73

Geodesic:

"The time factor... is always accounted only in most economical to aelf-experience, energy-time relationship (i.e., geodesic) units."

- Citation and context at Time Vector. 24 Sep'73

Geodesic:

"We have a mathematical phenomenon known as a geodesic.

A geodesic is the most economical relationship between any two events. It is a special case of geodesics which finds that a seemingly straight line is the shortest distance between two points in a plane. Geodesic lines are also the shortest surface distances between two points on the outside of a sphere. Spherical great circles are geodesics.

- Cite SET X, pp.9-10, Aug'72

Incorporated in SYNERGETICS at Sec.-65fr.-2V, 13 Oct'72

Geodesic:

"..hen we begin to talk about the interconnection between the individual atoms that make our sphere, we find that there are arcs and there are chords. And the shortest distance is the chord. So it's the chords that come together instead of the arcs, . .

"hat you call a sphere is all the most important shortest systems between all the points, which turn out to be all triangulated. You can divide all the other polygons into triangles and that's as far as you go. You can't have something less than the triangle. So we get all the most economical relationships between all those points and you simply have a spheroidal array of triangulated interrelationships. Simply what we call a geodesic, a dome. You can see how you arrive at this by -something very simple. So the simplest sphere which is concave and convex is the \square tetrahedron. It seems to be a very angular sphere."

- Cite Univ, of Alaska Address, p.30, 20 Apr '72

Geodesic:

", . .A 10,000 frequency geodesic, which is what the Earth really is,"

- Cite RBF to EJA, 3200 Idaho, DC, 22 Feb '72

$L_Y < . \$6 Lift$

Geodesic?

"Potential lines are metaphysically straight, all physically realised relationships are geodesic and curved trajectories."

- Citation at Metaphysical & Physical. 1971

136

Gegdesly:

"Vectorialjune, or 'trajectories' are always the most economical event interrelationships, ergo, geodesic."

- Citation at JintWTglaUQnghiPg, 1971

Geodesic:

"Geodesic lines /are/curvilinear and most economical lines of inter-relationship between two independently moving events."

"Great circles are geodesic lines because they provide the most economical (energy,effort) distances between any two points on a spherical system's surface; therefore, nature, which always employs only the most economical realizations, must use those great circles which, unlike spiral lines, always return upon themselves in the most economical manner. All the system's paths must be topologically and circularly, interrelated for conceptually definitive, locally tranTormable, polyhedrmal understanding to be attained in our sponganeous--- ergo, most economical--- geodesically structured thoughts."

- Cite OPERATING MANUAL, Pp. 66-67, 1969

Geodesic:

"Geodesic means the shortest distance btween two points on a sphere.*1

- Cite RBF. Glossary of Terms bound in ' 'The Live Book Squad" 1967

Geodesic :

"Geodesic linmay . . .be described experimentally as 'the most economic relationships between two event fife

focii."

- Cite NASA Speech, p. 46, Jun*66

~~Cite RBF. Glossary of Terms bound in ' 'The Live Book Squad" 1967~~ Geodesic:

"The largest volume, least event, omnitriangular system is the icosahedron and its multiple subtriangulated geodesic patterning. . . what I call the geodesic structuring."

- Citation at Icosahedron. 8 Oct'64

Geodesic:

"A geodesic line means the most economical relationship between events, but the events are not necessarily simultaneous. So there is a relationship between a rocket that just went off and another rocket that goes off a little later. When for instance, if you are so peculiar in the head that you like to shoot at a duck, if you want to hit the duck the way to shoot is not at the duck. W fou shoot where you hope the duck is going to be, but you don't shoot at the duck or you won't hit it. This is typical of the geodesic relationship between yourself and a nonsimultaneous event. The point of the head would not be simultaneous to any shoot. We have pictures taken during this last world war of night battles between two planes using tracer bullets and the pictures are sometimes taken from the Ml firing plane and sometimes from another plane in company with it. in these pictures of the tracer bullets you will sometimes see a plane fire and hit another plane, but the lines are completely skew lines. These are geodesic lines. They are the most economical relationship between those two events, in a nonsimultaneous Universe all the relationships are geodesic. There are no straight lines."

- Cite Oregon Lecture //3, p. 112. 5 Jul'62

Geodesic:

"The most economic relationships of points in Universe and their transformation tendencies."

Cite MARKS, P. 8, 1960

GeodeBIC:

"Geodesics are the most economical momentary relationships between separate events,

"To shoot a flying duck a man does not aim at the duck, but where the duck is going to be. If the bullet hit the duck, its trajectory was geodesic."

Cite R.W. Marks, DD4AII0N WORLD OF RBF, p.U, 1960

Geodesic:

"Of or pertaining to great circles of a sphere, or of arcs of such circles; as a geodesic line, hence a line which is a great circle or arc thereof; and as a geodesic pattern, hence a pattern created by the intersections of great circle lines or arcs, or their chords.'*

- Cite Patent Ko. 2 602.235, June 29, 1954 HUILJIKG CONSTRUCTION

Geodesic;

"In energetic geometry geodesic signifies the shortest (time) energy involvement distance between action centers.

- Cite RDF undated holograph on M.I.T. Memo pad.

Geodesics: (U

"Einstein and Reimann had resuscitated from a similar limbo to that of pre-1800 synergy the word 'geodesic' as used in relation to great circles on spheres and then anew to Einstein's curved space mathematics. Stevenson had long used geodetics to embrace the whole art and science of measuring the dimensions of subdivision of approximately spherical Earth. I gave geodesics a new scientific definition as 'constituting the most economical relationships between separate event entities in loci in Universe.

"At any one given moment in time, geodesics were dramatically and visually manifest during World War II in photographs taken by the U.S. Air Force of two fighter planes in a "dogfight" at night with one ship firing its nose-mounted machine gun using luminous tracer bullets and successfully hitting its enemy ship. These two airplanes (unattached to Earth) were two 'celestial bodies' and the geodesic line of most economical interrelationship between them was that of the bullets that 'knocked the other out' and that luminous, chain of bullets' tracers was always an accelerated corkscrew line."

- Cite RBF Ltr. to Art Coulter, Jr, Chapel Hill, pp.2-3;

22 Sep'76

Geodesics: (2}

' ` More geodesics---the top leaves of fast-growing vines reach toward the Sun as the Earth revolves, leaving them reaching westward and outward at evening sunclipse, In the morning, the Sun is to the eastward and the vine circles its top leaves to reach eastward; thus the spiraling vine's leaves are always nearer to the Sun than are the vine's routs.

"But Einstein spoke only of geodesic lines---because the great circles of a sphere provide the shortest distances between any two points on the surface of a sphere, they are called geodesic lines. Superimpose a circle of the radius of 00° north latitude upon the equator of a 12~inch Earth globe, which equator is a geodesic line. The latitude circle which is not a geodesic but a lesser circle, crosses the equator at two points, A and B, and it is quickly manifest that it is a shorter distance between A and B along the equator than it is along the circular distance of the small circle. Because I structured my spherical structures entirely with triangles consisting entirely of chords of those great circles, they were structured in the most economical awareness

for that form, and therefore did not want to transform into any other shape. I called the structures 'geodesics---and th* art and science of dealing with geodesic lines as 'GEODESICS.'" - Cite RBF Ltr. to Art Coulter, Dp. 2-3; 22 Sep'76

Geodesics?

"Spheres are just very high frequency geodesics
- Cite RBF to EJA, FairfUld, Conn. Chex Wolf.

18 June 1971.

Geodeaica;

"If you closest pack -geodesics they will take up Juat little more room aa point-bonded (gaa)_t than aa edge- bonded (liquid), than aa face-bonded (crystal)."

- WM "irriiH, fnnn, r n

~~U Juac-lj>7tT"~~

- Citation at Cheical Bonds. 18 Jun'71

RBF DEFINITluNb

Geodesics:

"Pi ('W') is irrelevant in synergetics because the sphere is not experimentally demonstrable and the tetrahedfon is the minimum sphere. Compound curvature starts with the tetrahedron. Pi drops oyt because chords are more economical than arcs. Chords of an omnidirectional system never add up to 360° around a point. They are always geodesics. A point on a pphere is never an Infinitesimal tangency with a plane."

- Citation i context at Sphere. 31 May*71

Geodesics:

"Geodesics are the most economical momentary

relationships between separate events."

- Cite MARKS, P. U , i960

Geodesic Canter:

See Vector Equilibrium, (1)

TEXT CITATIONS

Geodesic Design in Nature: Confirmation Of:

McHale, HBF - Note 17, p.45, 1962

Conceptuality of Fundamental Structures (Kepes) p.72 ff. 1965

Geodesic Design in Nature:

Confirmation Of: (1)

See Flies' Eyes

Grebe. John J.

Radiolaria

Tetrahedral Coordination of Nature

Viral Steerability

Black Holes & Synergetics

See Invention, Dec'61

Omnidirectional Closest Packing of Spheres: Principle Of, (2)0);
Jun'71

Tensegrity: Unlimited Frequency of Geodesic Tenseg- rities, (8)

Radiolaria, (1)(2)

•'Geodesic Diamonds: there is always an even number of triangles on a sphere so they may be treated in pairs as diamonds, always made with straight lines but the lines are different in length. The fats and thins have equal length."

- Citation & context at Wichita House. (1)*, 31 Jan'75
6gg<teale. PiajnanAa:

See Wichita House, (1)*

Hex-pent Sphere, 1? Sep* 76

Hex-pent Sphere: Transformatit into Geodesic Spiral Tube, (1)

RBF DEFINITIONS

Gep.degR Dgmeg:

"Geodesic Domes abandon the compression conduits of engineering: they are tension conduits."

- Cite RBF to USAID conference; Foreign Disaster Assistance Conference Room, Stap Dept, Wash. DC; 12 May*77

Geodesic Dome:

"Because geodesic structures inherently are always tensegrity structures, i.e., discontinuously compressioned, omnicontinuously tensioned, three-way embraced, there is no fastening in shear and all local loadings are radiantly distributed ever diminishing to equidiffusion as in all pneumatically and hydraulically compressioned structures,"

- Cite RBF Ltr. to Mr. Robertson, 12 Mar¹74

Geodesic Dome:

"It was for this reason, p_ the discovery of the fact that the icosahedron--- among all the three-and-only prime structural systems of Universe (see section 610.20)--- required the least energetic, vectorial, structural investment per volume of enclosed local Universe, that led to the development of the Basic Disequilibrium 120 LCD Spherical Triangle and its multi-frequenced triangular subdivision as the basis for calculating all high-frequency, triangulated, spherical structures and structural subportions of spheres; for within only one disequilibrium LCD triangle were to be found all the spherical chord-factor constants for any desired radius of omnistructured spherical structure.

"In the same way it was discovered that local, chord compression struts could be isolated from one another, and could be only tensionally and non-inter-shearingly connected to produce stable and predictably efficient enclosures for any local energetic environment valving uses whatsoever by virtue of the approximately unlimited range of frequency-and-angle, subtriangle structuring modularity.*"

- Cite RBF rewrite of SYNERGETICS gallery at Secs. 901.13+16/' D 20 Dec¹73

... My prime Invention (of omnistructured compound-curvature, great-circle-arc chording and its synergistically surprising structural advantages in pounds, kilowatts, and minutes required per each unit of measurable performance) ... geodesic dome patents..."

- Citation and context at Inventability Sequence (2), 9 Jul'73

"The best geodesic dome design is the three-frequency five-eighths."

- Cite RBF to EJA, Washington, 7 Oct. *71.

Geodesic Dome:

(D

"Quite clearly, I am, to myself, not a dome salesman. In fact I don't want to be a salesman of anything. I don't want to persuade anybody to do anything that is illogical and anti-evolutionary. I'm identified with the dome only because, back in 1927, in trying to seek out how I might be able to affect and help man most. I said: if I could only protect younger life while it still has its comprehensive interest in the total Universe and give it a chance to develop its faculties for comprehending the whole--- it would be a way in which we might most rapidly arrive at a condition where all of humanity might be a success. So, I said, this means a controlled environment, and I kept searching for ways not only of controlling it, but of using the chemistry around us in our environment so effectively that there would be enough to go round to take care of everybody and not just a few. All this brought me into very deep study of all that science was doing and all forms of industrialization, and how we could produce the most with the least. This meant then that I went into a series of experiments in how to control the environment, and it was the geodesic dome that was the practical breakthrough."

- Cite R3F transcript iji "The Listener" interview by John Donat, 26 Sep'68 *

"The geodesic domes were the beginning of the public's realization of what I'm talking about; therefore I became identified as the dome man. But I think I've made it quite clear that this was simply the inadvertent consequence of my concern with young life and protecting that young life."

- Cite RBF in transcript in "The Listener" interview by John Donat 26 Sep'68

Geodesic Pg?

- "Geodesic tensegrity spheres are highly magnified, pneumatic principle structures."

- CifONCEPJALITY Oh FUNDAMENTAL STRUCTURES, Ed. Kepes,

"Domes combine both horizontal and vertical behaviors progressively translated into mutual synergistical aid and integrated success."

- Cite lai, DOMAS, p. 154,1963

Geodesic Domes;

"The forms we see in geodesic structures are synergetic, which is to say that they are visible in mathematical principle only, and only as the interaction of a complex of functions. No one industrial function is visible. Any one member, in a geodesic structure may be at one time operative essentially in tension and at another time essentially in compression These are exact opposites and none of these alternating operative behaviors would be visible to an observer of a geodesic dome as the latter remained poised, apparently serene, in a hurricane. Geodesic domes are then designed as synergetic complexes of events which maintain a superficial ultra-high-frequency integrity of constellar patterning."

- Citation &. context at Tooling of Domes, (3); 24 Jan'58

See DEW Line Radomes

Dome:

Dome: Rationale for the Dome

Radome

Grow-a-dome

How House

Zeiss Dome

Dome House

Structural Shell

Montreal Expo'67 Dome

Turtle Dome

North Face Domes

Geodesically Interrouted Communications Traffic;

See Beats at Anchor Retard the River's Flow, 1960

See Curvature: Compound Curvature, 25 Jan*73 Inventability
Sequence (2)* Wichita House, (1) Museum. 17 Dec'74 Building
Business, (4)(5)

See Epistemological Stepping Stones, 30 Dec'73

Geodesic Line:

"Synergetic geometry deals with the most economical relationships
and not with the shortest lines. 'Most economical' and 'shortest' are
not the same.

"The 'straight' line of the Early Greeks is the shortest distance be-
tween two points. Ergo, curved lines are not the 'shortest.' geodesic
lines are the most economical (meaning least time-energy involve-
ment) relationship between any two events. Events are energetic.
The way to shoot a bird is not to aim at where the bird is now flying.¹

. Cite RBF rewrite of EJA query, 9 Sep'74

Geodesic Ling:

"When two great-circle geodesic lines cross they form two sets of similar angles, any one of which paired with the other, will always add to 180°. (This we also learned in plane geometry.) When any one great circle enters into--- or exits from--- a spherical triangle, it will form the two sets of similar angles as it crosses the enclosing great-circle-edge- lines of that triangle.

"As in billiards or in electromagnetics, when a ball or a photon caroms off a wall it bounces off at an angle similar to that at which it impinged."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 901.10+11, 20Dec,
Geodesic Line:

"A geodesic line is the most economical time- distance-ef fort relationship. ``

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, 196?

Geodesic Lines:

"None of the geodesic lines of universe touch one another, the lines approach one another, passing successively through regions of most critical proximity, and diverge from one another, passing successively through regions of most innocuous remoteness."

- Cite COLLIER'S, p. 114, Oct'59

Geodesic Lines:

See Fourth Dimension, 17 Nov'72

Gfirtelc Sphere: (1)

"rfhat we do have experimentally as a sphere is an aggregate of energy-event foci approximately equidistant in approximately all directions from one approximate energy-event focus.

^wThis is a system in which the most economical relationships between embracingly adjacent foci are the great-circle chords, and not the arcs. This is why pl (yf) is operationally irrelevant. Physics finds that nature always employs the most economical means. Being shorter, chordal distances are more economically traversed than are detouring arcs. All the chords between external points of systems converge with one another concavely and convexly, i.e., with the angles around each external point always adding to less than 360 degrees. They do not come together, as do radii in a plane, with 360 degrees around each point.

"The chords of an omnidirectional system always come together with concavity on one side and convexity on the other. The angles never add up to 360 degrees, as do those formed on a plane by lines converging radially upon a point. This is why the long-held working assumption of mathematics--- that for"

- Cite SYNERGETICS text at Secs. 1022.12 i.13, Aug'71

"an infinitesimal moment a sphere is congruent with the plane to which it is tangent— is invalid. Therefore, spherical trigonometry, with its assumption of 360 degrees around a point, is also invalid. Greek spheres cannot be scientifically demonstrated. Almost-spherical polyhedra are the nearest approximation. It can only be treated with as polyhedral-- as an aggregate of points in which the most economical relationships are chords: ergo, geodesics,

"If you find all the connections between all the points, the system is omnitriangulated. A spherical polyhedron is a high- frequency geodesic polyhedron. Its symmetric base may be tetrahedral, octahedral, or icosahedral; but it may not be hexagonal, i.e. , with angles

adding to 360 degrees around each external point of the system. The sum of all the angles around all the external points of the superficially seeming spherical systems will always add up to 720 degrees less than the number of external vertexes when each is multiplied by 360 degrees.

"In every geodesic sphere, you can always take out 12 pentagons. These 12 pentagons each drop out one triangle from the hexagonal

- Cite SYNERGETICS text at Secs. 1022.13, .14 & .15, Aug'71

"clusters around all other points. Assuming; the dropped-out triangles to be equiangular, i.e., with 60-degree comers, this means that $60 \times 12 = 720^\circ$, which has been eliminated from the total inventory of surface angles. You can always find 12 pentagons on spheric >lly conformed systems such as oranges, which are icosahedrally based; or four triangles with 120- degree corners if the system is tetrahedrally based; or six squares where the system is octahedrally based."

- Cite SYNERGETICS text at Sec. 1022.15, Aug'71

See Tensegrity Sphere

Hex-pent Sphere

See Gravitational Field, 8 Mar*73

Convex & Concave Tetrahedron, Aug'71

Domain of a Line 7 Nov'73

Necklace, Nov'71

Stable k Unstable Structures, 7 Jun*72

"The spheric experience is a high-frequency omnidirectional complex of events and their relatedness. Since it is concerned with the most economical relatedness we can also speak of it as a geodesic spherical experience. This is where the importance of chords comes in...
"

- Citation and context at Connections and Relatedness. 20 Feb'73

"It's very interesting the way boating and sailing has become so important today. It's all so fundamental: dealing with those tensions involved in those lines and winches. Everything we think about is there, the pneumatics, the hydraulics... vectorial forces, everything is there. I think it's going to result in at least one geodesic spinnaker. She's going to be a real beauty... We'll just bring those stresses back to the three corners; but once its out from those corners the distribution will be such that the worst you could ever do to spinnaker is to blow out one little triangle. It would be very easy to repair; there would be no rips or tears.

Jay Baldwin: "You could have panels that would be loaded with elastic so that if a certain load were exceeded the panels would open and bleed out the load and then shut again."

RBF: "Sure. We could really do such a thing... when you put springs in them, when you trim, so they breathe out for a second instead of pulling.... There really could be something like the coin purse or tobaccow pouch, a twisting cylinder that would release. Just string would do it if you got into a"

- Cite transcript of RBF tape to Barry Parrel, Tape #3, Side A, pp.22,24; Bear Island, i2 Aug'70 "tensegrity octahedron it would just twist around and come right back. It would look like a flower opening, lilies opening."

- Cite transcript of RBF tape to Barry Farrell, Tape #3. Side A p.14; Bear Island, 12 Aug'70 *

GeojlejlC Spiral Tube:

See Hex-pent Sphere: Transformation into Geodesic Spiral Tube

"In our geodesic structures, the surface of a sphere is interlaced by an omni-three-way grid of great circles which always uniquely intercept one another in such a manner that everywhere the surface areas described by the intersections are triangular. As triangles are nondistortable, this intersecting, if substantially structured, represents a rigid trussing of the spherical surface. If, between

each of the vertexes or intersections of the great circles occurring in the surface of the sphere, we construct chords, or straight lines, these lines must fall below the surface between their surface terminals. The lines converging at any one vertex all leading away below the point on the surface must form a convex intersection or pyramidal point. As we press against any convex vertex, where the other ends of the lines are elastically restrained, the vertex will subside and the lines will tend to form a flat plane."

9 Cite IDEAS & INTEGRITIES, PREVIEWS, P, 216, 1 Apr'49

"As each of the chordal ends between vertexes of our geodesic structure is tensionally restrained by the comprehensive trussing of the sphere, it is seen that when pressure is exerted inwardly against any vertex it will thrust outwardly against each of the chords leading radially from it. It will be seen that, inasmuch as each vertex represents a pyramid of triangular planes, the bases of the planes opposite the vertex constitute a closed tensional ring. Because the linkage is of great circle chords and because sections of the great circle always represent the shortest distance between any two points on a sphere (and the chords of the great circle represent the shortest distance between the two points in space through the sphere), the ring of chords tensionally opposite the compression thrust of the pyramidal lines from any one vertex may not be elongated. The vertexes will not subside.

"Thus it seems that the geodesic structure employs the principle of compound curvature as the stress is radially distributed from a single point. All the vertexes surrounding any one vertex are secondarily actuated, and each in turn thrusts outwardly to adjacent vertexes; rings of triangles of geodesic lines are successively activated from the original thrust'*

- Cite IDEAS & INTEGRITIES, PREVIEWS, p.218, 1 Apr'49

GwlfleaK Syrugfrurt:

"against one vertex until six rings have been activated and the equator is reached. All thrusting outwardly against the equator symmetrically, their outward thrust is compoundingly restrained by the opposite hemisphere.

(3)

"In the case of a geodesic structure representing a portion of a sphere, the functions of the balance of the sphere are rendered by the Earth, which tends to complete the spherical structure by stress extension with the Earth. Thus, in compound curvature structures of nature, emulated in principle by our geodesic structure, working stresses are ultimately translated into omnidirectional outward thrust from the stressed centers, and are ultimately satisfied throughout all the cohesiveness of all the enclosing tension. In contradistinction to simple curvature, which is ultimately satisfied in polar focus upon two compression points, compound curvature invokes ultimate activation of comprehensive tension.

"Men have employed geodesic structure in the form of tetrahedrons, octahedrons, and icosahedrons. While useful in small structures, the relative sizes of spans or chords of these well-known continuities of great-circle triangulation become so great in unsupported length when applied to structures appropriate to"

- Cite IDEAS 4. INTEGRITIES, PREVIEWS, p. 219, 1 Apr'49

"men's buildings that their virtues were unavailable for practical purposes,

"The surprise factor in my introduction of geodesic structures is the surprise provided by nature. We have discovered, and not invented, all-triangular interaction of 25 great circles and 21 great circles whose relative chordal lengths make them appropriate for structures of up to unlimited diameter."

- Cite IDEAS 4. INTEGRITIES, PREVIEWS, p. 219, 1 Apr'49

Geodesics vs. Structure:

See Geodesics & Tensegrities, 9 Sep'74

TEXT CITATION!,

Geodesic Structures:

203.09	541.06	1022.14	S201.11
222.43	608.11	1023.15	
240.25	612.11		
240.27	618.30		
240.29	040.01-640.02		
240.31	702-702.01		
240.35	703.01-703.16		
427.02	710.02-710.03		
501.101	714.01-714.02		
535.11	960.03		
530.32	982.13		
540.05	1021.13		

Geodesic Structures:

See Tensegrity: Geodesic Tensegrity Structures

CgQdtgXg strMcturcfl:

(2)

See Environment Control Valve. 1954 Invention, 3 Oct*72; Dec'ol
Icosahedron: Subtriangulation, (1)(2)

EJA Query: "Is tensegrity a special case of geodesics?"

RBF Reply: "Geodesics are generalizations. It does not mean
•structure,¹ it means the most economical relationship between any
two events. But tensegrity involves more than two events. All of
Universe is tensegrity. Geodesic is the relation between the Moon
and the Earth. Tensegrity is always a total system.

"Geodesics represent a subgeneralization of tensegrity. All geodesics
are not, as built, tensegrities. Tensegrities are inherently nonredundant."

- Cite RBF response to EJA query; 3200 Idaho, Wah., DC, 9 Sep'74

See Polyhedral Understanding, 1969

See Dome

Great Circle

Radome

Spherical Structures

Tensegrity Sphere Transformational Projection Most Economical

(2)

See Chemical Bonds, 18 Jun'71*

Earth, 22 Feb'72

Embracement, 22 Jul*71

Energy, 19 Dec*73

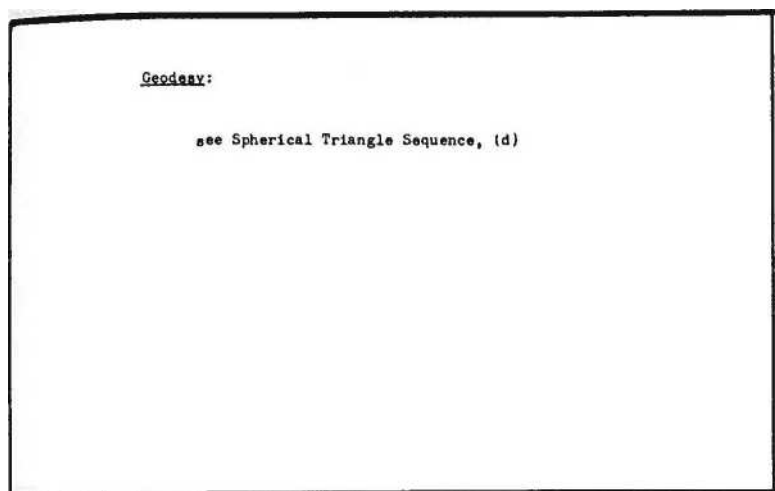
Epistemological Stepping Stones, 30 Dec'73 Fourth Dimension, 17
Nov'72 Icosahedron, fl Oct'64* Interrelationships, 1971* Metaphys-
ical fc Physical, 1971* Relationships, 5 Jul'62

Scheme of Reference, 24 Sep'73*

Sphere, 31 May'71*

Spherical Triangle Sequence, (V) Time Vector, 24 Sep'73

See Geodesic Center Geodesically-inter-routed Communications
Traffic Geodesic Design in Nature: Confirmation Of Geodesic Dome
Geodesic Lines Geodesic Sphere Geodesic Spheric Experience
Geodesic Structure Geodesic Systems Geodesically Structured
Thoughts Geodesic Spinnaker Geodesics vs. Structure Geodesics &
Tensegrities Geodesics vs. Irrelevance Geodesic Diamonds Geodesic
Spiral Tube



Oeodetic Kensurabl H r.v: Geodetic:

See Vector Equilibrium, (2) Geodesics,(1)

See Address

Local Identification

Backyard: My Backyard is Getting Bigger

Obsolete: Inventory of Obsolete Concepts

See Interrelatedness vs. Names. (1)

GgQKraphy:

See Fluid Geography

Climate ac Intellect

See Periodic Experience, (9)

Bundle of Experiences, May'49

GgQlQglc KcnaMrAbllltY;

See Vector Equilibrium, (2)

See Earth

(1)

Fault: Earth Fault Erosion

See Epigenetic Landscape, May*49 Relativity, 1968

See Starting Wit hearts:

The Nonradial Line:, 29 Dec'73

Geometry: "When you process your experiences it produces a geometry."

- Cite RBF to EJA, 200 Locust St., Philadelphia, 21 Jan'75

Geometry:

"To me no experience in childhood so reinforced self-confidence in one's own exploratory faculties as did geometry. Its inspiring effectiveness in winnowing out and evaluating a plurality of previously unknowns from a few given knowns, and its elegance of proof lead to the further discovery and comprehension of a grand strategy for all problem solving... the science of pattern analysis."

- Citation context at Coxeter_f H.S.M... 14 Nov*73

rtBF DhFINITIUNS

CmetFX?

"There is no geometry of space--- only of local aggregates of principles, of special cases

- Citation and context at Rubber Glove_T 23 May*72

Geometry:

'Geometry - Geo + Metry. It relates only to the Earth, one single sphere. Ge- o- metry has an 'o' in it □ a circle « Geodes = Gods. For the Greeks the 'o' became unreal; we don't want to get caught in an avenue to Flatland."

- Cite HBF to EJA, 3200 Idaho, Wash DC, 1 Oct. '71.

Geometry:

'Time is in our dimensioning because our geometry i vectorial."

- Cite tu tJ*—37Og==rah~Hp-_t WaSmiettnrzBfc

- Citation 4 context at Time. 21 Dec*71

Geometry:

"Geometry— meaning world measuring."

- Citation and context at Up and Down Sequence (2) 13 Nov*69

Geometry:

' ` There is no static geometry. There are momentarily existant geometrical relationships."

Citation and context at Sivac₄, 1968

Geometry:

"In our approach to geometry we thought it would be simpler to start with plane geometry and it was supposed to be very complicated when you get to solid geometry and much more so when you get to spherical. So I gradually began to reverse my field, in order to get the total experience, and decided that spherical was much easier than solid, and the solid easier than the plane, so that everything became much simpler merely if I really started with the totality all the time and dealt-- in spherical geometry-- with the vectors."

- Cite LEOGEkOKT LABORATORIES Lecture, 15 Oct '64, pp. 11- 12

Geometry:

"Geometry begins to emerge . . . where there are convergences to critical proximity, twistings around points . . . where you find domains that are staked out by events . . . corresponding to what would seem to be a separate octahedron-tetrahedron, whatever it might be, coming up through vertexes."

- Cite LEDGEMONT LAB Lecture, 15 Oct '64, p. 13

Geometry:

"So we have come to structure and we have come to pattern. Pattern has emerged first from our preoccupation with getting rid of the irrelevancies and out of it has emerged a minimum constellation, a minimum consideration and it is a four star affair. It is tetrahedral, It is very amazing to have a geometry just appear out of our just considering what is thought. We have come to some conceptuality and this conceptuality is essential to this thinking process. 'When we say, 'I understand,¹ there is some conceptuality finally developed."

- Citation at Tetrahedron, 2 Jul'62

~~- Cite Oregon Lecture #2, p. 59, 2~~
~~620-07~~

Geometry:

"Now I have discovered that this thinking process is one in which by holding out and getting rid of the irrelevancies we definitely developed for the first time a conceivable

geometry. The geometry of the Universe was not conceivable because it was nonsimultaneous. In the first place I found this a very important and satisfying kind of discovery and it stopped me from having to know where the

ball ends. It is not a ball, but thought begins to develop the first geometry with a dismissal outwardly and a dismissal inwardly which leaves a spherical zone of irrelevancy. The thinking is omnidirectional,"

- Citation at Thinking, 2 Jul'62

Geometry:

"Substituting the word tetrahedron for the number two completes my long attempt to convert all the residual heretofore unidentifiable integers of topology into geometrical conceptability."

~~- Cite OMNIDIRECTIONAL HALO, p. 138, 1960 .~~

- Citation at '960

Geometry:

"Out of nonsimultaneously conceptual, yet finite, universe has emerged a definitively conceptual geometry, not a geometry invented by the conceiver but an a priori geometry discovered by the re-considerer as a residual relevancy constellation."

- Cite OMNIDIRECTIONAL HALO, p. 138, 1960

Geometry of General Svatema:

See Synergetics, 17 Oct*77

"Substituting the word tetrahedron for the number two completes my long attempt to convert all the previously unidentifiable integers of topology into geometrical conceptuality. Thus we see both the rational energy quantum of physics and the topological tetrahedron of the isotropic vector matrix rationally accounting all physical and metaphysical systems."

(Above is a synthesis of Isotropic Vector Matrix, 13 Nov'69 and Unity as Two. 19607)

- Cite RBF rewrite of SYNERGETICS galley at Sec. 620.12, 11 Nov'73

See Cosmic Hierarchy Primitive Hierarchy

See Potential ve. Primitive, 12 May*77 Trigonometry, 26 Sep'77

"A system is a closed configuration of vectors. It is a pattern of forces constituting a geometrical integrity which returns upon itself in a plurality of directions."

- Citation and context at PolyhedrMal Systems, 2§/2 May'72

Geometrical Integrity:

See Invisible Pneumatics, 27 Dec'73

See System, 25 May'72

"How many stars does it take outwardness and inwardness? stars to divide the Universe I find it takes a minimum of

to develop a geometry of What is the minimum number of into outwardness and inwardness?
four."

- Citation 4 context at Star Evenmts_f 2 Jul*62

"Thinking about precession Goldy observes that fish fan their tails sideways to produce forward motion, that snakes wriggle sideways to produce forward motion. She sees that iceboats attain speeds of 60 miles per hour in a direction at right angles to wind blowing at half that speed. Coming back to her triangles and their synergetic surprise behaviors, Goldy flips one simple white triangle over and find the other side is black. She realises that there are two triangles, the obverse and reverse, always and only coexisting congruently.

"Goldy realises that every sphere has a concave inside and a convex outside. She knows that convex and concave are not the same because concave reflectors concentrate energy as radiation and convex mirrors diffuse the radiant energy. Convex and concave are nature's macro-to-micro or macro-to-raacro radiantenergy transformers.

"Goldy realizes that unity is OHH always plural and at minimum two. Unity does not mean the number one. She realises that one does not and cannot exist by itself. In Universe life's existence begins with awareness. No otherness: no awareness. The observed requires an observer. The subjective and objective always and only coexist and therewith demonstrate" - Cite GOLDYLOCKS, p.G3, 16 May'75 "the inherent plurality of unity--- inseparable union. Physics tends to think of 'complementarity' (discovered half a century ago) and the letter's nonmirror-imaged complementation (discovered only twenty years ago) as being the interrelationship characteristics of two separate entities. However, the always-and-only coexistent, non-mirror-imaged complementations also may coexist with inseparable plural-unity.

"Goldy finds she can interconnect the three mid-edge points of a triangle which subdivides the big triangle into four similar smaller triangles and can fold the three corner triangles along their connecting lines to produce two different tetrahedra, because folding the corner triangles under or over produces either a white tetrahedron with a black inside or a black tetrahedron with a white inside. Since the inside of the tetrahedron is concave and the outside is convex, there are two very real and separate tetrahedra in evidence, whose eight (four white, four black) faces have been evolved from only four externally viewable triangles, which four were in turn evolved from one (unity-is-plural) triangle.

"Since both the positive and negative concave tetrahedra have four different black faces and four different white faces, she"

- Cite GOLDYLOCKS, pp.GJ-G4, 16 May'75 "can differentiate them by placing a red, a green, a yellow, and a blue dot in the center of each of their respective four white inside faces; and an orange, a purple, a brown, and a gray dot in the center of each of their outside black triangles successively, Since each M of the two tetrahedra can turn

themselves inside out (as their respective three triangular corners rotate around the central triangle's three edge hinges— thus to open like a three-petalled flowerbud), each tetrahedron can be opened in four such flowerbud ways, with three triangular petals around each of their four respective triangular flowerreceptacle base faces. These four separate cases of insideouting transformability permit the production of four separate and unique positive and four separate and unique negative tetrahedra all generated from the same unity— each of which tetrahedra can rank as nature's simplest structural system. Therefore, each prime structural system in Universe has nine separate and unique states of existence— four positive, four negative, plus one schematic unfolded nothingness state— which Goldy reminds the bears constitutes the same schematic 'game* set up as that of physics* quantum mechanics with four positive and four negative quanta as we go from a central nothingness equilibrium to first one«, then two, then three,”

- Cite GOLDYLOCKS, pp. G4-G5, 16 May'75

"then four, high-frequency, regenerated, alternate, equiintegrity, tetrahedral quanta. All eight of which have eight invisible counterparts.

4 white three-petalled flowers

Visibly

(Physical)

**one with: red base receptacle one with: green base receptacle one
with: yellow base receptacle one with: blue base receptacle**

4 black three-petalled flowers

**one with: orange base receptacle one with: purple base receptacle
one with: brown base receptacle one with: gray base receptacle**

- Cite GOLDYLOCKS,
p. 01, 16 May'75

4 white three-petalled flowers

\ I

Invisible but / thinkable -4

(Metaphysical) I

one with: orange base receptacle one with: purple Base receptacle
one with: brown base receptacle one with: gray base receptacle

4 black three-petalled flowers

one with: red base receptacle one with: green base receptacle one
with: yellow base receptacle one with: blue base receptacle

"Goldy now takes any two of these triangularly petalled tetrahedra with both of their three respective, 60-degree folded corners partially open and pointing out from their bases like petals of an opening tulip bud. Goldy rotates one of the 60-degree petalled tetrahedra a sixth-of-a-circle turn and precesses it axially 60°, which points its opened"

- Cite GOLDDLOCKS, pp. G5-G6, M 16 May»75

"triangular petals toward the others' 60-degree openings.

Goldy brings them convergently together edge-to-edge to produce the octahedron.

"Since the octahedron thus produced has a volume of four tetrahedra, and since we have learned that each tetrahedron is one energy quantum unit, Goldy has put one quantum and one quantum together to produce four quanta. Another quantum leap is demonstrated.

"What Goldy finds equally exciting is to realise that each of the two tetrahedra combining to make the octahedron can consists of the eight unique combinations of the black and the white triangular faces and their four red, green, yellow and blue center dots. This

means that an octahedron of eight black triangles, eight white and one of four white plus four black, and that the alternation of the four different color dots into all the possible combinations of eight produces four times 26--- which is the 104 possible combinations."

- Cite Goldylocks, p. G6, 16 May'75

"Where $N = 8$, and there are four sets of 8, the formula for the number of combinations is: ?

4 (ir-N h

This result has a startling proximity to the 92 unique regenerative chemical elements plus their 12 additional non-self-regenerative isotopes. The bears applaud."

- Cite GOLDYLOCKS, p.G6, 16 May'75

Geometrical Functions of Nine:

See Wave Quanta 4 Indig Bow Ties

Geometry k Number:

"All geometrical and numerical values derive from fractionation of the whole."

- Citation k context at Proofs. 8 Aug*77

See Intertransformative Number-value Accounting Energy & Number

Prime Rational Integr Characteristics

Volume-energy Ratios

Volume-number Ratios

Volume-quanta Ratios Geometrical Function of Nine Wave Quanta k
Indif Bow Ties

See Octahedron, 10 Dec'75

Synergetics Constant, 10 Dec'75

Module: A Quanta Module: Introduction Of

22 Feb'77

Proofs, 3 May'77⁵ 8 Aug'77*

"... 'When we said that 'plane' geometry is more fundamental and therefore easier than solid geometry, and that a dynamic geometry was something prohibitively 'way out' in relative difficulty of comprehensibility. 'Geometry didn't have all

the qualities of energy,' said the pure mathematicians. All their complete abstraction of pattern from reality of experiences was thought to be simple. I discovered that nothing can be more complicated than 'plane' geometry nor a more highly specialized case of 'pure mathematics.' Plane geometry is the most special case of 'not true at all.'"

~ Cite UTOPIA OR OBLIVION, Music of the New Life, p. 53, 10 Dec '64

See Up & Down Sequence

SSSSSHC: Plane Geometry:

See Spaceship Earth, (a) Unit, 1933

"Residual ignorance has employed the as-yet-primitive tools of mathematics in linear diaaetrics--- in the 'either yes or no of two-dimensional oversimplification. Ignorance thinking in blackboard and paper planes labors protestingly over the geometry of reality. A complete reorganisation of mathematics will probably occur within the next quarter century (or generation) with all the now so-called elementary phases relegated to non-sense and the ever most advanced intuitions shifted to elementary priority in the effective informing of the new life by the old."

- Cite TOTAL THINKING, I&I, pp. 230-231, May'49

See Vector® Are Real

See Quantum Mechanics, Jun*66

See No Geometry of Space

GEOMETRY OF THINKING

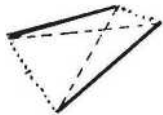
"Getting nature into a corner is the essence of synergetics. It is the coordination of thought and physical action, the genesis of geometry, system, and structure."

- Citation *k* context at Nature in a Corner. 13 Nov*75

"Synergetics is the geometry of thinking. How we think is epistemology and epistemology is modelable; which is to say that knowledge organises itself geometrically, i.e., with models.

"Unity as two is Inherent in life and the resulting model is tetrahedral, the conceptuality of which derives as follow#:

- life's inherent unity is two;
- no otherness • no awareness;
- life's awareness begins with otherness;
- otherness is twoness;
- this moment's awareness is different from previous awareness;



- differentiations of time are observed directionally;
- directions introduce vectors (lines);
- • two time lines demonstrate the observer and the observed;

- the interconnection of two lines results in a tetrahedron;
- sixfold interrelatedness is conceptual:

Q.E.D.

- RBF holograph incorporated in *__<
bYNEKGETICb at bee 905.01.02. 1b Dec'73

Geometry of Thinking;

"Conceptual formulation is inherently empirical

QgQinetrY of Thinking'

See Abstraction of a Special Case

Centers of Abstract Truths

Comprehensibility of Systems

Conceptual Finite

Conceptual Geometry

Conceptuality as Polyhedral

Conceptuality & Space

Congruence of Metaphysics & Physics Connections & Relatedness

Epistemography

Ethical Physics

Geodesically Structured Thoughts

Geometrical Conceptuality

Geometry of Reality

Irrelevances: Dismissal Of

Isotropic-vector-matric Fields of Thought

Geometry of Thinking.

See Limits of Thinking

Metaphysical & Physical Tetrahedral Quanta

(1 J-S)

Nature in a Corner «

Number: Tetrahedral Number: $\frac{N^2 - N}{2}$

Observer & Otherness: Tetrahedral Relationship Between
Omnitopology

Polyhedral Understanding

Precessional Thinking

Primitive Geometric Conceptuality

Psychological Geometry

Spherical Comprehension

Spherical Thinking

Straight-line Thinking

Structural Conceptuality

Structure of Meaning

See Tetrahedron as Conceptual Model Thinking: Analogy of Sphere
Layers Thought Has Shape Topology □ Conceptuality

See Comprehension, 10 Jan'74; Dec¹'71 Conceptual Formulation.
Feb*50* Conceptuality, 1 Apr'72 Epistemology, 16 Dec'73» 9 May'62
Experience, Feb'50* Ideal, 23 May»72 Knowledge, 16 Dec*73 Minus
Two, Aug*73 Synergetics, 15 Jul*73 Thinkable. 1 May'71 Thought,
May'72 Remanber, 20 Feb'72 Star Events, 2 Jul*62 Conceptuality
Independent of Sise, 31 Jan'75 Nature in a Corner, 13 Nov'75*

Geometry of Vectors:

"That's what I thought Avogadro was looking for: a geometry of vectors bringing in time through the velocity of the vector... the frequency of their discrete dimension!

"Avogadro accounts volume with number in a much better way than just putting water in a cube.

"All three-phase vectors come together to make sum-total structures."

vectorialJL.vertexal Geometry,
(1) (2)

- Citation &, context at 27 Jan'75

"I have a very discrete mathematics about how loads are distributed. They couldn't be more vectorially fundamental. Synergetic geometry is vectorial geometry. That's exactly how forces are translated and to what magnitudes.*

"And I always must, do it nonredundantly. Plurality: there must be always two discrete configurations. When you get to two you have wanderability ((vulnerability ?)); when you have three you are absolutely fixed."

- Citation & context at Intuition Sequence (2), 15 Jun*74

"Remember the words vectorial geometry: if you want to look for maximum efficiency, you do things vectorially."

- Citation & context at Most Economical. 15 Jun'74 "Time is in our dimensioning because our geometry is vectorial,"

- Citation and context at Tima, 21 Dec*71

"Assuming an energy Universe of curved paths generated by angular accelerations of varying intertensions, rates, and radii, resulting in orbits of high-frequency continuities, and separating time out of the compound dynamic system there retracts only the relative attractions or repulsions expressed in relative vectorial terms in respect to the radius of any one interattracted couple of the set of all the radii expressed.

"In such a timeless and equilibrated instant the remainder of the system may be discovered as a vector construction of force interrelationships between centers. A geometry composed of a system of interrelated vectors may be discovered which represents the complete family of potential forces, proclivities, and proportional morphosis by octave introversion or extroversion."

- Cite SYNLOGISTICS text as of Aug¹⁷71 as revised by P.BF between Aug and Dec '71. Incorporated at

Secs. 215.1 + 215.2. ~

"At the Naval Academy we learned about Galileo's parallelogram of forces. I liked the idea of vectors. I was excited by vectors because I felt that vectors did what the geometry teacher couldn't do with her 'purely abstract straight' lines. Vectors had not only unique direction in relation to other experiences, but also were discrete in their relative lengths, which were arrived at by multiplying their object's mass times their object's velocity. We didn't have to worry about the vector's lines going to infinity. There was no such inference in their deliberately developed construction. A vector went just so far and that was the end of it. So a vector constituted an experimentally satisfactory kind of a line.

"Furthermore, I could convert mass and velocity into heat, and I could ascertain the time dimension from the velocity, thus all the qualities and behavioral characteristics plus the environmental conditions of 'existence' which I had been seeking, were satisfactorily expressed as vectors. So I said, 'Might there not be a Geometry of Vectors?' --- and I remembered those equi-length toothpicks of my kindergarten experimental exploration for logical structuring and the complex'*

- Cite RBF marginalia at old Chhp 2, "Synergy" 1.13, 18 Mar'69

"of triangulated polyhedra which I had evolved by tactile stability tests.**

- Cite RBF marginalia at old Chap. 2, "Synergy", ** 1.13, 18 Mar*69

In synergetics there is a total "correspondence of radial wave modular growth with circumferential modular frequency growth of the totally involved vectorial geometry." This means that "angular and linear accelerations are identical.

- Citation and context at Acceleration: Angular and Linear Acceleration. 18 Oct*61»

HBE D&FIMTIUhS

Geometry of Vectors:

"The only thing you have to watch for in the vectorial geometry is times when things double up."

- Cite Lt.DGEh.ONT Laboratory Address, p. 25, 15 Oct *64

"I found his /` Galileo* s_7 vectorial diagram exciting. It suggested a comprehensive geometry consisting entirely of vectors. A vectorial line was a very nice kind of a line because it had a discrete length--- it didn't go on absurdly forever to the nowhere of two infinities--- in both directions as potential extensibilities of lines. It didn't have the 'tine* to do so. It had a discrete amount of time, which time was a component factor of the vector's velocity,

"I wondered if nature might have a set of omnidirectionally operative vectors that represented all of our experiences. It is experiences that we are dealing with in nature.

Nature and Universe are alike the aggregate of all experience. Couldn't I then find vectors that represented any and every unique experience? Vectors are like spears. I could massage any object into a spear shape, point and thrustthrow it in u discrete direction. I intuitively liked those directional vector 'spears.' I felt that they tended at least to embody all the energetic qualities of represented experiences. That thinking-feeling, however, was only an intuition and not an accomplished, mathes atically coordinate, generalized experience system."

- Cite UTuPIA Oii OdLIVIOi., Prevail. Cond in Arts,pp 86-87,10 Oct'64

"I felt that it would be possible, for instance, when I could make a model of two ships running in to each other, where I took each of the ships. . . and I simply put it into compression, and I make it into a great long sphere, and it weighed and had the same dJjdt as the other sphere, and it would have a certain length and I saw that I could make a model out of these interesting things.

"I thought vectors were extremely realistic. In fact, I liked! the idea then of a geometry which would be made up entirely of vectors instead of a geometry made up of some hyptothetical kinds of patterns. In other words, they could be made of vectors of actions. They were

our experiences of basic phenomena, so I said wouldn't it be interesting if we had no geometry unless there were vectors, because the vectors are real experiences, and because the vectors had inherent velocity and mass.

Velocity is the complementarity of time and space. Time and space are simply functions of velocity, velocity is really the reality. You can examine the time or space increment, but they are never independent of one another. They were unified as velocity. I said because it had**

- Cite Oregon Lecture //8, p. 298, 12 July '62

"velocity this kind of geometry would be a very nice geometry."

(For text immediately preceding the above see Javelin, 12 July '62 and Galileo. 12 July <>2)

- Cite Oregon Lecture //8, p. 298, 12 July '62 "When you get into the energetic-synergetic geometry you have to watch out the number of times these vectors" double up. "Remember that they represent a mass and a velocity and sometimes they can double up so they represent twice the value— or four times the value— when they become congruent."

- Cite Oregon Lecture //?, p. 248, 11 Jul *62

See Avogadro: Generalized Avogadro System Chemical Bonds Congruence of Vectors Force Lines: Omnidirectional Lines of Force Self-congruence Packing Vectorial Geometry Field Vectorial t Vertexial Geometry

Model of Toothpicks & Semi-dried Pease

See Accelerations: Angular <fc Linear, 18 Oct*64*

Avogadro, 12 Jul'62

Closest Packing of Spheres Sequence (1)

Ninety-two Elements, 9 Apr'40

Time, 21 Dec'71*

Vector Equilibrium, 9 Jul'62

Most Economical, 15 Jun'74*

Intuition Sequence (2)*

Time-size, 20 Dec'73

Octahedron as Conservation k Annihilation Model, (4)

Synergetics, Nov'71

Topology, 11 Dec'75

See Analytical Geometry

Celestial Geometry

Conceptual Geometry

Cosmetry

Distaff Geometry

Euclidean Geometry

Greek Geometry

Hierarchy of Geometrical Transformings

Minimum Geometrical Fourness

No Geometry of Space

Nuclear Geometrical Limit

Omnigeometric

Operational Geometry

Operational Mathematics

Piaget, Jean: Child's Spontaneous Geometry-

Plane Geometry

Polygon

Polyhedra

Primitive Geometrical Conceptuality

Psychological Geometry

Regular Polyhedra

Space f Unoccupied Geometry

Sett Spherical Triangle Sequences

Tools of Geometry

Topology

Vectorial & Vertexial Geometry

See Rubber Glove, 23 May'72*

Synergetics. 1960*; Oct `71; 17 Nov'72; Jun'66; 15 Nov

System, 25 May*72 *74

Space, 1968*

Tetrahedron, 2 Jul'62*

Thinking, 2 Jul'62*

Time, 21 Dec'71*

Up k Down Sequence (2)*

Conceptuality Independent of Size, 31 Jan'75

Progressions, Kay*49

Structural System, Nov'71

Universal Vertex Center Model, 29 Apr'43

Modules: A & B Quanta Modules, 20 Dec'73

See Geometrical Conceptuality

Geometrical Integrity

Geometry of Inwardness & Outwardness Geometrical Interrelatability of Events Geometry: Plane Geometry

Geometry of Reality

Geometry of Space: There la No

Geometry of Thinking

Geometry of Vectors

Geometrical Function of Nine

Geometry & Number

Geometrical Hierarchy

Geometry of General Systems

Geophysical Year: IGY: 1957-1958:

See Antientropy, (A); (1}

Geosocial Revolution, (1)

Man as a Function of Universe, (B)

Manifest: Six, 1973

XY2 Coordinate System, 14 Sep*71

RDF DEFINITIONS

Geoscope:

"The geoscope has the same relationship to the Earth as one of the lifeboats on the davits of the Queen Mary has to the Queen Mary. If the Queen Mary turns the lifeboat does likewise, retaining the same relative position to the keel. If the Queen Mary rolls the lifeboat rolls.

"The 4,000-mile parallax from the center of the Earth to

the Geoscope at the Earth's surface If inconsequential.... You can see the Earth revolving faster at the equator."

- Cite RBF at Penn Bell videotaping session, Philadelphia, 29 Jan

*75

Geoscooe:

"The biggest problem of humanity right now is how to get all of humanity to learn what it's all about in the shortest possible time."

- Citation & context at World Game, 15 Jun¹74

See Geoscope, 1\$ Jun'74

GgopCPP?:

Education Autonation, p.45

Geoacooe:

See Earth Globe Models Miniature Earth Minni-Earth

Tool of Reorientation

Geoview

Seeing the Whole World at Once World Looks at Itself

Geosocial Revolution: (1)

"A half century of subconsciously developing world revolution is now crossing the threshold into human consciousness and ultimate popular support. The heretofore subconscious world revolution may well become the conscious focus of effort of the International Cooperation Year.

"The I&Y-1965 itself has been indirectly occasioned by the subconsciously occurring techno-scientific revolution and its myriad of separate world- around transformations of human ecology.

"The unheralded human ecology transformations have developed only as inadvertent, unanticipated infractions of individually undertaken uncoordinated inventions.

"The independent physical environment reforming inventions have integrated, figuratively speaking, as streamliningly divided, double-decked, banked, and cloverleafed lifeways of human behaviors. These lifeways permit ever increasing numbers of humans to survive logically and sense-satisfyingly without mutually frustrating interferences. |₂)

- Cite GEOSOCIAL REVOLUTION: SYNOPSIS /'./DSD, Doc /3, p.79, 1965
Geosocial Revolution; C2)

'"There are two main classes of inventions: those which increase and those which decrease the degrees of freedoms. Because men are born immobilized there are few invention opportunities for his immobilization. These are prisons, traps, straightjackets, handcuffs, and caskets. On the other hand there are an infinity of opportunities to invent man's increased mobilization--- all the way up to the speed of light, 136,000 mps., and in all directions. Means-of- increased-freedom inventing is irreversible.

'"Inventions occur when individuals, frustrated by circumstance, eschew negative blaming and undertake positive physical environment reforms rather than abstract human reforms. The latter depend precariously only upon moral, ethical, and legal codes which are enforceable only by negative penalties.

"The silent preoccupations of the artist-scientist, whose inventions subsequently pennit mankind to realize his innate potentials without interference with others are in marked contrast to political behaviorisms. Political theories apparently assume that there is no alternative to the word,"

- Cite GEOSOCIAL REVOLUTION: SYNOPSIS UDSD Doc. #3, J.79, 1965
Geosocial Revolution: (3)

"fist, and bullet battles between opposing ideologies. Each ideology seeks to reform man. They scheme and labor to impose their respective viewpoints by omni-interfering political, moral, psychological persuasions, furtive corruptions, bullyings, or punishments.

"Both professional and amateur spokesmen for society apparently assume that the political battles will persist until man annihilates himself. The only considered alternative, happy or unhappy according to the individual's viewpoint, is that one bias or another will gain sufficient advantage to be able to dictate the terms of mankind's reprieve from total extinction. We don't agree. We think there is a third eventuality wherein the political chaos will fade out in ways entirely unpremeditated by political man as the invention order looms in. Geosocial revolution explores the possibility that the nonpolitical surprise has already occurred and will soon be increasingly visible to all."

(2)

- Cite GEOSOCIAL REVOLUTION: SYNOPSIS(WSDS Doc. #3, p.79, 1965
See Income Energy

<u>Geoview</u> :	(1>
See	Geoscope World Looks at Itself

See Search vs. Research, 14 Feb'72
Gestalt;

"What matters, with regard to both scientific method and social usefulness, is the total physico-economic • picture, the Gestalt of nature— the patterns that are inherently comprehensive and universal, in contradistinction to what is local. Specific parts of a pattern, the local designs, can be derived from the general design, the comprehensive scheme. The reverse however, is not true; in nature, society, and industrial complexes, wholes express more than the simple effect resulting from the sum of their respective parts."

- Cite Marks DYMAION WORLD OF RBF, p.8, 1960

See Synergy, Oct'69

Gestation

"The Special Theory is the umbilical cord, the conceptional and locally dependent gestational phase.*

- Citation and context at Einstein: General Theory and Special Theory.
4 Mar'73

Gestation:

"The metaphysical integrities manifest throughout the everywhere intertransforming Universe's omni-interaccommodative cosmic system apparently are from time to time emulated in meager degree by the intellect of the humftn passengers who are gestatinz within the spherical womb sheath of planet Earth's watery, gaseous, and electromagnetic biosphere.'"

- Cite RBF Introduction to Gener Youngblood's EXPANDED CINEMA, p.
Mar*66 ' H

Gestation Lag:

"We know there is a great variety in the time spans of gestation lags between the moment of egg fertilization and the birth of the independently conceived babies of the different zoological species. But almost no variation occurs within any one species' gestation rate--- for

instance, human babies take nine months. In the same way there is a great range of time lags between invention and industrial production among the different technical arts, but almost no difference within a given art •

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 154, Dec. '69

Gesuition Lag;

bee Now_t 14 Feb'/z

itobin iioa boqdpncc (2)

SsMfiilaHalJ'jiaas ;

Se® Gestation, 4 Mar'73

Ggafca.tifln fiatfl'

"Nature has her own gestation rates. The biggest---most important---events take the longest."

- Citation & context at Black Holes & Synergetics, 1 Mar'77

Seaisilng Sg£d:

See Duality of Universe, May*49

See Birth

Cosmic Geatation

Pregnant Mother

Womb of Permitted Ignorance

See Automation of Metabolic <k Regenerative Processes May'65

Einstein: General Theory * Special Theory, 4 Mar'73*

Industrialization: Curve Of, (1)

Now, 14 Feb'72

Promote: I Don't Promote, 2 Jun'74

Race, 14)

Subconscious Coordinate Functioning, May'65

Time, 23 May'72

Unique Frequencies, 18 Aug'70

Evolutionary Checks & Balances, 26.Aug'75

Black Holes t Synergetics, 1 Mar*77*

Womb of Permitted Ignorance, (2)

Gestured Communication;

See Communications Hierarchy, (1)(2)

Ghana. Pome • Self-chilling Machine: (1)

'What effect will the materials employed in your domes have on the underdeveloped countries?"

RBF: "The underdeveloped countries are like 150 admirals

on one spaceship. I don't think in terms of underdeveloped countries. The people aren't going to stay in those countries any more than Americans stay in the same town.

"My feeling about the African students is that they are much keener than others in their mathematics, We learned this at Kumasi. We should have expected that their great feeling for rhythm should have made them good in mathematics.... last month in my meeting at the State department they said that Africans couldn't use tools. I asked them what do they at the State department know about tools?

"Those countries have high capabilities and have been developed for a very long time... but I understand what you are asking. Taking the bauxite from Ghana is economic colonialism. In the 1970s the Ghanaians made the most beautiful dome ever built right in Accra----better than the one in Kumasi. They made this"

- Cite R3F to World Game Workshop'77; Phila., PA; ?? Jun'77

Phana Pome- self-chlmnr Machine:

(2)

"beautiful geodesic dome as a self-chilling machine. The dome generates a thermal column pulling the air from around the large openings at the bottom and down through a small hole in the roof, `e found this phenomenon first in the Butler Drain Bins; out in the Sun they could be too hot to touch on the surface yet very cool on the inside.

"Of course, the exploitation will go on... but the Ghanaians are very rapidly becoming Worldians."

- Cite RBF to World Game Workshop*??; Phila., PA; 22 Jun'?7

Ghostly Greek Geometry; Sphere:

"The Greek sphere is wrong because it is a net too small for the molecules of gas to get out."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 1 Oct.'71.

Ghostly Greek Geometry; Sphere:

'•The definition of a sphere by the Greeks was 'a surface equidistant in all directions from a point,¹ Now if you have a surface equidistant in all directions from a point it couldn't have a hole in it. If it had a hole in it the distance would not be equidistant because the surface would start to turn inwardly and the radius would not be the same. To say then that you have a surface equidistant in all directions from a point is considered some kind of a solid surface. A sphere then would be a subdivision of universe in which part of the universe would be inside and part outside and no communication between the two because there are no holes in it. In other words, the Greek definition of a sphere was the definition of the first perpetual motion machine or

local system that was adequate in itself. It didn't need any of the rest of the universe. All experiments in physics has shown energy losses in systems and energy intakes and so there would have to be some holes in the system for them to pass through. Therefore we discover we have to give up the concept of the sphere as defined by the Greeks and all we can say is that

(1)

- Cite Oregon Lecture #6, pp. 204-5, 10 Jul*62

Ghostly Greek Geometry; Sphere:

"what we mean by a sphere is an aggregate of events approximately equidistant in all directions from one event. They may be of very relative high frequency, of such a high frequency that you can't resolve it and it looks continuous to your eye, and that you call a sphere... That is the way we found we were fooled by the pneumatic bags. They were full of holes too."

(2)

- Cite Oregon Lecture #6, pp. 204-5, 10 Jul'62

See Bias on One Side of the Line, Kay'65 Calculus, (1) Geodesic Line. 9 Sep*74 Synergetics, 1 Apr'49 Tools of Geometry, (1)Jl2< Nucleus vs. Boundaries, 28 Jan'75 Subvisible Discontinuity, 19 Oct'72

Ghost;

See Holy Ghost

"Willard Gibba in evolving hia phaae rule waa engaged in probability relating to chemistry when he inadvertently and intuitively conceived of hia phaae rule for explaining the number of energetic freedoms neceaaary to introduce into a aystem complexedly conatituted of cryatala, liquids, and gases, in order to unlock them into a common state of liquidity. Hia discovered phaae rule and topology are the same: they are both synergetic."

relation of the Probability Model of Three Cars on a Highway (2), 26 Sep'73 "Gibbs, in his phase rule, ties up the probability with chemistry. His phase rule and topology are the same.

But still all the different chemistries and topologies seem to be random, But synergetics, by relating energy and topology to the tetrahedron, and to systems as defined, and by its synergetic hierarchy, replaces randomness with a rational hierarchy."

- T~r w

- Citation a context at Probability. 17 Feb'72

IWF DtfliJITIUKS

Gibbs; Phase Rule:

"Willard Gibbs' phase rule in a formula similar to Euler's in which the degrees of freedom are in effect the vectorial edges brought synergetic advantages to chemical strategy."

- Cite OHJIDIRECTIONAL HALO, pp. 160-161, 1960

See Euler & Gibbs

Gibbs: Phase Rule

Synergetic Hierarchy

Liquid-crystal-vapor-incandescent phases

See Chemical Bonds. 6 Mar'73 Probability, 17 Feb'72* Probability Model of Three Cars on a Highway.

26 Sep'73*

Synergetic Accounting Advantages: Hierarchy Of, (2) Synergetic Hierarchy, (1) Thermal, 6 Mar'73 Time, 6 Mar'73; Aug'71 Twelve Universal Degrees of Freedom, 6 Mar'73 Whole System: Principle Of, (1) Topology, 11 Dec'75 Degrees of Freedom &. Bonding, 24 Jan'76 Modules: A & B Quanta Modules, 20 Dec'73

Gibraltar: Hock Of:

See Culture, 27 Jan*77

Gin Pole

See Mast in thb Earth

Gin Pole;

(2)

See Twelve Univereal Degreea of Freedom, 10 Jul'62

Girl;

"Then® is something of the harvester about girls: what

I call the gains consolidator. Girls fall in love with me.

Nothing shakes them! They fall in love with integrity. It*a nothing to do with me at all, but what seems to be integrity of thought."

- Cite RBF to EJA re Mala, nee Thaper of New Delhi; at 3200 Idaho, Wash, DC, 13 Dec*73

See Female Leg

Naked Girl on the Bed

Girth:

See Length-to-girth Ratio

Give: Giving:

See More You Give the More You Have to Give

Glands:

See Automation of Metabolic and Regenerative Processes May»65

Scrap Sorting & Mongering (3)

GliciDBe-dlacover: Glimpsing:

See Guess-improvise

Gllnpae-dlscoverv: Cliroaln£ =

(2)

See Invention Sequence, (A) Truth, Jan'72

GligpBort

See Coamunicationa Hierarchy, (4)

Global Political Hevolution:

See Revolution: Design Science Revolution vs. Global Political Revolution

GlrtU Village:

(1)

See Earth Shrunk to One-town World One-town World Geoview

vmagg:

(2)

See McLuhan, Marshall, (1)

Globe: "You think you can only read half of a globe, but you'll find that you can only see one-quarter of it at any one time.

- Cite RBP to Henry Liberman, NT Times, 22 Jun¹72

Globe;

See Earth Globe Models

Glory;

See Greater Intellect, (2)

Gloves: "Gloves are a complex of tetrahedra."

- Cite RBF holograph, Somerset Club, Boston, 22 April 1971

Gnoraonlc:

^s«« Dymaxion Alrocaan World Map, (f), (h)

Go In To Go Out:

See In 4 Out: Go In to Go Out

Gg: No-go:

See Pulse Pattern

**See Degrees of Freedom, 13 Dec'73 Omnidirectional Typewriter, (3)
Causality, Jan'77 win, {1}**

God:

"The only-intellectually-discoverable, comprehensive integrity of omni-everywhere-and-everywhen, complexedly intertransforming Universe is omnigoverned by the mathematically-inclsive, generalised principles. It is to that comprehensive intellectual integrity and wisdom to which I refer when using the abstract word 'God.' God designs us and our Scenario Universe.

"The self-discipline involves commitment only to God: all humanity and all the experimentally-demonstrable, mathematically generalised principles thus far discovered by humans and all the special case truths as we progressively discover them."

- Cite RBF Ltr. to Bro. Jos. Chuala, P.1; 7 Nov'75

God:

"God is the synergetic intepral of all truths... but these are just words, utterly inadequate. You can only talk to god on behalf of everybody.

"I have had experiences that make me feel that god knows what I am doing."

- Citation & context at Truth, 31 Jan*75

God:

"God is the unknowable totality of generalited principles which are only surprisingly unveiled, thereby synergetically inaugurating entirely new, heretofore unpredicted--- because unpredictable--- ages."

- Cite RBF rewrite of SYNERGETIQ?galley xix ("Moral of the Work") telephoned to EJA from Philadelphia, J Apr'74

God:

"And I started off as a thinker* I didn't start with bathrooms. I started off with God and my charge was to work with the physical.. That's' where I had the capability; that's why we're here...**

RBF Modus Operand!

- Citation and context at Fuller. R.B.: Feb'73

God:

"Little man on little Planet Earth evoking words to describe his experiences, intuiting ever and anon the greater integrity, struggles to form a word to manifest his awareness of the greater integrity. His lips can express, his throat and lungs can produce, in the limited atmosphere of Planet Earth, he may make a sound like god. . . which is obviously inadequate to identify his inherent attunement to eternal complex integrity. The little humans on little Earth, overwhelmed these millions of years with the power of the bigger over the lesser {muscles) have spontaneously identified the cosmic integrity with the local terrestrial experience. The conditioned reflex feedbacks have introduced enormous confusion of approximate identification fusing the local physical muscular authority with the eternal complex integrity, whose absolute generalizability can never be locked into or described as a special case."

- Cite SYNERGETICS draft at Sec. 1009.4 10 Feb'73

God:

"It is inherently potential in the integrity of eternal regeneration and the inherent complexity of unity that only god can invent a new generalized principle, and he apparently does so, from time to time, thus synergetically creating entirely new and heretofore unpredicted--- because unpredictable--- ages."

(Above is superseded by RUF amendment cited as God. 3 Apr '74)

- Cite SYNEREGTICS Front Paper, 26 May*72

God:

"... The eternally exact Utter perfection, Complete understanding Absolute wisdom, Unattainable by humans But affirming God Omnipermiative, Omniregenerative, All incorruptible As infinitely inclusive

Exquisite love."

God;

"Thus also humanity is permitted By the omni-intellectual, Weightless, amorphous, Metaphysical integrity of Universe- Which we intuitively designate By the sound word ¹ god* To participate in meager degree Locally and temporarily--- In god¹'s own vast Evolutionary designing capabilities

- Cite INTUITION, pp.53-54 May '72

Cod:

"God makes no mistakes."

(A common observation by RBF)

- For citation: see Mistake. 19 Dec'71

God:

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the xerophase of conceptual integrity inherent in the positive and negative asymmetries which propagate the problems of the consciousness. . . "

- Citation & context at Experience. 12 Sep*71

- -immwpegafcfain ffYITRfETTrS

-flili W—rrm iij> Hmeiy ytiAi!, i i

God:

"May the great a priori intellectual integrity of eternally regenerative Universe grant glorious flight to the chicks."

- Cite 1 Definition of Evolution, p. 5. 15 Sep'71

God:

"God makes no mistakes. Never fear god."

- Cite RBF to EJA, Beverly Hotel, New York 15 Sept. 1971

God:

"I don't use a capital G for god because that just seems to stand for the old anthropomorphic idea,"

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971.

God:

"God . . . the most comprehensive generalization of the invisible finite reality."

-Cite ARTS & LETTERS GOLD MEDAL, p. 10

May*68

God;

"It takes two to make a baby But it takes God to make two.

"God is twoling

God is threeing God is multiplying By dividing

- Cite HOW LITTLE I KNOW, Oct. '66, P. 56.

God:

"I think of God not as a superman but as the great comprehensive a priori integrity of the universe within which man finds himself to be operative."

- Cite MERGERS & ACQUISITIONS, Vol. 1.

No. 3., p. U Spring 1966

God:

"God is entropy

And god is also antientropy,

God is synergy

God is energy.

And god is always

A verb—

The verbing of

Integrity.**

- Cite H04 LITTLE I KNOw, p. top 57. Oct*66

God: *1 conceive of God as a verb, not a noun. Intellect manifest in man is to some extent God, God is part of the thinking process of every man.

"I have to recognize something much bigger than my capabilities in creativity, The orderliness of the Universe and all the potential N^l « N relationships are by experience a priori to

man's exploration and discovery of them. Often two remote persons discover their existence independently.

"...But I do not want to inaugurate another religion and persuade people to believe in a set of rules. I am convinced that the Almighty does not need anybody to promote God. God to me is the total abstract intellectual capability and conscience.

- Cite RBF at AAUW Panel, AAUW Journal, Pp. 172-173, May'66

See World as Idea in the Mind of God

See Individual Universes, (2) Timeless. 1 Apr*72 Transcendental, 2 Jun'71

VH God As Verb of Optimum Understanding: (1)

"It seems possible to me
That God may be recognizable
In man's limited intellection
Only as the weightless passion drive
Which inspires our progressive searching
For the— momentarily only—

**And only most-truthful-thus-far-possible--- Comprehension of all the
interconnections Of all experiences.**

It seems then to me

**That the nearer we come to understanding, The nearer we come to
the**

Orderly omni-interrelationships
Of all the weightless complex

Of all generalized principles //hich seem to be disclosed to us

As so important
As to be tentatively identified as God.
For it is the integratable interrelationships

**Of all the generalized laws ./hich apparently govern The great verb
'Universe* Or the vastly greater**

— Because comprehensively anticipatory—
fHb od As Verb of Lptimum Understanding;
(2)

"Verb intellecting
Which verb of optimum understanding
i-'ay be 'God. *"
See God, May*6\$

Objective Intellect, Jun ` 69

See Absolute Integrity

Absolute wisdom

Almighty

A Priori Great Design Comprehensive Integrity Cosmic Intelligence
Divine: Divinity Einstein: Cosmic Religious Sense Eternal Designing
Capability Great Design: The Great Intellect: Greater Intellect
Greater Understanding Intellection that is Infinitely Perfect Mind:
Concept of God as Mind Hind: Great Eternal Kind Nonanthropomor-
phic God Objective Intellect Omniscience Religion

See

Supreme Intellect

Science: The Great Design

Triangle as Signature of God Universal Kind

World as Idea in the Mind of God Trinity: Equation of Trinity Synergetic
Integral No Secondhand God Cosmic Wisdom

Great Design: The

Competence Greater than that of Humans

Lord's Prayer, 16 Feb'78

Sea Death. 1970

Experience, 12 Sep'71

Generalised Principle, May'68

Geometry, 1 Oct'71

False Property Illusion, (1) Intellectual Capability, May'6\$ Intellectual Integrity, Aug'64 Local vs. Comprehensive, {1}{2) Mistake, 2 Dec*71; 3 Jun'72; 19 Dec*71 □ Perceptual Peephole, Dec'69 Thinking, 1933 Time. 1940

Timeless, 1 Apr'72

Transcendental, 2 Jun*71; 6 Jul'62 Vector Equilibrium, Summer*71
Vector Equilibrium: Zerophase, 12 Sep*71 Heaven, 23 May'72 Truth, 31 Jan'75* Individuality & Degrees of Freedom, (1) Christ, 7 Oct*71

See Orbiting, (1)

Twelve-inch Steel rforld Globe, (A)

Going Awavness:

See Coning Apart

Raison d'etre of Going Awayness Coming Towardnese

See Repu/9|lon, 7 Feb'71

Golden Rule:

See All or None

(1)

Consideration for Others_a*

Expense: Without Any Individual Profiting at

The Expense of Another

Meek Have Inherited the Earth

That the two hit it off as they should For the good are so harsh to the clever And the clever so rude to the good."

- Doggerel verse attributed to "Some little old lady in

England," RBF asked Chris. Morley, Editing "Bartlett's" to try to track it down.

- Cite RBF to EJA, 3200 Idaho, 21 Oct'72

-O&Qd-

"I don't use the words 'good' and 'bad.' I try not to oppose evolution. If you do oppose evolution it's not bad it's just stupid."

- Cite REF to World Game Workshop; Phila. PA; 2** Jun'77

Good & gadding Kind of Idea:

See Homosexuality, 1972

Good & EyU Sequence: (1)

"I have to be very careful to take things in a big frame. And I see that nature does have manure, and she has roots, as well as blossoms; and I don't blame the roots for not being blossoms. Things go through phases. I think society is getting somewhere; we don't really know. We don't understand very much about how and where we're going... I think we really are immortal. I think life is really going somewhere.

"We tend to think always in superficial: saying that you are your skin. But I've just been sitting here peeling off skin all the time, throwing it away. It isn't me. But we still assume so. So many of the things we think of as bad and hard and cruel may not be so in the end. Just coming out of the womb, There's a river flowing into the ocean and there are back eddies all over. But I don't call that evil. We are

in a very big course. I don't think anything that's gone before really has to happen again. But there are quite clearly rates of change. You don't make a baby in less than nine months. There are those unique frequencies. I do not tend to think of a Universe which consists of ASSES&SSOSSt good or evil. I don't think an electron is bad because we give it a negative sign. Much of the"

* RBF to Barry Farrell; Bear Island, Tape H1, Side B, Transcript p.16;
18 Aug'70

"pain is related to the words we've invented and the significance we attach to things. Y/e make people ashamed when they need not be ashamed. The young world is breaking out from much pain that people had before; they're not having it simply because they're not ashamed... Evolution has her own accounting system and that's the only one that's going on. The Sun never heard of our fiscal year. And it's the Sun that's keeping us going."

- RBF to Barry Farrell; Bear Island; Tape #7, Sid® B, transcript p.17,
18 Aug'70

See Good & Badding Kind of Idea

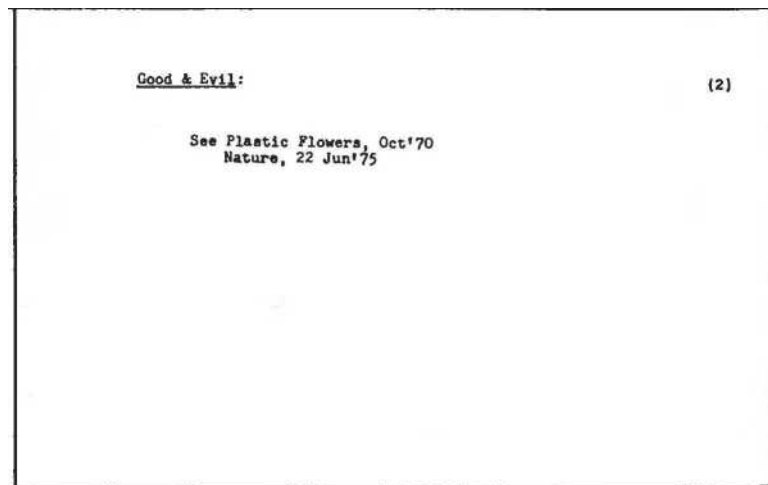
Immorality

Sin

Ethics

Nature is Neither Good Nor Bad

Pleased or Displeased: We Are Not Here to Be



See Ethics Feeling Good Utopia Virtue

Government:

See Politics

City Management Concept of World Government

One-world Management

Planetary Democracy

World Democracy

See Committee, 3 Jun*72

(2)

Doing What Needs to Be Done, (1) Houses fit Infrastructure, 20
Sep*76

Grammar-

See Syntax

Cramming;

See Ownigramming

Grand Banka: Cogmic Fish in the Grand Banker

See Coenic Fish Sequence,

am:

See Education: Knowing Where the Bridges Are, Oct'71

Grand Central Station of Energy;

See Alcohol, 1946

See Railroad Tracks: Great Circle Energy Tracks

The Surface of a Sphere

Exchange Agent of Universe

Local Vector Equilibrium

Real Models of Reality

Avegadre: Generalised Avogadro Field

Isotropic Vector Matrix

**See Cosmic Democracy, 27 May'72 Graphable, 27 May'72 Vector
Equilibrium, i960**

Grandfather Dead.: Whax. Again?

See Death, 11 Sep'73

Intuition of the Child, (2)

**See Artifact & Grand Strategy Design Science: Grand Strategy Dome
House Grand Strategy: 1927-1977 General System Theory Gener-
alised Dichotomy: Grand Strategy Nature in a Corner Quantum Me-
chanics: Grand Strategy Starting with the Whole Starting with Uni-
verse Synergetic Hierarchy Variables: Theory Of World Game: Grand
Strategy**

**See Rearrange the Scenery (1) Artifacts, 15 Jun*74 ' Geometry, 14
Nov*73 Education, 1 Jul'62 Plumbing, (1)(2) Repetition, 8 Mar*75- 2
Jul*75 Assumption, 1946 '**

**Generalisation & Special Case, Nov'71 Machines vs. Structures, 13
Nov'75**

See Wizard

See Divide k Conquer Sequence, (5)

Granite:

See Matter, J Oct*72

Graphable:

"... Electromagnetic scientists had found that all their t.M.F. (electromotive force) problems could be graphed vectorially; that 'graphable¹ or 'modelable* vectors can interact modelably in real Universe space seemed to promise that the equations of nature's omnicoordinate transactions expressed in omni-space-intruding vectorial models might produce real models of reality of nature's Grand Central Station of omnicoordination.'^{*}

- Cite SYNERGETICS draft, Sec. 410.05, HBF rewrite of 27/2 May*72

See Charts: Curves fc Trending Modelability

Slides: Graphics vs. Words Epistemography Module: Modular

See Spiral. 1938

Halo, 1938

Thinking, 10 Sep'75

Dymaxion Airocean World Map, (a)-(i)

Universal Vertex Center Model, 29 Apr'43

See Trail Irrelevancies: Dismissal Of Trail Making to Trail Remembering

See Thinking, 1?60; Jun'66

See Biological Design, 13 Mar'73 Intuition of the Child, (2) Reproducible, 22 Apr'68 Simplicity, 1968

TEXT CITATIONS

Graphable*per*fl Leea:

Synergetics, 2nd. Ed. - Sec. 1053.75

Grateful: Gratitude:

See Competence: The More Competent, the Less Grateful

Gravel:

See Preetressed Concrete Sequence

Graveyards: Grave:

See Pyramid Technology

Gravitational Constant; (1)

"Pondering on Einstein's adopted last problem of the Unified Field Theory, in which he sought to identify and explain the mathematical differentiations between electromagnetics and gravity: the two prime attractive forces of universe. In that connection, recalling my conclusion that gravity operates in spherical embracement--- and not by direct radial vectors--- and recalling that electromagnetism follows the high tension convex surfaces, possibly the great circle trunk system of railroad tracks, I found myself pondering, surpris®(BBedly, over the fact that the vector equilibrium, which identifies the gravitational behaviors, and the icosahedron which identifies the electron behaviors of electromagnetics, discloses 25 great circles for the vector equilibrium in respect to its 24 external vector edges, and the icosahedron discloses 31 great circles in respect to its 30 external vector edges.

"In each case there is an excess of one great circle over the edge vectors. Recalling that the vector edges of the vector equilibrium exactly equal the radial explosive forces, while the icosahedron's 30 external edges are

sec j

I oX2.il I

- Cite RBF dictation, 1 Apr '72 "longer and more powerful than its 30 radial vectors, yet each has an excess of one great circle, which great circles must have two polar axes of spin, we encounter once more the excess two polar vertexes characterizing all topological systems, and witness the excess of embracingly cohering forces in contradistinction to the explosively disintegrative forces of Universe.

"This is the field theory.

"The excess two poles permit omniradially propagated waves of energy to be polarly focused, ergo beamable, or wirable by conductors.

"Gravity is to electromagnetics as 20 is to 18:51."

- Cite RBF dictation to EJA at breakfast, International Hotel, Kennedy Airport, NY, 1 Apr *72

OMuirie.L»17c.

"Since Einstein's discovery of relativity, $E = mc$, the physicists have been preoccupied with the significance of the radiational constant*-- 186,000 m.p.s. as the top speed of radiation. But physicists since then seem to have paid very little attention to the complementary concept of the gravitational constant--- the top speed of gravity, which is just as significant as the radiational constant."

- RBF to EJA Governor House Motel, Bethesda, 28 April 1971.

Gravitational Constant:

"... The gravitation constant of 6.6666667 is always inherently more comprehensively, implosively, powerful is syntropically cohering the Universe than is the radiational constant..."

- Citation and context at Universal Integrity: Principle Of. S Ray '72

See Newton vs, Binstein

Radiational Constant

Universal Integrity: Principle Of

Congruence of Gravitational k Radiational Constants

See Icosahedron as Electron Model. *J* Mar'73

Synergetic Hierarchy, 13 Nov'o9

"Novents characterize the finite but noneeneorial remote masses' interattraction, i.e., the gravitational continuum."

- Citation 4. context at Events 4 Novente. Nov¹71

See Novent Continuum

QrWXtaUOTal Fuld:

"Omnitriangulated geodesic spheres consisting exclusively of three-way interacting great circles are realisations of gravitational field patterns... The gravitational field will ultimately be disclosed as ultra high-frequency tensegrity geodesic spheres. Nothing else."

- Citation and context at Three-way Great Circling: Three-Way Grid:, 8 Mar'TJ

"Radiation produces the phenomenon known to Einstein as the bending of space, the gravitational field."

Radlatlpn-GrayltaU.9D,

- Citation and context at 8 Mar*73

gravitational Kensurablilty:

See Vector Equilibrium, (2)

"There is no pointal center of gravity. There is a gravitational system zone of concentration with min-max zone system limits.

"Vertex is in convergence and face is in divergence.

"Synergetic geometry precession explains radial-circumferential acceleration* transformations."

(Slightly edited)

- Cite RBF holograph, Synergetics Notes, 14 Jan'55 (Incorporated in SYNERGETICS at Sec. 1030.21)

Gravitation: Inverse Square Law Gf:

See Newton's Second Law of Motion

Gravity:

"Gravity is continuous tension omni-inter-between all systems, because gravitational intertensional intensivity varies as the second power of the arithmetical interdistancing variations, whose unique variations are locally periodic, it manifests periodic intensities of tidal pulls, but the overall tensional integrity is constant independent of local intensity variables....

"Gravity is nondivisible and syntropic; its conservation is accomplished by holistic embracement of variable intensities.

"Gravity is integral. Holistic gravity has no frequency."

- Citation *k* context at Radiation-gravitation, 11 Feb'76

171

Gravity:

"The physicists tend to describe gravity as a 'weak' force because they don't recognise that it's a big-arc effect in contradistinction to little pockets of energy like an Earth or a star.

"Gravity is omnipresent, the most subtle of the great integrities.

"This is typical of the semantics of scientists with their addiction to axioms and solids; for the physicists a strong force is a tiny thing like a bomb."

- Cite H3F to EJA, 3200 Idaho, 12 May '75

Gravity:

"The effect of gravity on all matter is to make it want to precess as radiation. *

- Cite RBF to EJA and BO'R, J200 Idaho, Waah. 6.6., 6 Apr '75

Gravity: U)

"My theory of gravitational behavior is an intuitively evolved operational concept. Since

- (a) Spheres contain the most volume with the least surface; and since,
- (b) Nature always employs only the most economical interrelationships and omniscient interrelatedness behavioral stratagems; and since,
- (c) With each and every event in Universe, no matter how frequently recurrent, there are always twelve unique, equieconomical, omnidirectionally operative, alternative action, options: which twelve occur as four sets of three always interdependent and concurrent actions, reactions, and resultants; and since,
- (d) Galileo discovered the mathematically uniform, second-power, exponential rate of acceleration manifest by free falling bodies; and since,"

- Cite RBF Ltr. to Annie Dillard, 12 Jun '74

Twfwr pKfwj o* ess>oM - 5 Gc

(e) Kepler discovered that hidden within the superficial disorder of individual omnidifferences--- differences of size; differences of distances from the Sun; and differences of Sun-orbiting rates--- there nonetheless existed an elegantly exact, one-to-one mathematical correspondence in the Sun's planets* intercoordinate behaviors manifest by the equi-areas of the radii- and arc-bounded, piece-of-apple-shaped areal sweepouts, within an identical time span,

of all the Sun's planets as they orbited elliptically around the Sun at vast distances from one another, all accomplished without any visible mechanical interlinkage such as gears, yet whose orbiting around the Sun--- rather than flying off tangentially from those orbits by centrifugal force as do the round iron balls released by 'hammer throwing' athletes--- altogether suggests some incredibly powerful interattractiveness to be operative; and since,

(f) Newton correlated (a), (b), (c), (d), and (e) above to discover

Firstly, that the prime interattractiveness magnitude existing between two mutually remote bodies, as compared to the prime interattractiveness existing between any other two mutually remote bodies, is arrived at by multiplying each of the

« Cite RBF Ltr. to Annie Dillard, 12 Jun'74

”respective couples' separate masses by one another; and

Secondly, as a cosmic generalization of the acceleration of Galileo's Earthward falling bodies, Newton discovered the second-power mathematical rate of interattractiveness gain occurring with each half of the intervening distance of any two given celestial bodies; whereby it was shown that there are interrelationship behaviors manifest in physical Universe that; are in no wise indicated to be operative by any or all of IMI the unique geometrical or physical characteristics of any one of the mass-interattracted bodies when considered only separately; and since,

(g) Synergy means behavior of whole systems unpredicted by the integral characteristics of any of the system's separate parts, it has come to pass that it has been synergetically proven that Copernicus was 'right on,' for the ever exponentially increasing interattractiveness of bodies freed of other external restraints to come ever

closer together, must induce their ultimate huddling together in the most economical, volume-to-enclosing-surface manner, which as the number of converging bodies increases is that of the spherical conformation.*

Ci he Rbf Lfrr- to Anpia Dillard 12 Jun¹⁷⁴

T W \$/ 6 fa 4 - SZc. 246.11\

Gray: (d)

"This would also occasion the spherically trending series of inter-transforming events that would take place as two independent large spherical masses, such as two asteroids, fell into one another and their multitudinous individual atoms began to sort themselves into most economical interarray. Interestingly enough, this is the opposite of what transpires with biological cell dichotomy.

"Electromagnetic radiant energy is entropic; gravitational energy is syntropic.

"Speaking mathematically, the surface area growth is always at a second-power rate of Increase in respect to the linear $\square\square\square\square$ dimension's rate of increase; wherefore, as Newton's linear distance apart was measured arithmetically, we can understand systematically why the relative interattraction of the bodies varies as the second power, whicra*epresented their relative surface rates of change, but this

does not explain why there is any interattraction. Interattraction is eternally mysterious."

$\square \gg \square$

: RBF Ltr. to Annie Dillard, 12 Jun¹⁷⁴ TEN SUM -V c E j IJU - . t> M- 6 » I 1 ,
J 3 •*-

^MI met an old friend yesterday, tyril Stanley Smith. I first knew him in 1950 when he was the director of the Institute for the Study of Metals at the University of Chicago. It was in his institute that the first Enrico Fermi atomic pile was assembled, erected, and operated. Cyril Smith was one of the original Manhattan Project scientists. For a number of subsequent years he has been professor of the History of Science at MIT. He is one of the world's great metallurgists.

"I discussed with him yesterday unique metallurgical techniques I had experienced in connection with producing my automobiles, bath-rooms, and aeronautical structures. In producing these prototypes I always had occasion to take on metal craftsmen called 'hammer men,* The best harm er men have been Polish- Americans. They inherited their craft as the best of the early armor makers of Europe. I said to Cyril, *I don't think any of those sheet metal workers ever think of what they are doing in the way you and I would think about what their work does to the atoms.' Cyrils said. 'You mean "in the ways the atoms accomodate their work.'" I said, 'Yes, that's what I should have said.*

- Cite RBF Ltr. to Annie Dillard, 12 Jun'74

Gravity: (f)

"The hammer men have learned that they can gather the metal together, that is hammer it thicker. Anybody can conceive of haraner-ing metals thinner. Few would think spontaneously of hammering it thicker. The hammer men do, however, hammer it in such a way as to bulk it. They can start with a flat sheet of metal and hammer it thicker as you would knead dough together after it had been rolled out thin with a rolling pin. But you push the dough together horizontally with your hands. You do not punmel it vertically from above. The skilled sheet metal hammerers can do just that with metal, which amateurs would spontaneously assume to be illogical if not impossible.

- (1) We can conceive of heating metal until it becomes liquid and flows together. Thus the blacksmith's heating of his horseshoes to a bright red to a condition just short of melted, makes it easy for us to think of the derry-red metal as being

in a plastic or semimolten condition which permits the smith to smite it into any preferred shapes--- thicker or thinner. But the Polish hammer men hammer cold, hard sheet metal into any shape.

- (2) What the Polish hammer men do intuitively without sensing it realistically is to hit the indestructible atoms"

- Cite RBF Ltr. to Annie Dillard, 12..Juni7A

'Tevtiarj - Jt-c. 6.15, .v. nA

Gravity(g) "tangentially as might a billiard player 'kiss' the object ball with his cue ball* Thus does the hammer inadvertently impel atoms sidewise often to roll atop the next nearest 'spherical* aggregate of atoms--- spherical because of the electrons' orbiting combined with the atoms' spinning at so high a rate as usually to present a dynamically spherical surface.

- (3) I went on to say to Cyril, 'I don't think hammer men think about their work as bounce-impelling the spherical atoms around as if they were a bunch of indestructible ball bearings stuck together magnetically as a consequence of which the accelerated ball bearings would cleave-roll, to relodge themselves progressively in certain most economically travel led-to, closest-packed, intersted rearrangements.
- (4) Dislodged atoms of the outer layer atoms of the omniintermagnetited ball bearings would always roll around on one another to relocate themselves in some closest packing array, any two mass-interattracted atoms being at least in tangency.

When another dynamical spherical domain atom comes into closest-packing tangency with the first two the mutual interattractiveness interrolls the three to form a triangle. Three in a"

- Cite RBF Etr. to Annie Dillard, 12 Jun'74

*Tiusi**" + • *sec. 474. n * M*

Gravity:

(h)

"triangle produce a 'planar' pattern of closest packing. When a fourth ball bearing lodges in the nest formed between and atop the first three, each of the four balls now touch three others simultaneously and produce a tetrahedron having a concave-faceted void within it. In this tetrahedral MSB position, with four-dimensional symmetry of association, they are in circumferential closest packing. Having no mutual nuclear sphere they are only inter-circumferentially mass-interattracted and cohered: i.e.» gravity alone coheres them but gravity is hereby seen experimentally to be exclusively in circumferential interbonding.

"With further spherical atom additions to the initial tetrahedral aggregate, the outermost balls tend to roll coherently around into asymmetrical closest packing collections until they are once more synuie trially interstabilized with twelve closest packed around one, and as yet exercising their exclusively intercircumferential interattractiveness, bound circumferentially together by four symmetrically interacting circular bands;

whereby each of the 12 surrounding spheres has four immediately adjacent circumfepetial shell spheres interattracting them circumferentially while there is only one central nuclear ball"

—— = CitfRBF Ltr. to Annie Dillard. 12 Jun'74

- Cor* ss TOM sig<S'

Gravity: (1)

"inwardly, i.e. radially, attracting each of them. In this configuration they form the vector equilibrium, known to Plato as the cuboctahedron. Here we have clarification of the Copernican 'nostalgia' or synergetic proclivity of the circumferentially arrayed spheres to associate symmetrically around the nucleus sphere or the nucleus void which, as either configuration--- the vector equilibrium or the icosahedron--- rotates dynamically producing a spherical surface. But the modus operandi of four symmetrically intertriangulated gravitational hoops (in the case of the vector equilibrium) and the six (in the icosahedron) are lucidly manifest. If we took out the central ball, or if it shrinks in diameter, we will discover synergetics' jitterbug model (showing that the twelve circumferential spheres will closest pack circumferentially until each of the twelve circumferentially arrayed balls is tangent to five surrounding balls and thus altogether form the Platonic icosahedron.

+X "Cyril agreed with me that the hammer men probably didn't think Ceteris paribus about these properties of atoms. The fact is that the spheres S / don't actually touch each other. They are held together only *LUL 14* / mass-interattractively and their electron paths are, of course.

I at > distances from their atomic nuclei equivalent relatively to" "t 'V I - Cite RBF Ltr. to Annie Dillard, 12 Jun'74

Gravity:

"that of the distance of the Earth from the Sun as proportioned to the respective radii of these vastly different sized spheres. As Cyril said, 'The hammer men can push the atoms only as the physical laws allow them to be moved.'

(J)

"The reason I mention this harnner man inadvertency is that you had spoken in your letter about 'hammering barrel hoops' and I felt that the haimering of barrel hoops introduced the operational concept of what it is that the only-intuitively-exploratory hammerer does not see yet, by virtue of which, nature accommodates his only superficially contrived hammering strategies while all the time all those atoms are intercohered by gravity--- which the hammerer associates only with falling objects.

"Ey book, SYNERGETICS, is comnitted to conceptual elucidation of the intertransformative geometries operative in the nonoptically-tunable ranges of Universe events. Synergetics conceptualities always manifest geometrical integrities of intertransformabilities.

"Up to the twentieth century 'reality' was all that we could see, smell, hear, and touch. The vast range of the thus far

- Cite RBF Ltr. to Annie Dillard, 12 Jun'74

' ` discovered electromagnetic spectrum was first published in 1930. It included the frequency bands of all the 92 regenerative chemical elements as well as those of x-ray, ultraviolet, infrared, radio, the television broadcasting bands, etc.; with the discovery of that electromagnetic spectrum we learned experientially that 99.9 percent of reality is invisible to humans. Almost nothing of the reality of our present life meets the human eye; wherefore our most important problems are invisible. Our problems are almost exclusively metaphysical and can only be coped with by scientific competence and intellectual integrity on the part of the discovering humans."

- Cite RBF Ltr, to Annie Dillard, 12 Jun'74

Gravity:

"Gravity... is the variable interattractiveness of nonmagnetic bodies_t which interattractiveness varies at a second-power rate inversely proportional to the relative distances intervening the masses, as those distances vary only at an arithmetical rate of change.*

- Cite Universal Requirements of a Dwelling Advantage, 31 May'74

Gravity;

"Gravity ia timeless and eternally instant."

- Citation and context at Universal Integrity, 7 Nov*73

Gravity:

"Gravity ia omnipresent, omniembracing, and omnicollective: shadowless and awavilinear. Awavilinear means nonwavilinear or antiwavilinear. Gravity counteracts radiation; it is progressively and centrally focusing; and it is always apparently operative in the most economical, i.e., radially-contractive, transformation--- the radii being the shortest distances between a sphere's surface and its volumetric center; ergo, employing the absolute straightnothingness, radial line of direction, which, as such, is inherently invisible."

- Cite SYNERGETICS at Sec. 541.03, 23 Sep'73

Gravity:

"Gravity is tensive, ergo tends to decrease its overall curvature. The ultimate reduction of curvature is no curvature.... The tensive tends to arcs of ever greater radius."

- Citation and context at Curvature, 23 Sep'73

Gravity:

"Gravity's omniembracing collectiveness precessionally generates circumferential surface foldings--- waves (earthquakes] --- consequent to the second-power rate of surface diminution in respect to the radially-measured, first-power linear rate of system contraction.

Gravity is innocent of wave. Gravity is innocent of radial; i.e., linear aberration waves; i.e., gravity is nonwavilinear. The most economical intertenninal relationship is always that with the least angular aberration. Gravity is the geodesic--- most economical--- relationship of events

- Cite SYNERGETICS draft at Sec. 541.06, 23 Sep'73

Gravity:

"... Gravity is nonlinear... omniembracing."

- Citation and context at Truth. 5 Jun*73

Gravity:

"Gravity has no shadow. Gravity is uninterferable;

radiation is interferable. Gravity is omnidirectional, mass interattraction, which, as Newton discovered, is directly interproportional relative to the respective mass involved, and varies as the second power relative to the interproximities of the respective bodies considered: Halving the distance between any two will fourfold their interaction.

- Citation and context at Radiation-Gravitation Sequence (1), 5 Jun'73

Gravity:

"*</hen man is so tiny and Earth is so great we can only see gravity as operating in the perpendicular. '7e think of ourselves as individuals with gravity pulling in perpendiculars parallel to one another. But we know that □□□□□ in actuality radii converge. We do not realize that you and I are interattracted because gravity is so big. The attraction is there but it seems so minor we dismiss it as something 'love affair*. Gravity seems so

we call 'aesthetics' or vertical."

- Cite SYNERGETICS draft at Sec. 1005.-6. 16 Feb'7J CbzJ

Gravity;

"Gravity is circumferential--- the barrel hoop staves trying to get out."

- Cite RBF to EJA, 200 Locust, Phila., 22 Jan»73

RBP DEFINITIONS

Gravity:

'"Gravity ia a spherically circumferential contractive force. The resultant is radially inward, attempting to make the system MMB get smaller. The circumferential mass- interattractive effectivenesss has a constant advantage ratio of 12 to 1 over the radial inward mass attraction."

⁴ Cite RBF to EJA, 3200 Idaho, WashDC, 18 Oct*72. RBF rewrite

RBF DEFINITIONS

Gravity:

"Gravity is natterlessness: the whole integrity of our Universe."

- Cite RBF to EJA, Beverly Hotel, NYC, 22 Jun'72

Gravity:

"Nothing is quite bo prominent in a child¹⁸ life. His mother is not always around but gravity is always there. And every time he tries to stand up--- Boom! Down he goes again."

- Citation and context at Child Pushes Spoon Off Edge of Table 10 Jun'72

Gravity:

"What holds things together is inherently invisible.

Gravity is Inherently invisible. That is why the Universe is so mysterious: the absolute mystery. The integrity of the Universe is invisible.

"But the behaviors of the integrity are

- apprehendable;
- measurable;
- eternally reKble.”
- luiF; jruu idfllHi,
- Citation and context at Integrity_t 2f> Jan*72

Gravity:

"The gravitational is comprehensively embracing and circumferentially contractive, ergo advantaged over the centrally radiational by a 6.28 effective energy advantage; i.e., a circumference-to-radius vectorial advantage of contraction versus expansion, certified by the finite closure of the circumference, ergo, a cumulative series versus the independent disassociating disintegratimon of the radii."

~~- Cite RBF to LHA, 21 Dec, '71, Washington, D.C., incorporated in Synergetics Sec.-TO, Aug. 1971.~~

- Citation at Universal Integrity: Principle Of. 21 D.c'7>

RBF DEFINITIONS

Gravity:

"The difference between the central angles and surface angles' functionings are identifiable with radiational and gravitational functionings. . . Gravity identifies with surface angles. Gravity is omniembracing and is not focusable. Gravity is ipost effective in its circumferential coherence."

- Cite Synergetics draft, Sec.-TO, August 1971.

Gravity;

"... The electromagnetic frequencies of systems are sometimes complex but always exist in complementation of gravitational forces to constitute the prime rational integer characteristics of physical systems."

Cite NASA Speech, p. 91 as amplified by RBF at Deer Isle. Me.

25 August 1971.

Gravity: (1)

"We now have another impressive kind of second-power relationship, the word 'second-power' having something to do with radials and surfaces. Regarding gravity, Newton discovered a certain relationship of masses, but unfortunately his relationship is stated in a negative way. He talks about an Inverse ratio. The word inverse ratio makes it very difficult conceptually. He talks about not what it is, attraction, i.e. coming towardness, but about something else, i.e., repulsion, or reason d'être of going awayness--- the opposite of what he is attempting to explain.

"It could have been stated that the gravitational relationship is in terms of the second power of the relative distance between the given masses as stated in the terms of the radius of one of the masses. That is the way we would say it today. He could have said, quite simply, 'Every time the distance between the bodies is halved, the attraction is fourfolded.'

"We find that the gravitational law is in terms of the second power of radius, which terms are convertible into Einstein's" mass conversion into radiation in terms of the second power of the radius."

7 Feb*71 □ Cite Oregon Lecture #7, P-241, 11 Jul'62 as rewritten by RBF, "We would then be able to know where relative mass was, how much energy and how much quantum were in it; and we would suddenly see the gravitational state in terms of the second power and this

relative concentration of masses. The gravitational, then, is the contractive quantative of second power of the relative masses status in quantum or photons-- and the other one is the Einsteinian one, which is the rate of omni- expansive surface growth of the radiation.

"We have two main conditions of energy: energy omniradiantly divergent, and energy omniconvergent--- and we find both of them in the second power of the radial dimension. We suddenly find a very neat relationship going on."

- Cite Oregon Lecture #7, p.241, 11 Jul'62 as rewritten by RBF 7 Feb'71.

Gravity:

"As man's knowledge of chemical element interactions

as alloys improves (wherein those atomic proximities are intensified

by symmetrical congruence

wherein the 2nd power mass attractions multiply)

the length of tensile members

relative to given section diameter or given stress, trends to increasing amplification--- to infinite length with no section.

Incredible? No!

Every use of gravity is a use of such sectionless tensioning.

The electrical tension first employed by man to pull energy through the non-ferrous conductors and later to close the wireless circuit was none other than such universally available sectionless t-ensi

* - Cite PREVIEWS, I&I p. 212 as amplified by RBF 7 Feb '71 Sarasota, Florida.

Gravity: (A)

"Gravity is a principle of synchronous coordination of dynamic complexities. Gravity can break a dish carelessly relinquished to its force. Principles may remain carelessly or ignorantly unheeded, or uncomprehended, and the dynamic effects may thus intrude upon man's unrealistic preoccupations to be misapprehended as 'destruction' or 'chaos.'

"If, however, gravity is recognised as a principle, and its behavior and rates are measured, then its enormous force may be put systematically to work to augment man's as yet meager degree of conscious advantage over evolutionary process and environment.

Thus great hydroelectric dams as complex products of intellectual comprehension of principles converted to physical system, operate under routine guidance of a doten men to valve this principle of cosmic force to provide 20 million inanimate energy slaves to serve an Earth-huddled city of a million humans.

"This is a puny accomplishment in view of the potentials of the principle. The principle of gravity takes a little thing like the minor planet Earth, weighing only 6,000 billion VM*"

- Cite How to Make Democracy Work, Pp.1-2, 28 Apr'48 as rewritten by RBF 7 Feb'71

Gravity: (B)

"tons, on a 93 million-mile tether, and swinge it around the Sun at 68,000 miles per hour, while simultaneously juggling eight other planets around the Sun, while it swings that minor star 'Sun' and its nine planets along its group orbit at 44.000 miles per hour as one of 30 billion such star groups which gravity is zooming around in deft ellipses with the Milky Way nebula, while simultaneously piloting billions of

these nebulae about the totality. Yet so infinitely comprehensive is principle, that rfvity includes capacity for detail such as attending to the smashing of the cup against the floor as it is relinquished from the careless fingers."

- Cite 'How to Make Democracy Work,' Pp.1-2, 28 Apr'48 as rewritten by RBF 7 Feb'71

Gravity:

"... A single massive sphere . . . will both exert and yield attractively with a neighboring massive sphere."

- Cite NEHRU SPEECH, p. 34, 13 Nov '69

Gravity:

"... The moon and the Earth are tensionally cohered by gravity/ The moon cannot get away from Earth, yet we can fly an airplane between the centers of gravity of the Earth and moon without severing their coherence. Obviously, the celestial bodies enjoy the zero-diameter-to- great-length tensional relationships."

- Cite GODDESSES, Sat. Review 2Kar68

Gravity:

*••• All bodies of Universe are affecting the other bodies in varying degrees and all the intergravitational effects are precessional fcp angular modulations, and all the interradiation effects are frequency modulations."

• dt* iiw TiiHHi T p.

• Citation 4 context at Precession_f Oct'66

Gravity:

"What we wanted to do in making tension members is to get longer and longer and less and less section for a given strength as a reason for increasing the bridges. That curve is going up very,very rapidly as every metallurgist knows. However, I saw we were tending towards infinite length and no section at all, so I said back in 1927 is that a silly question that we are working towards great length with no section at all? Of course, in order to be able to see this, we will have to deal in big patterns of the universe because these are big patterns that I'm talking about. Let's look at just the Earth and the Moon, and quite clearly, they are cohering in tension, beautifully, gravitationally. and yet you can fly an airplane right through the point, the center of gravities with no trouble at all. I saw here in the heavens we were demonstrating over and over again great length with no section at all. . . This always seems to be true in the microscope--- with electrons and protons and all the atomic behavior. . . *man is excluded from thinking the way the universe does-- this very efficient way of doing the big cohering tension, and having only local islands of compression."

- Cite LEDGE;--eJ;T Lab, 15 Oct '64, pp. 31-32

Gravity:

"Gravity is generalized tension. . . "

- Citation and context at Generalization: Second Degree. 1959

Gravity:

"As man's knowledge of chemical interaction improves the length of tensile members relative to given section diameter, or given stress, tends to increasing amplification--- to infinite length with no section. Incredible: No! Every use of gravity is a use of such sectionless tensioning.

The electrical tension first employed by man to pull energy through the nonferrous conductors, and later to close the wireless circuit, was none other than such universally available sectionless tension."

- Cite PREVIEWS, lil, p.212, 1 Apr'49

Gravity &. Bonding:

See Mass Attraction

Gravity:

"Gravity cannot be focused; it is circumferential contraction."

- Cite RBF to _{cJA} Sarasota, Florida 7 February 1971

. 6 Mar'73 _J

See Gravity (j) Mass Attraction Co-orbiting of Earth & Moon around Sun, Apr'7'

"The principle of leverage is employed in shears, nutcrackers, and pliers. The longer the lever arms, the more powerful the pressure applied between the internal central angles of the nutcracker's lever arms. We can make an illuminating model of our planet Earth if we think of it as a spherical bundle of nutcrackers with all their fulcrums at the center of the sphere and all the radii of the sphere acting as the lever arms of the pincers. The whole bunch of pincers have a common universal fulcrum at the common center. The farther out we go on the radial lever arms, the less effort is required to squeeze the ends together to exert nutcracking pressure at the center. If we go around the sphere-embracing circumference progressively tying up the ends of the levers together, we find that it takes very little, local, surface effort tensively between any two surface points to build up excruciatingly powerful, centralcompression conditions. The bigger the model, the easier it is to tie it up; ever more delicate an exterior web will hold it together.

- Cite KBF rewrite of SINEitGETICS galley at Sec. 1051.50, 9 Jan'74

"Look at the relative distance of the atom and its outside electron orbit. The atom's electron field may be equivalent to our magnetic field around this Earth. This elucidates the electromagnetic field of Earth as a world-around, circumferential-embrace field operating ephemerally on the outer ends of 4,000-mile-long levers.

"Identifying the surface-angle chordings with gravity, we comprehend why it is that as we get deeper and deeper, we see that the increasing gravitational-compression effect is due to the circumferential containment. The external containment web is always getting hold of the outermost ends of the centrally pinching levers. With this leverage effect, the farther out you go, the more advantage you have and the more powerful work you can do with that lever. Leverage effectiveness increases toward the center, ergo the increasing pressure that we identify with gravity. But it has this circumferential aspect.

- Cite ».BF rewrite of SYNEHGLTICS galley at Secs. 1051.51 and 1051.52, 9 Jan'74

'•There is a tendency to misinterpret the increasing pressures occurring inwardly of Earth as 'deadweight,' i.e., only as a radiationally-inward force, but it must be realized that the •weight' is omnidirectional compression. The gravitational intermass-attraction is progressively augmented, as we go radially outward, by the circumferential mass-interattraction of the relative abundance of elemental atoms, which increases at the second-power rate of the radial-distance outwardly from the Earth's center; and as the pressures bring about ever closer presence of the atoms to one another, there is also an additional second-power exponential gain which results in r^* varying as $\text{proximity}^2 = P^*$, where ϵ = relative compressive force. The surface chordal angle magnitudes multiplied by radius to the second power produce the relative magnitude of network leverage advantage

resulting in the relative increase in pressure as you go inward toward Earth's center. This is exciting because we now comprehend that gravity is a circumferentially operative force and not a radial force, with precession bringing about the 90-degreeness

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1051.53, 9 Jan'74 **"Remembering Newton's law of gravity, wherein the relative interattractions are directly proportional to the product of the masses increased by the second power of the distances between the respective mass centers, we realize that doubling the size of a sphere brings about an eightfold multiplication of the circumferential mass-interattraction. In effect, we have a network of chordal cables tensively intertriangulating the progressively outmost ends of the spherical nutcracker bundle with circumferential turnbuckles continually tightening the tensional surface-triangulated network. This means that the pressures being exerted internally are proportional to the fourth power of the relative radial depth inward of Earth's surface.**

"The surface-embracement leverage-advantage of the sphere operating at the fourth power can always overmatch the total volumetric gaining rate as only the third power of radial (frequency), linear gain, as the second-power interproximity attractiveness is further multiplied by the second-power, radial-lever-arm, advantage gains."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 1051.54 and 1051.55, 9 Jan'74

Gravity t Implosion:

See Implosion, 1y Dec*71; 8 Apr'75

GratrltT - Inoortlrut:

See Importing, 2\$ Sep'73

"...But the point is that the bands /of a barrel? are finite: they come back upon themselves and they embrace. You have to return on to yourself to embrace. Gravity operates then by embracement. The larger the phenomenon that it embraces, the more leverage effect it

has because you simply tighten the screws and the bands at the ends of the lever. This is why the pressures increase as you go into the Earth; they continually increase the further in you go due to the leverage effect of the embracement."

- Citation 4 context at Octahedron as Photosynthesis Model. (A), 8 Jun'75

See Embracement: Embracing

See Gravitational Constant (1)

Gravity (h)(i); 18 Oct'72

Hexagonal Vector Pattern, 8 May'72

Octahedron as Photosynthesis Model,(A)*

Gravity Come to Maximum Concentration and Becomes radiation:

See Limit Point. 9 Jun*72 Heaven & Heil, 31 I`ay'71

"Thio /the expanding Universe concept/ may be the universal effect of the speed of gravity, whose force (possibly in order to eternally cohere Universe) is, as is often found experimentally, always Just a fraction greater than the cosmic speed of inherently disintegrative radiation. (See Sec. 231.)

"This conceptioning becomes lucid if one is familiar with the vector equilibria and their identity with isotropism, which spontaneously accommodates coexpansion or contraction independent of any Universe center, every nuclear point within the system being a Universe center, with all its 12 most immediate neighbors always being equidistant and bearing*athe the same tc&l of central-angle magnitudes from one another,* /i.e., 60 degrees. The nucleus of a square would have a completely different distance to its corners than

the corners would have to each other_x7 with the circumferentially closed, embracing vector forces always more effective than their equal and opposite radial vectors* noncooperative, open-ended, disintegrative forces."

(Sec. 780.24)

- Cite SYNERGETICS text at Sec. 780.24; RBF rewrite; 21 Oct*72

Gravity as Svntropv:

See Instant Universe, (1)(2)

See Black Holes

Center of Gravity

Child Pushes Spoon Off Edge of Table

Energetic Functions

Importing

Mass Attraction

Radiation-gravitation

Tidal

Universal Integrity

Unpeel the Gravitational

Coming Towardness: Coming Together Phase

Ho Center of Gravity

Electromagnetics vs. Gravity

Conservation of Gravity

Newton's First Law of Motion: RBF Restatement Of

See Chemical Bonds, (1)(2)

16 Jun*72*

Child Pushes Spoon off Edge of Table, 15 Jun*74

Coherence, 10 Oct'63

Conceptual Physics, (2) Critical Proximity, Jun*71 Cube: Diagonal Of,
(2) Curvature, 23 Sep'73* Energetic Words, 1 Jul'62 Energy, Apr'68
Generalisation: Second Degree, 1959* Integrity, 25 Jan'72* Physi-
cal Synergy, Jan'72 Point: Inbound Point, 23 Sep'73 Precession, (1):
Oct'06* Prehending, 19 Dec'74 Push-pull, 28 Mar'77 Reverse Atom-
ics, 10 Sep'74 Skiing, 20 Oct'72 Star Tetrahedron, 8 Oct*71 Synergy,
31 Jan'75

See Tripod, 27 May'75

Truth, 5 Jun'73*

Universal Integrity, 7 Nov'73*

Universal Integrity: Principle Of, 21 Dec'71*

See Gravitational Constant

Gravitational Field

Gravitational Menurability

Gravitational System Zone

Gravity 4 Bonding

Gravity Operates Circumferentially

Gravity Comes to Maximum Concentration and Becomes Radiation

Gravity as Syntropy Gravity / Implosion Gravity « Importing Gravitational Conti-
nuum

Gravity: Speed Of

Gravitation: Inverse Square Law Of
first Circle:

"Every great circle plane is inherently two spherical segment tetrahedra of zero altitude, base-to-base."

- Cite RBF correction to Synergetics galley at Sec. 1106,25, Santa Monica, CA, 12 Jan*74

Gr? » v circle

"Every great circle always intercepts any other great circle twice, the interception points always being 180-degree polar opposites."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 703.13, 10 Nov'73
Great Circle:

"Events are forced to bounce in spherically contained circles because they seek the largest possible interior circumference patterns. All great circles cross each other twice. Three or more noncongruent great circles are automatically inter-self-triangulating in their repetitive searching for the 'most comfortable*' interactions which always resolve their three-way-great-circle patterning into regular spherical icosahedra, octahedra, or tetrahedra."

- Citation and context at Three-way Great Circling: Three- fav Grid, 8 Mar'73 ~ °

Great Circles:

"...Every great circle twice meets and crosses the path of every other great circle, of the infinity of great circles while lesser and parallel circles need never meet another lesser circle. Only great circles are biologically regenerative."

- Cite Motion Economics, p. 56; May¹⁴⁴

Great-circle Chord Edges:

See Tetrahedron, (1)(2)

.Groat Circle Subdivisions of Spherical Unity:

"Their inwardly and outwardly pulsating and rotating 'teeth Consist of multifrequenced circumferential and radial waves Of 56 great circle subdivisions of spherical unity. Often nonmeshing with other local systems."

- Citation and context at Gears; Spherical Gears_t May'72
great Circle Subdivision*.-

See Spherical Grid

firaat-giJCles- Excess of One Great Circle over Edea Vectors In ?Efc Icosa:

See Gravitational Constant,

See Basic Triangle: Basic Disequilibrium 120 LCD Triangles, 16 Dec'73

Trlacontrahedron as Limit Regular Polyhedron, 13 *pr'77

KBF DEFINITIONS

Qr.wt-drcXfl Sgxnwblfl SYrrotlog: Hierarchy of;

"Ab you go from one sphere-foldable great-circle set to another in the hierarchy of spinnable symnetries (the 3-, 4-» 6-, 12-sets of the vector equilibrium's 25-great- circle group and the 6-, 10-, 15-sets of the icosahedron's 31-great-circle group), the central angles of one often become the surface angles of the next-higher-numbered, more complex, great-circle set while simultaneously some (but not all) of the surface angles become the respective next sphere's central angles. A triangle on the surface of the icosahedron folds itself up, becomes a tetrahedron, and plunges deeply down into the congruent central angles' void of the icosahedron (see section 905.47)."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 902.31, 20 Dec'73

See Circumferential Field

Foldability of Great Circles Geodesic Constant Zenith Projection Railroad Tracks: Great Circle Energy Tracks on the Surface of a Sphere

Symmetry: Seven Axes Of

Three-way Great Circling: Three-way Grid Vector Equilibrium: Great Circles Of Icosahedron: Great Circles Of Spherical Grid

Triacontrahedron: Great Circles Of

See Infinity (1)

Sphere, Apr'4¥

Uraas.__os41ai: Hiss

(D

See A Priori Great Design

Eternal designing Capability

Greater Understanding

Science: The Great Design Supreme Intellect Universal Mind

Competence: A Knowing Competence Greater than That of Humans

God

Cosmic Wisdom

SmS-ssAKn: as;

(2)

See Christ, 7 Oct'71

Thinking. (3)

Words & Coping, 7 Nov'75

Universe is Technology, (2)

Great Pierer;
See Big Dipper

**See A Priori Great Design Science: The Great Design Spreme Intellect
Synergetic Integral Transcendental Universal Kind**

Great er TnteJJ.&l: (1)

"When I first determined that I should do my own thinking I decided I was going to go entirely on the basis of experimental evidence. And that kind of evidence is a very large resource as I found that we can also draw on the experiences of our friends; through our reliable friends we can accent much of the data of science as part of our experience inventory.

"I use the word belief to describe men accepting the explanations of physical phenomena without experimental evidence to confirm them. So I gave up all my beliefs---clearing my deck of any of them.

"But possibly the majority of human beings are deeply moved by the knowledge of some greater power operative in our Universe.... You do have experiences that force you to assume that a greater intellect is operating than that of humans.

I am forced to conclude that we do.

"Design is related to intellect: as a deliberate arrangement"

- Cite RBF to World Game Workshop; Phila., PA; 22 Jun'77

2r.aa.tar Intellect' 12)

"of parts and their interaugmentation of arrangements which are discoverable only by mind. (RBF explains the lever.)

"It is the mathematical statements of principles that permit environmental transforming. The observation of mathematical ratio-ing is purely intellectual in a Universe where nothing ever fails to work---with that great design of the interaccommodation of principles. As

we look at the operation of all the macro-micro laws in Universe we are o'erwhelmed by the evidence of a greater intellect to which we should be the servant. Human beings should have no glory---all the glories are to this intellect: it does not need any proselyting or religion: it is the Universe. I had to let you know how I feel."

- Cite RUF to World Game Workshop; Phila., PA; 22 Jun'77
Great Intellect:

"All of which organic design conception May be that of a great intellect
Which is inventing Universe progressively Evolving mathematically elegant Integral equations

For each conceivable challenge
Including the invention
You and me."

- Citation and Context at Sensorial Identification of Reality
See Supreme Intellect

Eternal Designing Capability Sciences The Great Design Cosmic Intelligence G°d Transcendental

See Einstein: Cosmic Religious Sense, (3)

Population Sequence, (o)

Sensorial Identification of Reality, May'72 Spaceship, (A.)

Human Beings & Complex Universe, (15)

See Pirates: Great Pirates

Greater Understanding:
See Kan as a Function of Universe, Jun*69
Greek Geometry:

See Ghostly Greek Geometry

Greek Topple:

See Redundancy: Reduction Of, 22 Apr'71

Grid:

"A pattern of intersecting members, lines or axes; usually intersecting great circles forming patterns made up of equilateral triangles, diamonds, or hexagons.*

- Cite Patent no. 2, 682, 235, June 29, 1954 BUILDING CONSTRUCTION

Grid Basis: Multi polygonality of Great Circle Grids:

"It is a matter of Dymaxion cartographic strategy that: the greater the number of great circle polygonal tones employed in the transformation, the less the spherical excess to be subsidingly concentrated within each zonal surface, and therefore the less the residual distortion distributed to each of the planar mosaic aspects of the whole world's reassembled surface when arrayed in one continuous flat 'skin.*"

The projective transformation "represents the only method by which the whole world data can be transferred from the spherical to the planar within an all great circle grid triangularly, quadrangularly, multipolygonally or all two or three together."

"Because of a hemisphere's polar symmetry to its opposite polar hemisphere the total inventory of great circle grid triangles in the comprehensive world grid is always even in number, therefore adjacent triangles □ may always be associated in total or partial quadrangular pattern-phases without increase in vertex count."

- Cite Undated Sheet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

Grid Basis: Spherical Triangular Grid Bases:

The projective transformation "consists of great circle bounded triangles of any angular magnitude which can transform the comprehensive geographical data of the world from spherical to planar by employment of either the spherical tetrahedron, spherical cube, spherical octahedron, or spherical vector equilibrium and its alternate, the icosahedron, of any development of these. . . It is a discovery of synergetics that there are no other spherical triangular grid bases other than the above."

- Cite Undated Sheet: DWiAXION AIROCEAN WORLD FULLER PROJECT IVE -TRAN S FORM TI ON

Grid: Crisscross. Right-angle Grid in Civil & Agrarian Law:

See Air Space, Kay*6\$

: Omnl-l-arth-trlanmilated. One-mlle-apart Grid Vertexes:

See Twehty-foot Earth Globe & 200-foot Celestial Sphere, (2)

See Dynamic Frame of Reference General Systems Grid Local Square-
ness Rectilinear Grid Systems Spherical Grid Tensegrity Geodesic
Grid: Three-way Grid Three-way Great Circling: Three-way Grid
Two-way Rectilinear Grid World Power Grid Three-way ./eaving
Two-way Crisscross Triangle & Hexagon Grid Coordinate System J<at
rix

See Vector Equilibrium: Great Circles Of, (4) Hyperbolic Paraboloid,
14 May¹⁷⁵

Gross Conwunication:

See Communications Hierarchy, (1)

"The capital worth in tools and other resources of all the nations of the Earth in 1972 is... estimated to be 75 trillion U.S. dollars, which last year yielded the annual world income of \$3.6 trillion. Heartbeat magnitudes give us an idea of the nonsense characterizing the reflexing of human brains when talking 'dollars'. As the \$75 trillion worth of the world's organized wealth-regenerating capacity is just about the same number as the number of heartbeats ago of the earliest known humans on Earth--- 2.5 million years ago--- it suggest that during each one-second heartbeat of that time huirans were making and 'saving' \$1 net.

"They were, in fact, saving memories of experiences, which ever multiply, from which accumulate metaphysical know-how that has never been entered into the ledgers of world-wealth accounting. Those pages are only preoccupied with sovereignty- guaranteed physical-progty equities of socialist or capitalist governments and the economic enterprises that they respectively foster. GNP stands for gross national product annually. GWP stands for gross world product annually, the GWP of 1972 estimated at \$3.6 trillion. The world's population of 1972 was 3-2/3 billion humans. A trillion is iOCO billion;"

- Cite HEARTBtdVrt AND 1LL1UKS, World I'ag», 13 Ear*73 ' 'therefore, the worldte1972 GWP of \$3.6 trillion meant an average income for each world human of \$1000. However, the production was not evenly distributed, as is well known, and naif the world's people averaged an income of \$2000 each, while the other half averaged \$100 each. In 1810, just before industrialization began in the United States, the annual individual income was less than \$100-annual-income-purchasing capability of the 1972 world's indistrial as-yet-have-nots. The difference is the spread of the new method of survival by industrial rather than by farm and craft means. The curve of this rising number of highly advantaged humans shows less than 1 per cent benefited haves as of 1900, 4 per cent haves as of the entry into World War I, and

20 per cent have as of entry into World War II. In 1972 we went through the fifty percent haveness point. Nineteen hundred and seventy-three opens the new chapter of human history wherein, for the first time, the majority of humanity are haves. For the 2.5 million years of man's known presence on Earth, a majority of 99 percent were have-nots subsisting at or below the living standards of the half of humanity who in 1972 received only \$100 of the gross world product. Nineteen hundred and seventy-two was history's"

- Cite HEAKTbr-rtTb nhb 1LL1UNS, World iag., 13 Mar'73
KBF DtFlrlTIUKS

"most critical year, when the sudden avalanche of new affluence left the not-as-yet industrialized have-nots dramatically dismayed by the differences in human fortune.

"Up to 1972 the ever-increasing irritation of the majority of human have-nots continually multiplied the probability of world revolution. Up to 1972 this could have brought holocaust so devastating as to preclude the farther existence of of any human beings on our planet at any standard of living. There is now the possibility that the majority of humans who are now have's will realize increasingly that they cannot enjoy their haveness while the dismay and irritability of the have-nots persist. The have's will come to understand that it is now highly feasible for the first time in history to accelerate the realization of 100 per cent haveness--- this realization to be reached at the earliest by 1985, a time when the majority of all present humanity will still be alive and young enough to enjoy the new concept--- by then the established norm--- of human beings as cosmically designed to be successful in the Universe, even as are the chemical elements and the principles of radiation and gravity."

- Cite HEARTBEATS AND ILLIUM* World hag., 13 Kar*73

"At the present time the \$200 billion going for armaments of all the great powers of the Earth is a little more than goes to feed the 1.8 billion \$100-a-year have-nots.

"Allowing three years for this to make sense and get going, it also happens to be true that the same \$22 billion annually appropriated by world governments for military use will purchase the 40 million new \$5000 homes required annually during each of the next 25 years until A.D. 2000 if we are to accommodate those now ill-housed as well as the interim world population increase."

- Cite HEARTBEATS AND MILLIONS, World Mag., 13 Mar*73

group AdYmagg Xna-

See Lose: Discovery Through Loss, 14 Dec'73

See Flight: Fixed Formation Flight

See Photon, 26 Sep'73

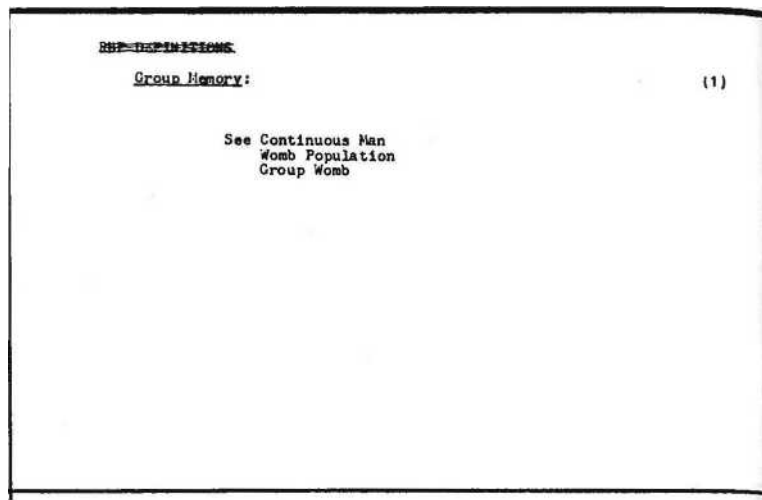
Group P«lw

Q. Can groups design?

RUF: "Design is an Individual function, but it can be

coordinated. Design synergetics enters in because the object of design is not just the object."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb*75



See Thinking, i960

QTPUP Starter:

See Social-industrial Relay, 1 Apr*49

See Womb of Permitted Ignorance, 10 Dec¹73

See Individual & Group Principle

Star Events

Crowd-reflexing

See Constellar. May'71

Communications Hierarchy, (2)

**See Group Advantage Gain Group Coordination Group Design Group
Memory Group Starter Group Womb**

Grow-a-dome:

"The idea of the grow-a-dome is one that I've had around for many, many years. The idea is to plant and grow a geodesic trellis dome of interwoven live bamboo. Then you let it get overgrown with rather hardy vines like wisteria so that it will survive on the bamboo framework even if the original bamboo dies. And on the inside you just put dacron tent lining—Just as in any of the standard tradefair domes. . . . This would be very suitable throughout southeast Asia where they might function also like hostels where people could put up their own tents inside the grow- a-dome."

- Cite RBF to EJA, by telephone from Kensington Motel, Santa Monica, CA; 1
Dec'76

Growing "p:

See Metabolic, 196?

Older Generation

(2)

See Education: Evolutionary Touchdowns, Fay'65

Intuition Sequence, (6)

Morley Poem, 10 Oct'63

Television: Third Parent, May'65

Growthabilityv:

"You cannot have time without growthability which implicitly has a nucleus from which to grow. We would not have discovered the frequency, or time, dimension, had we not explored the expansiveness- contractiveness and radiational-gravitational behavior of nuclei in pure metaphysical sizeless and timeless principle."

- Citation and context at Time (1), 6 Mar'73

Growth;

"A cone is simply a tetrahedron being rotated.

Omnidirectional growth--- which means all life can only be accommodated by tetrahedron."

- Citation at Tetrahedron; 25 A4g'?1

'TettA»e7<M» - 411-oj)

Growth & Decay:

See Nuclear Pattern of Growth k Decay

See Circumferential Modular Frequency Growth

External Point Growth Rate

Linear Becomes the Second-power Rate of Growth

Radial Wave Modular Growth

Shell Growth Rate

Radial-circumferential Modular Growth

See Synergetic Hierarchy, 0cO?5

See Dimensional Growth

Emotion as Essential to Growth Limits to Growth

Omnidirectional Growth Trees: Invisible Growth of Trees Complementarity of Growth and Aging De-grown Turtle Dome Tetrahedral Growth Vector Equilibrium Growth

See Culture, 1 Feb'75 Emotion, 1938 Lags, (1) Minimum Limit Case, 12 May'75 Rationalisation Sequence, (1) Servomechanism, 15 May'75 Tetrahedron: Coordinate Symmetry, Nov'71 Universe, 16 Jun'72 Regenerativity, 17 Jan'75 Ice, 29 Apr'77

Guage: Guages:

See Johansen Guagea

Guanine:

See DNA-RNA

Guerilla:

See Psycho-guerilla

"I am guessing. I don't have a 'believe* here. I do guess as a consequence of trends that I observe, that we will always have a limited function, that we are meant to be a local function and not the comprehensive function."

(Larger context at Local vs. Comprehensive (1).)

- Cite tape transcript, p.15> RBF to B. Brooks, 30 Apr'74

Gueae-Improvise:

See Gllmpae-diacover

gUflflg-lBpFQYiag:

See General Systems Theory,

Guess: Guesses:

See Excluded Answer Resources, Oct'66

RBF DEFINITIONS

G^uinsa P^lg:

Q. "Could you elaborate on your ethics of facilitation?"

RDF: "I am a guinea pig undertaking a world program.

I don't invite negatives or barriers or political and banking games. The young architects wanted to support me at their meeting in Cuba but McGeorge Bundy wouldn't let me attend....

I do not operate by trickery. If I am doing □□□£ the right thing at the right time evolution will support me. I try to make decisions on the basis of what is right for humanity."

- Cite R3F to '• •orld Came Workshop'??; Phila., PA: 22 Jun*77

Guinea Pig;

"I consider myself my own private guinea pig."

- Citation and context at Average Man (1), 16 Jun*72

Gutpea Pig:

"I'm the only really important guinea pig I have."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 2? Apr'71

Guinea Pjgl

See Average Man (1)*

Fuller, R.B: What I Am Trying To Do, 8 Jan'66

Newton vs. Einstein (1)

Gulf SArw:

See Radiation Sequence, (2)

Gqll Firing*

See Omnimedia Transport Sequence, (1)

am:

Gulls:

Sas Sea Gulls

Gun;

See Machine Gun

puppy:

See Rowing Needles (1)(2)

Gurdieff:

"I knew Gurdjieff quite well. I was anything but a Gurdjieffian disciple, but I knew a great deal of my friends who before they went on to Alcoholics Anonymous went on to Gurdjieff and he made it fairly comfortable for them. He would open up his daily sessions with them by 33 toasts to all the types of idiots, and by this time everybody was pretty well plastered and then they'd go to work writing his life history. He had beautiful expressions. •Shovelling out the manure' and so forth. And very sort of easily appealing, talking about the different centers of man and so on. I think too well of the voodoo people to really call a Gurdjieffian one of them."

- Cite RBF interview by Colin Moorcraft in 'Friends,' (London), 14 Apr'70. "On his way to Oxford he chatted nonstop about his ideas MB and actions to a carriage full of

unsuspecting travellers, including myself."— C.M.

Gurdieff:

See Artist: Histrionics, (1)

Gusset:

"Since cubes make such poor structures, the only way that men are able to stabilize the cubical buildings they do build is by going to the corners where the members come together at 90 degrees and putting in little triangular gusset-plate reinforcements. Sometimes this vertexial triangulation of quadrangular buildings is done with a whole lot of nails, but in a big steel building it is done by putting in triangular patterns by riveting or welding in the gusseting. The triangular steel gussets at the corners of Interstices of steel structures must withstand the prying action of the lever arm of the full length of the beam to which each gusset is attached. The builders are able to make the building 'stand' because of the excessive use of steel and nassive inertia but not because the building is really well designed."

- Cite RBF Conceptuality of Fundamentalstructures, Ed. Kepes,, 1965, p. B2.

Gusset:

(2)

"If we draw a line diagonally from corner to corner on each of the six faces of a cube, we find that these six lines turn out to be the outlines of a tetrahedron. These hidden tetrahedra in 'solid' cubes make the cube stand up. Let us now reconsider the triangular gusset plates in the corners of the cubical .buildings of steel, fighting the long lever beams attached to them. Quite clearly, if we made the triangular gusset plates a little larger they would be more effective m opposing the beam's leverage against them. If we increase the size of the gusset triangles progressively they ultimately become the diagonals of the quadrangular openings of the buildings and correspond to the six edges of the tetrahedra hidden in the cubical or quadrangular building scheme"

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. by Kepee
<965. Pp. 82-84. '

Gusset:

See Stabilized Cube, 9 Nov'73

TEXT CITATIONS

Gymnasium:

Hyper, World Mag., 10 Apr'73

Gyrate;

See Lasso, 1946

Gyroscope:

"...Minimum-angular-error-maintaining devices, such as gyroscopes..

- Citation &, context at Feedback. 7 Nov'75

TEXT CITATIONS

.OrrggcQPC-

"Sperry's Spinning Wheel, • FORTUNE, May'40, pp. 57-60 , Vol. XXI No.

- RBF edited. * 5

401 .05

1005.11

1009.60 footnote

10u9.8O-1uO9.98

See Nuclear Gyro

See Eccentricity. 7 Feb'71

Precession, Nov'69

Life is a Sumtotal of Mistakes, (2)

Feedback, ? Nov*75*

H

Habitable Satellites: (1)

See Sky Dwelling

Space Structures

Satellite Environment Controls

(2)

SaMIUtISj-

See Biosphere, (

Ha'oltAt,¹76 UN World Conference;

See Dymaxion Artifacts. (1)

Montreal*67 Dome, (A)(B)

Club of Rome: Limite to Growth, (A)-(C)

Transnational Capitalism & Export of Know-how, (1)-(3)

Mobile Homes, (1)(2) '

Squatters, (1)(2)

Water, 20 Sep'76

Now House, (1)-(6)

Form Cannot Follow Function, 20 Sep*76

Windworks Windmill, (1) (2)

Human Unsettlement. (6)

North Face Domes, io Sep'76

Building Industry, (7) (10)

Habitat; Y/orld Habitat Service;

See Dwelling Service Industry, (2)

See Common Sense: Official News, Dec'69

See Habit Reflexes

Inertia of Habits

Hair:

"I'm not my hair that grows and gets cut off. I'm not my fingernails.
I'm not the food I eat that turns into cells in my body."

- Cite RBF To Cam Smith In CH1DREN OF EARTH, Dec'72

Hair:

"I say you take this glass of water, and you say, No you take the water,
or you take the sausage.

It really doesn't matter who takes the water or sausage. We drink
the water or eat the sausage and it becomes a part of my hair or your
hair. But it doesn't make my hair blond or dark again because I have
exchanged with you and you have dark hair or light hair. It comes out
as my hair or your hair, but it is part of the chemistry hair. It is pure
pattern and I can follow it through, different parts of it, with an isotope
tracer. And I find how it gets in these various functions. It is a set of
function patternings, so quite clearly the water wasn't you or me. In
fact I get to the point where I can cut off my hair and my hair isn't
me."

- Cite Oregon Lecture #5, p. 171. 9 Jul '62

Bai£' K « « 1B Begone Hair Only to be Cut, Off:

See Life ia Not Physical, 11 Sep'73

See Man: Automated Metabolism Of

Automation of Metabolic & Regenerative Processes

See Automation, Jun'69 Epistemology, 8 Jan'66 Universe is Technol-
ogy, (2)

H airncv

See Moon Structure, 1 Apr*49

Necklace, Nov* 71

See Quantum, Jun*66; 20 Jun'66 Male & Female, 27 Dec'74
Conception-birth, 27 Dec'74

See Quantum

Tepee: Half-spin Tepee Twist Torque at Center of Convergence Quark

See Tetrahedron, 20 Jan*66

Male & Female, 27 Dec'74

Conception-birth, 27 Dec'74

Angular Topology: Principle Of, 14 Feb'66

Half System:

See Tale & Female, 27 Dec*74 Virgin, 27 Dec¹74

Half Visible; Half Invisible: Half Zero: Half One Side:

See Dichotomy

Split Personality

See Bits, (2)

Module: A Quanta Module: Introduction Of,

22 Feb'77

HalfWY-r-QMnd-the~_wQrldinf:

"The naval officer ie never more than halfway-round-the- world from home**

- Cite RBF to USAID conference, Foreign Disaster Assistance Conference Room, State Dept, Wadv DC: 12 May'77

"Halfway round the world io the farthest you can go from any one point."

- Cite RBF to EHA, Wash. DC; 6 Feb'76

RDF DEFINITIONS

folfwy-rgund-ttig-Wgrldlng =

"Distribution is part of design science... to free up humanity in optimum large patterns. Halfway-round-the-world inbound and halfway-round-the-world outbound.*

- Cite RBF at Bell studios videotaping. Phila., PA, 26 Jan'75 "We have total industry As a model that deals with metals and not just local vegetation from the agrarian era... but the metals were all around the world and man had to go halfway round the world— on the average— from where he started to find all the metals that he needed; and he took them out of the ground, from their matrix, and then he had to progressively refine them, some of it done locally but mostly moved into a place where there were great energy headquarters with energy available to separate out the ores more. He finally separated out more and more until he got to maximum separation. At this point he might then have pure metal and then he could begin to associate that metal with another metal as an alloy. As he associates more and more the parts get into a larger assembly and finally you get into the total complex of technology.

"In order to justify having gone halfway round the world and doing this enormous patterning, taking a long time doing it, he then has to find the most people in the world who are going to be benefitted by what he has done; and so he deduces that he may have to go halfway round the world again.

"Sum totally industrialization is all the way round: halfway inbound and halfway outbound— it really amounts to one complete - Tape transcript, pp.23-24; RBF to B. Brooks, Phila, Pa. 30 Apr'74

Halfway-round-the-Worlding: "circuit. There is a very beautiful model here of a complete circuit giving you the kinds of energies that are really necessary for a total industry. And then you've got to go halfway round the world and collect the ores again and melt them up again and redistribute them again so that there is always this halfway-round-the-worlding."

(2)

* Tape transcript, p.24; RBF to B. Brooks, 200 locust. Phila., Pa., 30 Apr'74

Halfway-round-the-V/o riding:

See Transnationalism vs. Colonialism

See Between the Halves

Octahedron: Half-octahedron

Profile: There is No Half Profile

**Radioactivity: Half-life approaching Cosmic Speeds Man as Halfway
in Range of Size of All Creatures Vector: Half Vectors Industrialization:
Successive Halving Time of National Industrialization**

Between

Middle

Zigzag: Right-left: Halfway Averaging

Me ^a Half the Story

Spin-halving

System-halving

Self-halving

See Circle, 31 May'71

Infinity & Finitude, Feb'72

Servomechanism, 15 May'75

Module: *K* Quanta Module: Introduction Of,
22 Feb'77

Halley*8 Comet:

**See Comet; Around Comes the Comet Again, 5 Jul*62 Tension, 5
Jul'62**

See Mask: Hallowe'en Mask

Halo Concept:

"You have to have the starkly nonvisible to provide the complementary tetrahedron to account for the visibility, since concave and convex are not the same. The stark invisible reality of the nonconceptual macro- and micro- tetrahedra also have this 720-degree elegance. But the invisible outside tetrahedron was equally stark. The finite but nonconceptual inness and outness: that is the Omnidirectional Halo."

- Cite SYNERGETICS text at Sec. 501.12; galley rewrite, 6 NOT'78
- AM Halo Concept:

"You have to have the starkly nonconceptual to provide the complementary tetrahedron to account for the invisibility, since concave and convex are not the same. That stark invisible reality of the nonconceptual macro- and micro- tetrahedra also have to have this 720° elegance. But the outside tetrahedron was equally stark and equally nonconceptual. The finite but nonconceptual IN-ness and OUT-ness: That is the Omnidirectional Halo."

- Cite rtBF to EJA, 3200 Idaho, DC, 22 Feb '72
- sec- roiTrij

"because spherical sensations are produced by polyhedral arrays of interferences identified as points approximately equidistant from a point at the approximate center, and because the mass attraction or repulsive relationships of all points with all others are most economically shown by chords and not arcs, the spherical array of points is all interconnected triangularly by the family of generalised principles being operative as universe, which produces very high frequency omnitriangulated geodesic structures which are an aggregate of chords leading to all points whose angles always add up to less than 360°.**

- Cite HdF to EJM, 3200 Idaho, X, 22 Feb '72 TAU COMerrr- 5FC. S 351*1
- Halo Concept:

"Our omnioriented halo concept converts the parameter consideration to symmetrically conceptual four-dimensionality and discloses a set of parameters inside as well as outside the zone of lucidly considered system stars. And the parameters are, at minimum, fourfold:

- (1) the convex twilight zone of inward relevancy;
- (2) the concave twilight zone of outward relevancy;
- (3) the stark, nonconceptual irrelevancy inward; and
- (4) the stark, nonconceptual irrelevancy outward.

Parameter 1 is a visible tetrahedron. Parameter 2 is a visible tetrahedron. Parameter 3 is an invisible tetrahedron.

Parameter 4 is an invisible tetrahedron."

- Cite SYNERGETICS text at Sec. 535*06; RBF rewrite of "'Omnidirectional Halo, p. 153; Nov'71

Halo Concept;

"Halo conceptioning discloses the minute yet finitely discrete inaccuracy of the fundamental assumption upon which calculus was built; to wit, that for an infinitesimal moment a line is congruent with the circle to which it is tangent and the plane is congruent with the sphere to which it is tangent. Calculus had assumed 360 degrees around every point on a sphere. The sum of a sphere's angles was said to be infinite. The halo concept and its angularly generated topology proves that there are always 720 degrees, or two times unity of 360 degrees, less than the calculus* assumption of 360 degrees times every point in every 'spherical*' system. This 720 degrees equals the sum of the angles of a tetrahedron We can state that the number of vertexes of any

system (including a 'sphere,' which must, geodesically, in universal-energy conservation, by a polyhedron of n vertexes) minus two times 360 degrees equals the sum of the "angles around all the vertexes of the system. Two times 360 degrees, which was the amount subtracted, equals 720 degrees, which is the angular description of the tetrahedron. We have to take angular 'tucks*' in the nonconceptual finity (the cfculus infinity). The 'tucks' add up to 720 degrees, i.e., one tetrahedron. The difference between conceptual de-finity and non-conceptual finity is one nonconceptual, finite tetrahedron.'

- Cite SYNERGETICS text at Sec. 535.04; Nov'71

Halo Concept:

"The halo concept is that of an omnidirectional, complex, high-frequency, Doppler-effected, hypothetical zone experience in an omnidirectional, universal maelstrom of nonsimultaneous near and far explosions and their interaccelerating and refractive Wave-frequency patternings and complex, precession- ally-induced, local orbitings. The omni-interactions impinge on your nervous system in all manner of frequencies, some so 'high*' as to appear as 'solid*' things, some so slow as OB seeming to be *absolute voids.*"

- Cite SYNERGETICS text at Sec. 535.09; RBF Ms, rewrite, Jun*71

Halo Concept:

"The omni-interactions impinge on your nervous system in all manner of frequencies--- some so high as to appear as 'solid*' things, some so slow as seeming to be 'absolute voids.'

-Cite SYNERGETICS Text RBF Marginalia -

- "Conceptuality:Dophler." 25 April 1971

RBP DEFINITIONS

"Our omnioriented halo concept converts the parameter consideration to conceptual four dimensionality and discloses a set of parameters inside as well as outside the zone of lucidly considered system stars. And the parameters-are at minimum fourfold: (1) the convex twilight zone of inward relevancy, (2) the concave twilight zone of outward relevancy. (3) the stark nonconceptual irrelevancy inward, and (4) the stark nonconceptual irrelevancy outward. Parameter (1) is a tetrahedron. Parameter (2) is a tetrahedron. Parameter (3) plus parameter (4) comprise an invisible tetrahedron."

"The considered relevancy within the zone of lucidity consists of one more tetrahedron. For each 'considered tetrahedron*' there are three parametric tetrahedra. We discover that our omnihalo epistemological accounting consists of rational tetrahedral quantation."

- Cite OMNIDIRECTIONAL HALO, p.153, 1960

Halo Concept:

"The Halo Concept and Its angularly generated topology proves that there are always 720° or two times unity of 360° less than the calculus assumption of 360° times every point in every 'spherical¹ system."

- Cite OMNIDIRECTIONAL HALO, p. 152, 1960

C4Uc£ffT'*A<->rr -M*-O ccffT - SEC\$35'*H\

Halo Concept:

"The Halo . . . is . . . a complex, high-frequency, doppler-effacted hypothetical-zone experience in an omnidirectional universal maelstrom of nonsimultaneous near and far explosions and their interaccelerative and refractive wave frequency patternings."

- Cite INTRO, to OMNIDIRECTIONAL HALO, p. 128 1959

AMiD *co-cffT' SCC 535**1*

Halo Concept:

'Humans have abstract 'tree rings' of experience. . .

Human egos are multiconcentric frequency 'halo¹ systems.

- Cite TOTAL THINKING, III, p.242. May'49

Halo:

"There is incontestable evidence that those who were central in the mind-over-matter emergence era comprehended the infinity of progression and glimpsed, at least, a truthful system of graphic formula* The evidence is found in the peak reached by symbology, in mathematics, words, and decoration. In particular may be cited the evidence that occurs in navigation, in which the angle \ll , an abstract unit of a Whole, abstract because it is the space between the converging lines, is used for measure. The rounded wheel, which at first was solid and later become compression and finally tension spoked, and the 'halo*' in decorative art as the unit symbol of the energy or power god radiantly expansive above man, is empirical testimony of long existing knowledge of a radiant time dimension. The wheel is central-mechanical to time-space-relativity evolution and popularisation."

- Cite NINE CHAINS TO THE MOON, p.11fi, 1938

Halo ConctBt: Halo Pyatom-

See Doppler

(D

Frequency: High t Low Multiconcentric Omnidirectional Halo Omnidirectionality Omnihalo

Spherical Field

Thinkable System Takeout

Angular Topology: Principle Of Variables: Theory Of

See Ego, ilay'49

Fourth Dimension, Nov'71

Parameters, I960

Finete t De-finite, Nov'71

Hammering Sheet Metal: (1)

"Comprehending the mass-attracted, intensified integrity of molecules and atoms, witness how the blacksmith can heat his metals in the red-hot condition and hammer the metal into varying shapes, all permitted by the mass-interattraction of the atoms themselves and their geometrical, methodical yielding to rearrangement by forces greater than their local surround-ment interattractions,

"The heating is done to accelerate the atoms' electrons to decrease the relative-proximity interattractiveness and accommodate the geometrical rearranging of the atoms. The cold metals, too, can be hammered, but the energy-as-heat facilitates the rearranging. When metals are reshaped, they do so only as the absolute orderly intertransformative geometry of closest packed atoms permits."

- Cite KBF rewrite of Synergetics galley at Sec. 1024.13, 30 Dec'73

Hammering Sheet Metal: (2)

"Because the atoms and the molecules are subvisible in magnitude to man, he fails to detect the exquisite geometrical orderliness with which they yield to rearrangement while retaining the total interattractiveness occasioned by their initial aggregation within the critical limits of massattraction where the attractive force overcomes the individual orbiting integrity. The relative interattraction increases as the second power of the rate at which the interdistances diminish.

"The atomic proximity within the metals is of such a high order as to give high tensile strength, which is resistance to being pulled or put asunder. Exquisite magnitudes of interattractive proximities have nothing to do with pressure. (The error of reflexing is here comparable to humans' misapprehending the wind's 'blowing' when we know that it cannot blow; it can only be sucked.) Man is always thinking he can push things when they can only be pulled." Men are pushers. Women are attracters."

Cite RbF rewrite of SYNERGETICS galley at Secs. 1024.14 and 1024.15, 30 Dec'73

See Gravity (e)-(j)

Invisible Pneumatics, 27 Dec'73 Rowing Needles (2) Coherence, 10 Jul'62

RBF DEFINITIONS

Hammerthrow:

"While the hammerthrower is swinging the ball around he is acting as gravity: the acceleration is angular. When he lets go of the ball the acceleration is linear."^w

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb'73

HBf DtFINITIUrTb

Hammerthrow:

"There are two kinds of acceleration in physics. Of all the physical Universe there are only two basic kinds. One is what is called linear acceleration and the other is angular acceleration. When you take a hold of a steel ball on a rod, we call it a hammerthrow in sports events,

you start spinning it around you. That is an angular acceleration and you measure it in terms of the cycles or fractions of circles as it goes round in a circle. If you have a piece of pie, those are angular accelerations. ...

"When you let go and it goes away from you, it is now linear acceleration. All of our rockets are linear acceleration and all our firings are calculated in terms of the linear. As something goes away from you like a rocket all you can see is a little speck and then it goes away. The only way you know where it is is in terms of knowing at what angle it went off, and how fast it goes, and you can look at the clock and you find it is so many cycles of the clock and the linear accelerations are measured in increments.

- Cite Oregon Lecture A, pp. 146-147. 6 Jul'62

Hanraerthrow: (Peashooter k Deflection - 1):

"I am going to have a picture of a hammer thrower and we are going to give him a hammer and start it spinning. Before we start him spinning I am going to put a very large belt around his waist here. He is able to shove off with his feet all right and keep moving around here but his waist is so tightly held in this belt that he can't lean over and I have a -great many hooks on this belt. And we give him another one. And we gradually give him one hammer after another and he gets them all accelerating and it is finally like a grass skirt with all these balls out here. He can't stop himself. The angular acceleration is very, very great like a fly wheel and the poor man will be very uncomfortable so we put a roller bearing stand under his feet and have * another roller bearing stand above it and we clamp it down on his head and his belt is so stiff that he can't bend.

He can just stand on these two and- he is just whirling around like a merry-go-round. We -gave him so many of these hammers that they are touching one another, they are tangent to each other so in effect he has a kind of solid ring around him. He is spinning so successfully that we can forget about him and now we come to another man who has a Sea shooter. He is not on the Olympic team because we don't have any pea shooting but peas are nice to deal in because you can stop them with your finger and you can't stop bullets with your fingers. He has a mouthful of peas and blows and the peas are coming out. We stand over here and we put out finger in the trajectory of the peas and we come down on it slowly and we find that if we touch the trajectory of the peas that the peas will deflect. That is fairly simple. We find that if we put our finger deeply into the trajectory they will deflect at a sharper angle. We learn that balls in linear acceleration are deflectable.

"Now we come back to this man who is spinning and he has these steel balls and he is spinning around in front of us here. As these balls are going by me, if I touch one of these balls I'm going to learn that it deflects. So I am going to put my finger out and touch the ball as it goes by and the first ball goes by and it deflects. The next ball comes by and it is deflected. They all come around quite rapidly and each get deflected. Because however these balls are not free, they are attached by wire to him, so they go down in the deflection to a circle, down here, and then they come up here and start taking a new pattern. As a result of my touching them here the plane of the wheel turns out Ulf® that. For the moment then I break the wheel by this deflection. It is quite tough on the wheel to be bent there. Half of it is deflecting out like this and the part that hasn't come to

Hammerthrow: (Peashooter & Deflection - 2):

my hand yet is horizontal and so it kind of has a bent Ml waffle form. Finally all of them go on by and now all of them are going like this. Here they were going around like this and the one that came by me here, I turned it down like that so it starts down here so they are all doing this in respect to me. The fact is that if you touch a flywheel, like that, powerfully, you would very often explode them due to the fact that you do change these angles. "I am going to do something to protect this whole situation. The man is still spinning but I am going to get him to start all over again and he is spinning horizontally here and before I touch it I am going to take some mylar tape which is very sticky and I am going to drape it on the balls as they go by. I keep feeding it out and it keeps going around here sticking very hard to the balls. The balls have the mylar tape sticking to the tops of them. This is the ball that I touch with my finger and it stops and deflects and goes down here and because it does there was a nurture of this one here and this will pull this one up. This is simply a see-saw. If I push this one down, this one stays at a nurture and this one goes up and because this one is coming down the tension of this one pulls this one up to here. It can't help it and the same tension will pull all of them upwardly,

"Now I am going to do something else. Instead of using the cellophane tape* I am going to have the series of the balls tangent to one another going around here. We are going to give Mm this hanner thrower a whole lot more balls and there will be one lodge here and another lodge there. They keep building up and I give * him some more. They will be on the top and on the bottom. The wheel gets to be very thick, but this set are horizontal and due to the acceleration the ones on the top and bottom both try to get horizontal so they press very hard on the horizontal layer. They build up so much friction due to the rotation that they are much better than the cellophane tape. You know that when I touch the wheel with this ball going by

here the tension goes back along this way and acts as a fulcrum
the whole wheel will bend downwardly so that the wheel that was
going by me horizontally like this goes in this position. Let's get this
patterned again--- the ball is going by me here and they are all thick
now and when I touch the wheel that is going around me like this it is
deflected so it has to go in to a pattern like that. As it went by me it
Went down into that pattern."

- Cite Oregon Lecture #4, pp. 147-149* 6 Jul'62

Ha rm erthrow:

Oregon Lecture ,;4_t pp.146-147 + 148-151, 6 Jul *62

Oregon Lecture 6, pp.210-211 (obscure), 10 Jul *62

826.02-826,Ob

8466.22

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1009.85-1009.96

Hann erthrow:

See Gravity (b)

Jet Stilts, 2y Jan'75

Otherness Restraints & Elliptical Orbits, (1)

RdF DEFINITIONS

Hand:

"My hand has been rebuilding itself every seven years--- without any
down time---for over 80 years."

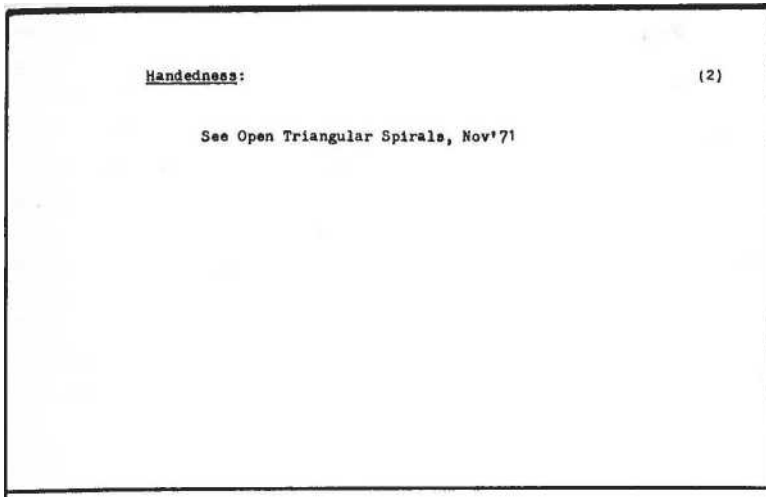
- Cite RBF to World G_ame Workshop'77; Phila., PA; 20 Jun*77

See Inventions which Decrease the Degrees of Freedom

1965

Handedness:

See Enantiomorph Left Hand: Right Hand Left k Right Nonmirror Image Mirror Image



HOF J uF lh IT lun b

Hands:

"A vessel, a jug, something not of wood or stone, is like another pair of hands to hold water that you can carry on your back. Like those great gas tanks and oil tanks today; they are just hands."

- Cite KLF at Catholic University Address, Washington DC.

24 x-eb ' /2 '

Hands: "I did a case study of my hands. I can do things with my hands. I can cup my hands, but I need my hands for something else besides water. I found I needed water, all right, but when I went after berries I got very far away from water, and I kept getting thirsty. So I invented a vessel, and I can close it and I can carry it. This vessel can handle heats my hands cannot handle; it can handle acids my hands cannot handle; and I can make it a thousand times bigger than my hands— I can make it ten thousand times bigger than my hands. It begins to lose its similarity to hands and people lose the realization that this exists in the universe only by virtue of man. It's part of man.

"Kan has learned, then, how to externalize his own functions and to leave them behind. So that now you can use my hands, and we can go on from generation to generation of our hands, interchangeable hands. There are no tools that man has developed that are not extensions of the original integral functions. ..."

- Cite COiKITi-IENT TO HUi-«i.lTY, p. J1, Kay'70

' 'Most readily humans recognized and trusted one-and-one making two; or one-and-two making three; or two-and-two making four. But an unbounded loose set of 10 irregular and dissimilar somethings was not recognizable by numbers in one glance: it was a lot. Nor or five loose, irregular and dissimilar somethings recognizable

WHB* in one glance as a number: it is a bunch. But a human hand is boundaried and finitely recognizable at a single glance as a hand. but not as a discrete number except by repetitively acquired confirmation and reflexive conditioning. Five is more recognizable MB as four fingers and a thumb; or even more readily recognizable as two end fingers (the little and the index), two fingers in the middle, and one thumb. (2 +2+1 - 5)."

- Cite SYNERGETICS draft at Sec. 1220.15, 5 Mar'73

Hand with Fingers Up as Symbol of Life;

See Reinveatable Time t Survival Needs, 12 Jun'69

See Reinvestable Time &. Survival Needs, 12 Jun'69

See Old Words, 22 Jul'71

Handshake;

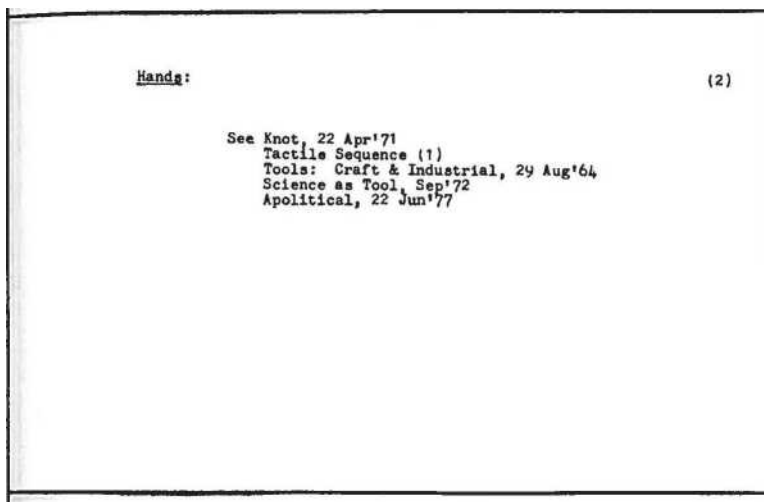
"The monkeys held hands. But they didn't discover that the handshake is two circles running through one another.

- frftr ; ^{f 111} iw n », ff,—f I. , n ij ! n

- Citation and context at Knot. 22 Apr'71

See Berry Picking

Tools Like Cut-offable Hands Vessel



Happenability:

"The connection between the six degrees of freedom and omnidirectionality is, of course, the vector equilibrium, • • • Happenability has the vector equilibrium as its minimum model, ergo the Universe, experience, can't be one quantum."

- Citation 4 context at Vector Equilibrium, 25 Aug'71
August J 97-1.

"Happenings contradict probability. That's why they are happenings. Probability is not a reliable anticipatory tool it is stronger than 'possibility*' but crude in comparison to 'navigation*' and 'astronomy.' If probability were reliable, there would not be a stock market or a horse race."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 5O3.O2+.O3
6 Nov'73

"Happenings contradict probability. That's why Mhv are anticipatory¹
ilithada⁸

s "S£rorfa^uhO LVorce th*re KOUld not be a
peraitud"by^S „«:r:?:n"d«i are always
sS?c"!» o? -- ==rich

Cite RBF to EJA, Somerset Club, Boston, 22 April 1971
foHcerTeM.TY- pjrriswf, st>3. 02 +S«la'fl

Happening:

"You don't program 'happen.'

Probability is anything but comprehensive.

And we find the 'happenings' contradict probability.

- Citw=fta£zttt EJA Carbondale 2Apr±l 1971

- Citation at Probability, 2 Apr'71

At» T'J - nf/CfWt -\$£<

"An involuntary experience is a happening. To be experiential to have
a happening, we must have an observer and the observed,

- Cite SYNERGETICS text at Sec. 502.61, Apr'71

Happening;

"A happening is an involuntary experience.

"My definition of universe includes MMteftne objective and the sub-
jective: i.e., all voluntary experiences--- i.e., experiments--- as well
as all involuntary experiences--- i.e., all happenings."

- Cite DOXIADIS, p. J09 20 Jun'66

RBF DEFINITIONS

Happening Patterns;

"All happening patterns consist of experience recalls.

The recallable ingredients of experience consist Inherently
or paired-event quanta of six-vectored, and
positive negative, actions, reactions, and
resultants.

- Cite RBF rewrite of SYNERGETICS galley at Sec. 505.12,

6 Nov*73

See Three-vector Teams Z Cobras

See Impossible: Only the Impossible Happens

Inadvertence: Inadvertent

Involuntary

Determinism

Design vs. Happenstance

Nonhappening

See Direction, 1938

Technology. 1938

Wish, Sep*73

Principles, 1 Feb'75

Vector Equilibrium as Starting Point, 8 Apr'75

Model of Nonbeing, 11 Sep»75

Vector Equilibrium, 11 Dec*75

Happiness:

See Beautiful, Aug*64

Standardization, 21 May¹28 Abstractions, 1964

Hurting W?

See Fuller, R.B: Ae Harbinger of Society

Harbor:

See Sky Harbor

Hard :

See Human doings & Hard Machinery

Revolutions: Soft & Hard

Harmonica: (1)

Do you think that the vibrations of music and light can have something to do with healing? And what do you think is the significance of the points under pyramids?

RBF: "Pythagoras discovered that the points are related

to halving--- fractionating the whole: that is quantum strategy. Everything should be neutral until muted. A piano, like a house, or like fog, should be neutral. I found in building that the grays of aluminum were not neutral enough. Brown Earth is what the human eye is most accustomed to; it is the best color for floors and walls. Seek first for the neutral tones, but arrange them so that the human occupant can change things. '

"If my domes were first being developed Wilfred was inventing the color organ. Nature changes colors quite rapidly. We get to feel gray on a gray day. The seasons change slowly; the changes of day and night are more frequent. Colors don't change in seconds; colors tend to change in minutes or hours. But sounds change really quite rapidly as in brooks and bird notes. The frequency of sound change is much more rapid than the frequency of color change. While smells--- like lilly of"

- Cite RBF videotaping Philadelphia, PA.. 1 Feb'75

Harmonics: (2)

of the valley-- may last for several weeks. They are slow notes. Too rapid smell changes would not be particularly pleasing.

"Touch: roughness and smoothness, we're very sensitive to it, but it's difficult to say what the periodicity is.

"What we have is quite different scales of harmonics. Humans* attempts to bring light and sound harmonics together/ don't seem to me to be too successful. (abstractly

There might be some such synergetical effects of this but I have no experimental knowledge of your question. But it could be so, particularly if the subject is very musical. In ultrasonics we can use sound to destroy--- even smash a bridge.

"As for your question about pjnts in pyramids, in our SYNERGETICS book we describe the bouncing of energy patterns within triangles and tetrahedra. It goes out at the corners into the next triangle. The B Quanta Module is an energy loser and the A Quanta Module is an energy holder: proton and neutron. Spheres become spaces and spaces become spheres. There are a number of such interchangeabilities. Energy comes out of the B Modules"

- Cite RBF videotaping, Phila. PA., 1 Feb'75

Harmonics: (3)

"which makes pyramids of half-octahedra'3. The B's are the heart of the octahedras. There could be some very interesting energy effects in pyramids and I think the A and B Quanta Modules provide the mathematics for it. We hear of how the safety razor blade under a pyramid becomes sharp-- everyone talks about it--- but it's really up to the young people to check these things. The basons had the pyramid and the star that show up on our dollar bills.

"Energetic-synergetic geometry is the embracing word for it. I know that energy is precessed by geometry very powerfully. The great-circle railroad tracks of energy and the seven axes of symmetry... Note how the equator of the icosahedron never gets near to any of the vertexes and so we see how it really will hold energy. The answer to your question is: I can accredit mathematically high potentials, but I don't know anything about pyramid points or about astrology per se. It may be like the great dipper: seen from another point of view it looks quite different. The astrological patterns would look quite different of course from another planet. But the vectors operating in Universe are quite different for each birth and they might have quite a different effect on each"

- Cite RBF at videotaping session Philadelphia, PA., 1 Feb'75

HaTFIQnlfcg: (4)

"individual. If you fell really serious about this question you should become more experimental. I keep ``Hve myths and superstitions and I don't dismiss them--- or numerology either. But I urge you to be experiential."

- Cite RBF at videotaping session, Philadelphia, PA., 1 Feb'75

icFIMTIOKS

ftBF

Harmonic:

"lension is both internal and external to the octave and is harmonic with either the unit octave or octave pluralities."

- Citation 4 context at Octave. Dec*71
- m t-jM. • gynerg¹ £*-_t Ml- c~L-tXL.

Harmonic:

"The law of reproducibleness relates also to the harmonic integratability or associability of each special case function with universal evolution."

- Cite GENERALIZED LAWS OF DESIGN, p.2, 22 Apr*68

RdF DEFINITIONS

Misapprehension of our own dynamic significance becomes in environmental close-ups a bundle of persistent periodicities developing into a spontaneous anticipation of repetition of harmonic intervals and their familiar synchronization,"

- Citation *tc.* context at Periodic Experience, (2), May'49

Harmonic Interval:

See Periodic Experience, (1); (2)

<u>Harmonic</u> :	<u>Harmony</u> ?
	See Regularity
	Reproducible
	Radiation-gravitation: Harmonics
	Periodicity
	Periodic Experience
	Wave
	Periodic Table? Harmonics of 13
	Resonance
	Octave
	Tensed String
	Chords <i>tc.</i> Notes

(1)

See Aesthetics of Uniformity. May'28 Invisible Architecture (1)
Octave, Dec*71* Proton & Neutron, 22 Apr'68 Standardization. 21
May'28 Technocracy, 1938

Tension & Compression, 1944 Truth, May'28

Nature Permits It Sequence (2) Survival, 9 Apr'40

Time Cancellation 19Jun'71 Dwelling Service Industry (A) Teleology,
(2)(3) Aural, 22 Feb'77 Olfactoral, 22 Feb'77

Harness:

See Wind Power Harnessing Equipment

Hajyanl:

"Alfred North Whitehead found that Harvard University was the first to have graduate schools for Ph.D's. In Europe you could just find the expert in the university somewhere. But Harvard was the first to have graduate schools of specialization and persuade a lot of the bright ones to go into the graduate schools. They made all of the bright ones specialists. It is interesting incidentally that over the doors of the graduate schools are the names of the partners of J.P. Morgan and Company: they would like to keep everybody pretty well specialized, working for them."

- Cite RBF to Arthur Anderson & Co., (p.15), New York, 13 Mar»74

See Fuller, R.B: On Harvard Man

Harvard-

See Chronofile. (B) Wealth, (Cj Veritae, 7 Nov'75

Harvesting: Harvester:

See Energy Environment-harvesting Machines Energy Harvesting
Experience-harvested Information Gains Consolidator Information
Harvesting

Knowns Harvested from all the Unknowns Vegetable Crop Harvesting

See Axioms. 22 Apr'71
Girl, I? Dec'73
Fan's Degrees of Freedom of Action, 28 Jan'69
Observing vs. Articulating, Far'71
Science, 10 Oct'63
Fossil Fuels, 1973
Life, 25 Mar'?1
Brain, 5 Jun'75
Order, 7 Nov'73
Dymaxion Artifacts, (1)
Children as Only Pure Scientists, (1)
Windmills, 13 lay'77
Hatch. Aldenz
See Fuller, RB: The Thinking Me, 18 Dec'76

See Love &. Hate Invented National Hates

See Love 4 Death, Oct'71 Abstractions, 1964

HAYsncaa^k Hava-nota?

See Gross World Product Sequence, 13)(4)

Industrialization: Curve Of_t (1)

See Heaven, 13 Nov'69

Hawk:

See Breath of a Hawk

Head Man:

See Leader

See Axis of Reference: Head-to-toe

See Sailing with the Wind: Sailing Into the Wind

See Moat Economical, 15 Jun'74

Head:

See Curvature: Compound, 22 Sep'71

Health:

MHHHB "We are unaware of our tongues until we bite them.

"When in health and 'good form' the total myriad component functions of our physical organic being are entirely subordinated to subconscious coordinate functioning. . .**

- 10 oct'63

- Citation at Death? Weighing of People As They Die.

See Feeling Good

Subconscious Coordinate Functioning Pathology: Preventive va. Curative Mental Health

Y_{OU};

If I had never had a tactile experience (which could easily be if I were paralysed at conception), 'you' might be only where I smell you. 'You' would have only the sellable identity that we have for our dogs. You would be as big as you smell. Then, if I had never smelled, tasted, nor experienced tactile sensing, you would be strictly the heafble you.¹

--- A

- Cite RBF rewrite of SINERGETICS galley at Sec. 801.22, 22 Nov¹73

Hoard & Unheard Resonances:

"The physical Universe is an aggregate of frequencies. Each chemical element is uniquely identifiable in the electromagnetic spectrum by its special set of unique frequencies. These frequency sets interact to produce more complexly unique cycle frequencies which are

unheard by human ear but which resonate as do humanly hearable musical chords or dissonances. Thus occurs a great cosmic orchestration ranging from the microcosm!c nuclear--directly undetectable by the human senses---through the minuscule range

detectable by humans, to the very complex macrocosmic supra-to-human-tunability symphonies of multiaggregates of galaxies."

(e1O52.68)

- Cite RBF rewrite of SYNERGETICS, 2nd. Ed. at Sec. 1052.68; 17 Jan'75

See Aural

Seeing vs. Hearing Sound Word Music

Hoar: Hearable:

(2)

See Democritus, 6 Jun'69; 5 Jul'62

Universe is Technology, (1)

Hearing

"I get high squeakies. It isn't a normal kind of sound at all Even though they sell it for \$700, they don't want to spend a dollar and a half on the equipment. They do everything on cosmetics. They don't care whether any sound comes in so long as it's back of your ear and pink. So the sound comes in the back of your head. It's very unnatural. Hearing aids... It's like buying your glasses in a pushcart. It's such a racket."

- Cite RBF to Barry Farrell; Bear Island; Tape #8, Side A; transcript p.4, 22 Aug'70

Hearsay: Hearsaid:

See Excluded Answer Resources, Oct*66

Heartbeat:

"The one kind of time measurement directly and sensorially available to us is our heart beating. We have a built-in clock. Just close your eyes lying in bed and feel your own pulse or heartbeats. Healthy hearts beat between 60 and 100 times each minute; you're quite normal if you're pulsing 60 to the minute, or once each second of Earth revolution time. So a one-second-of-time heartbeat is a natural time increment that you can really feel."

- Citation and context at

13 Mar'73

Heartbeat Magnitude Sequence

(D.

Heartbeat Cyclic Experience:

Seo Time Vector, 24 Sep¹73

Heartbeat Magnitude Sequence: (1)

"We need a way for humane to coordinate their senses and thought in terms of their personal life experience, for instance with their respective allotments of life time. Each one is born to some average total lifetime expectancy, as calculated from census statistics by the life insurance company mathematicians. Some Russians live 150 years, but the average in the Western world is now about 70 years, having doubled in the last three-quarters of a century. Let us think, then, about the minutes and seconds you and I really have at our elective disposal out of every 24 hours. We all have to sleep--- about one-third of our time. A lot of our time is \$BML dedicated to Just going from here to there. We don't have very much available to us for elective investment. The one kind of time measurement directly and sensorially available to all of us is our heart beating. We have a built-in clock.

Just close your eyes lying in bed and feel your own pulse or heart-beat. Healthy hearts beat between 60 and 100 times each minute; you're quite normal if you're pulsing 60 to the minute, or once each second of Earth revolution time. So a one-second-of-time heartbeat is a natural time increment that you can really feel."

- Cite HEARTBEATS AND ILLIONS, World, blog., 13 Mar'73
Heartbeat Magnitude Sequence; (2)

"Let us now assess human history and Universe in one-second heartbeats. For instance, two weeks is 1 million heartbeats. One year is only 31 million heartbeats. You enter college at 500 million heartbeats. At the prime of life, i.e., at about 32 years of age, you've had about 999 million heartbeats. So not until you start the second half of your life do you need to get into billions magnitude. Vitally speaking the, millions are large numbers. The money game of 'millions' and those who are millionaires have led us to assume that millions are inferior magnitudes leading swiftly to eccentric billionaires. If you live to full life insurance 'expectancy'--- 70 years--- you will complete only 2 billion heartbeats. If you reach 100 years, you've had only 3 billion heartbeats. Christ and Hohaimed both lived tens of billions of heartbeats ago. The billions magnitude does not exhaust itself rapidly.

"You may begin to realize how preposterous it is that humanity is spending \$200 billion each year on armaments on the erroneous assumption that we cannot afford to support all humanity, when that magnitude of 200 billion, considered in your own heartbeats, takes history back to the dawning of the 8,000-"

- Cite HEARTBEATS AND ILLIONS, World Kag., 13 Mar'73

"years-ago earliest-known Egyptian people. The earliest known artifacts of arctic-cultured people were being fashioned only 500 billion heartbeats ago, i.e. 15,000 years ago in northeast Thailand. We don't exhaust billion magnitudes until we go back historically to 30,000 years ago, about the time of the last ice age. Earlier than that, we must go for the first time into the trillion magnitudes. The earliest known skull of a human being found by the Leakey father-and-son team was in live use 2.5 million years ago, which is only 75 trillion heartbeats ago. The capital worth in tools and other resources of all the nations of the Earth in 1972 is also estimated to be 75 trillion U.S. dollars, which last year yielded the annual world income of \$3.6 trillion. Heartbeat magnitudes give us an idea of the nonsense characterizing the reflexing of human brains when talking 'dollars.' 'When the 75 trillion worth of the world's organized wealth-regenerating capacity is just about the same number as the number of heartbeats ago of the earliest known humans on Earth- 2.5 million years ago--- it suggests that during each one-second heartbeat of that time humans were making and 'saving' \$1 net.**

- Cite HEARTBEATS AND ILLIONS, World Pag., 13 Mar'73

"Next we get into the quadrillion magnitudes to express the probable age of our planet Earth, whose birth was only one hundred quadrillion heartbeats ago. Then we come to the age of the Universe thus far known to have existed, which is only 300 quadrillion heartbeats ago. We don't know of anything older than 300 quadrillion heartbeats ago.'*

- Cite HEARTBEATS AND ILLION World Pag., 13 Ear'73

See Buddha: Christ: Mohamed, 15 Jul'73

Heart: Heartbeats:

See Boltzmann System, 4 Nov'73

Experience, 1971

Life, May*49

Motion, (2)

Invented Periodicities, May¹49 Intertransforins, 11 Sep*75

Heat:

"On impact, mass at velocity transforms into heat and work. These energy factors can be translated not only into work, but into heat. or into time as well."

- Citation and context at Vector. 27/2 May*72

Heat:

"Without weight you do not exist physically--- nor without a specific temperature. You can convert the velocity x mass into heat."

- Citation at Temperature of the Human Body. 21 Dec'71

- i-i} [hhinjrtnrrfln, T1 fli i.. *71'1

Heat;

'Time and heat and longevity and weight are inherent in every dimension. . . "

- Citation and context at Pimens ion r 21 Dec'71

Heat:

"Velocity gives us what we call pressure or heat: it can be read either way."

~~-Lectur-e,-#-py~~ -189 Jul'62

- Citation at Velocity, 9 Jul'62

See Vector Equilibrium, (1)

See Absolute Heat

Heat vs. Zero Temperature of the Human Body Hot

Temperature

Energy-as-Heat Pressure □ Heat Thermal

See Time-size, 30 Oct'72

Wind Stress & Houses,

Conceptual Physics, (2)

Tactile, 22 Feb'77 , , M . ,

Fourth Dimension: VE as Fourth-dimension Model,

22 Jun*77

BO'R MEMORANDUM

Heaven;

"He then began to discuss his version of the Lord's Prayer beginning »0 God, Our Father, who art in he-even ... at which point he interrupted his reading to remark that he was not referring to some 'silly place like Heaven,' but was referring to that fact that God is everywhere, i.e., in he-even, meaning the •other' persona and in all other persons. RBF: 'God is in me and in you and in everybody.' (remembered, not quoted.)

"God is totality."

"He then went on to say that God is 99.999% of Universe and that the six total vectors come back upon themselves. 'For the vectors are real.' (Direct quote.) 'The Universe is eternal, where omnidirectional games are possible. . . God is the principles ... is in everything. The whole of life is necessary and so God is in the tree and in you.*

- Cite BO'R memorandum of conversation with RDF, Kent, Ohio
23 May'72

Heaven:

"The parallel 'up' lines were assumed to converge in Heaven- a haven--- a sky harbor."

- Citation ari context at Up and Down Sequence (1), 13 Nov'69
Heaven *k* Hell:

"We don't have to have two Universes.... Where we used to have Heaven and Hell and Earth we had three Universes.

"Heaven and hell--- and Earth in between--- is * sandwich, a highly polarized affair in which we have an eternal plane and an eternal pole... and so you went ever more heavenly and ever more hellishly to eternity. The outwardness and inwardness now turn themselves around: The radiation turns itself around and the microcosm comes out as the center ball... which is two balls... positive and negative."

__ Cite tape transcript RBF to EJA & B®R, Chicago, J1 May*71
HBF DtFlhMUUh
Heavenly Host Phenomenon;

"If we begin with one ball as a nucleus we find that we can pack twelve balls around the one evenly--- the Heavenly Host Phenomenon--- twelve disciples around one prophet.

in the theological hierarchy of the Catholic Church there is a similar phenomenon with the trinity and the triangle.

- Cite SYNjJIGiITICS, "Numerology," p. 20. Oct. '71.

"Now you remember I had twelve balls around one--- Incidentally the Roman Catholic pundits that I have talked with tell me this is really the essence of heaven: the hosts of twelve around one. In a sense, the orange grove man has known about this--- he has piled oranges up in stacks and cannon balls. But not until 1922 does physics speak of this and identify this as what they call 'closest packing.'**

- Cite RBF to Verner Smythe, NYC, Reel 1, p.10, 25 Feb'69

HqpV Fhcngpcppp:

"Now we are looking at the vector equilibrium as the 12 composited spheres around one.... The idea of 12-around-one: we find that number in the disciples around Christ.

"A priest who was a sculptor, who had been commissioned to do sculpture for the Vatican gardens, explained to me that what I had been disclosing in synergetics corresponded with the intercircles of the Roman Catholic Church. Their great hierarchy was called the Heavenly Host, and the number system I had been showing him corresponded exactly with all kinds of the most important concepts of the Heavenly Host.

"I often felt a strange, curious feeling as I made a discovery that someone had known this before."

- Cite Oregon Lecture #7, pp. 250-251, 11 Jul*62

See Twelve-around-One

Heavenly Hoat Phenomenon:

(2)

See Social Probleme: Tetrahedral Coordination Of.

4 Kay'57

Heavenly Twins:

"The synergetics constants of all systems of Universe are the additive two and the multiplicative two. And the Holy Ghost. The Heavenly Twins. A pair of twins."

- Cite RBF to EJA re Table 4, Column 16. May'72 Incorporated in SYNERGETICS at Sec. 223.66, 21 Mar'73

Heavenly Twine:

See Twoneaa: Additive Twoneaa & Multiplicative Twoneaa

Two Kinde of Twoneaa

See After Life

Cosmic Structuring

Pyramid Technology Sky

See Order & Disorder, 5 Jul*62

Spaceship, (D)

Hedra:

"The tetrahedron always consists of four concave-inward hedra triangles and of four convex-outward hedra triangles: eight hedra triangles in all. These are the same eight, maximally deployed from one another, equiangular triangular hedra or facets of the vector equilibrium that converge to differential inscrutability or conceptual zero as the eight original triangular planes coalesce as the four pairs of congruent planes of the zero-volume vector equilibrium, wherein the eight exterior planes of the original eight edge bonded tetrahedra reach zero-volume, eightfold-congruence at the center point of the four-great-circle system."

(3938.12)

- Cite SYNERGETICS, 2nd. Ed., at Sec. 938.12, 10 Apr»75

See Congruence in the Center
 Hgdra Fama: Hgtfra Triangles:
 (2)
 See Octave ave Model, 9 Apr'75

He-even:

See Heaven, 2J May*72

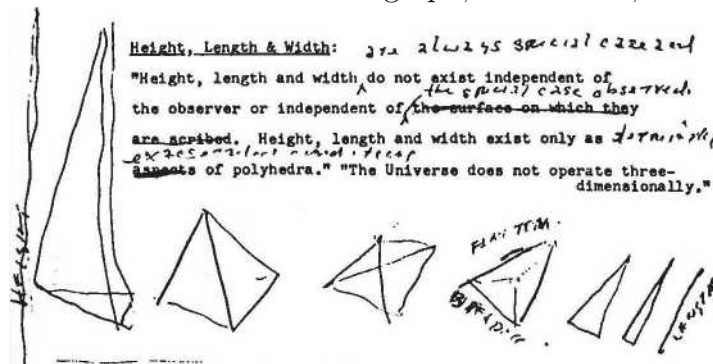
Height, Lqn/frh & Width:

"Height, length, and width are always special case and do not exist independent of the observer or independent of the special case observed.

"Height, length, and width exist only as terminally exaggerated conditions of polvhedra. The Universe does not operate three-dimensionally.

"The word height is the distance out from the system center in terms of the observer's tunability wavelengths. Length is great circle flroundness. Width ditto."

- Cite RBF rewrite &. holograph, 3200 Idaho, Wash, DC; 19 Jul'76



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FSJXH SYS Cr»T/9 iV'Tf fMF <J*.

&0S£rt v p- 7-pW0/l'7'/' uv A ve Ljr*fru-C. Mr ~<rf

<?. <--1 . • • ' < -i <u, f —

See Fourth Dimension: VE as Fourth-dimension Model, 22 Jun'77

Height:

See Tiae-aixe, 30 Oct'72

Heisenberg:

''Asjrainetry ia the reason that Heisenberg¹a measurement

is always indeterminate. Asymmetry is physical. Synmetry is meta-physical."

- Citation at Symmetry A, Asymmetry. 24 Apr*71

Heisenberg:

"One of the things we have to make clear for society is the dilemma of the Max-Planck-descended scientists, the way they do their problems, you can have either a wave or a particle, but not both simultaneously.

Heisenberg has the same fault. They make the error of having a wave as a continuity, as a picture-- not as a pulsating frequency. A planar reflex causes them to think of a continuous wave."

~~—ftBF— wv—KJA:~~

- Citation at Wave ve. Particle,. 22 Apr*71

Heisenberg:

"Of course, I know you can't get to the truth. Heisenberg was right about that--- the act of measuring does alter what's being measured. But you can always get nearer to the truth. It's something you can get closer to even though you never get to it. And today the young people really want to know about things, they want to get closer to the truth, and my job is to do all I can to help them. . . " The child is really the trim tab of the future."

- Cite RDF quoted by Calvin TomkAAs in New Yorker Profile, p.66, 8 Jan '66

Heiiberg-Eliot-Pound Sequence:

"As usual poets anticipated

The scientists' discoveries

Before Heisenberg's 'indeterminism,'

T.S. Eliot said,

'The act of considering history alters history.'

Ezra Pound anticipated then both

For he remarked much earlier

That 'the act of thinking alters thought,'

And all of this

Evolution regenerating altering Is found to be implicit in entropy,

The name given to the

Experimentally disclosed fact

That energy system is always giving off energy.

Thus evolution must forever

Alter the total inventory

Of humanity's nonsimultaneous

And only partially overlapping

Experience

For clearly experience always alters

Previous experience

And the process is both irreversible

And nonidentically repetitive." 28 Jan'69

-Cite GENERALIZED PRINCIPLES, d.8.

Heisenberg: Eliot-Pound Sequence:

"Werner Heisenberg, the physicist, identified as 'indeterminism' the experimentally disclosed fact that the act of measuring bringing light to bear on the observed phenomenon--- automatically excited the specimen's atoms and in one way or another altered the observed phenomenon in such a way that it was not exactly the same phenomenon as before the measuring commenced. Before Heisenberg's 'indeterminism,' T.S. Eliot said 'the act of considering history alters history. Ezra Pound anticipated them both when he remarked much earlier that 'the act of thinking alters thought.' Thus evolution must forever alter the total inventory of humanity's nonsimultaneous and only partially overlapping experience for clearly experience always alters previous experience and the process is both Irreversible and non-identically repetitive."

- Cite Generalized Laws of Design, p. 1. 22 Apr'6u

"Heisenberg said that observation alters the phenomenon observed. T.S. Eliot said that studying history alters history. Ezra Pound said that thinking in general alters what is thought about. Pound's formulation is the most general, and I think it's the earliest.*¹

- Cite Hugh Kenner, "The Rope and the Knot." Kentucky Review, Autumn 1968, who attributes this quote to RBF. .

"We've discovered experimentally and Heisenberg's indeterminism makes it very clear that the act of measuring alters that which is measured. Just to single out this phenomenon enough to begin to try and isolate it would be to alter it by doing that. Just the light that comes to bear as you make a microscopic note, just the light there, changes the

temperature and the behavior. You discover then that the act measurement always alters the measured. You find the poets saying earlier that the act of just consideration of history alters history. It really does say thought itself simply alters that which you think about."

- Cite RBF quoted in San Francisco Oracle. Vol. I, No.11, 196?

Heisenberg: Eliot-Pound Sequence:

"Heisenberg's indeterminism, In which the act of measuring Always alters the measured, Would seem entropic were it not For the experimentally realized knowledge That the successive alterations Of the observed, Diminish

As both our tooling and instrumentation Continually improve;

Ergo intellection's effect

Upon measurement and the measured Is a gap closing,

And the pursuit of more truthful comprehension Is successfully antientropic.

before Heisenberg, T.S. Eliot said, 'examination of history alters history* And Ezra Pound,

And even earlier poets, Reported their discoveries That in one way or another The act of thinking alters thought itself."

- Cite HO.. LITTU I KNOW, Oct *66, Pp. 53-54.

"As Heisenberg shows in his principle of ultimate determinism the physical act of measurement always alters the behavior of the measured phenomenon. In the same way we show here that the thinking process inherently alters the fundamental patterning of universal thought-about interrelationships

-Cite OMNIDIRECTIONAL HALO.pp. 139-UO, I960

Heisenberg-Eliot-Pound Sequence:

"Even thinking about truth alters truth."

- Citation and context at Epigenetic Landscape, May*49

Heisenberg-Eliot-Pound Sequence:

Generalized Laws of Design, p.1, 22 Apr '68

How Little I Know, p.54 - Oct '66

**Generalized Principles, eighth page, 28 Jan '69 Omnidirectional Halo,
pp.139-140, 1960**

Heisenberg-Eliot-Pound Sequence:

**See Experience Alters Previous Experience History: Considering History Alters History Life Alters Environment & Environment Alters Life
Measuring Alters the Measured Observation Alters the Phenomenon
Observed Truth: Thinking About Truth Alters Truth Truth as Progressive Diminution of Residual Error Systems Alter Other Systems No
Finality of Human Comprehension Reciprocal Involvement of Experiences & Principles**

See Observation, 1968

HalKSnSiMS, isnsr (1901-)

(1)

**See Heisenberg-Eliot-Pound Sequence Indeterminate: Indeterminism Inexactitude Observation Measurement Uncertainty Principle
Tolerance Vitalistics Approximateness**

See Metaphysical, 14 Feb*72

Omniasymmetry, 11 Oct*73

Scenario Universe, 22 Apr'68: Dec'69

Symmetry & Asymmetry, 24 Apr*71*

Truth, 1971

Wave ve. Particle, 22 Apr'71*

Six Motion Freedoms & Degrees of Freedom, (A)(B)

HHLCQPtflr;

See Sky Tug

Helium:

See Scrap Sorting t Mongering (3)

Resources, 2 Jun*74

Helix: Helical:

(1)

See Tetrahelix

Semihelix

Open Triangular Spirals

Spiral

See DNA-RNA, 16 Feb'7J

**Tetrahedron: Coordinate Symmetry (1) Triangle, 18 Feb'66; 14
Feb`66; (a) Energy Event, Mar'7<**

Hell:

"The fact that man

Using only his physical brain And not his mind, Can be the most Entropically
destructive organism Does not contradict Vi The irreversibility principle Unique to
maximally syntropic mind. Humanity's imaginative invention of Hell Discloses its
subconscious awareness Of the ultimate entropy."

- Cite BRAIN & MIBB , pp. 151-152 May '72

See Entropy as Lack of Information Ultimate Entropy Heaven & Hell

See Fuller, R.B: On Creatvity, 23 Kay*72 Terminals, 4 Feb*68

Helpless: Humans Born Helpless & Ignorant:

"By design we are all born naked* helpless for months, and though superbly equipped cerebrally, utterly lacking in experience, ergo, utterly ignorant. By cosmic designing wisdom we also were endowed with hunger, thirst, curiosity, and procreative urge. Consisting predominantly of water--- which freezes, boils, and evaporates within a cosmically- minuscule span of temperature limits within the vast spectrum of humanly-measured cosmic temperatures, ranging from absolute zero to those temperatures, for instance, of the star Sun--- the information apprehending, storing and human-mind employing, physical biological organisms employed by the metaphysical individual humans, were designed to prosper initially only $\approx 10^3$ Mi within the very close thermal limits and other specific biospheric conditions of Planet Earth,"

- Cite RBF Ltr. to Bro. Jos. Chuala, p.1; 7 Nov*75

Helpless: Humans Bpm Helpless *tc.* Ignorant:

"The great intellectual Integrity... deliberately designed us to be born naked, helpless, and ignorant; yet hungry, thirsty, curious, and procreatively excitable; ergo we were forced to find our way only by trial and error in order ultimately to discover the scientific principles... to permit us to graduate into functioning in the main affairs of regenerative Universe operating directly on cosmic principles,"

- Citation context at Desovereignization Sequence. (4)#5),
15 Way*75

Hplplgflr HMaena flora PolplwZfe ixpprapt-

"The group womb metabolic sustenance of naked, helpless, and ignorantly born humans--- and its progressive exhausting is cosmic gestation of Universe functioning local syntropy®*

- Citation and context at Womb of Permitted Irtranee, 13 Dec*73

See Womb of Permitted Absolute Helplessness Womb of Permitted Ignorance

See Design Revolution: Pulling the Bottom Up, (3 J Ecology Sequence, (F) Extraterrestrial Humans, 23 Aug*70 Human Being, 30 Oct'73 Ignorance, Iiay'4y

Kan as an Invention. 1 Aug'72

Ketabilical Cord, (1)

Miniature Universe, 2 Jun'71

Science as a Tool, Sep*72

Tragedy, Feb ` 72

Desovereignisation Sequence, (4)(5)*

Life is a Subtotal of Mistakes, (1)

Genius: Children Are Born Geniuses, (1) Mistake, 9 Nov'75

Huran Tolerance Limits, {B) (C)

Hunan Beings to Complex Universe, (8)

Hemihedral:

"The octahedron is infoldable and innestible hemihedrally."

- Cite RBF holograph, Somerset Club, Boston, 22 April 1971.

See Octahedron Model of Doubleneea of Unity, (1)

Hemispherical Reflexlvq:

See Awareness, Feb'50

See Polar & Hemispheric Polarity

Hen:

"Maybe hen rotates around egg with a nuclear gyro.

- Citation and context at Rotate, 6 May'48

See Eggs: You Juet Lay Eggs

See Scientist, H Mar'71

HBf UbFMrrlVhS

Us££'

"Any direction fro® here la out; but only one direction fro® here ie in."

- Citation and context at In ***It*** Out: Go In To Go Cut. 1b Dec*73

See Prime Enclosure, 17 Feb*73

Hares fc Theres:

"Physics has found only myriad pattern integrities of comprehensively nonsimultaneous and only partially overlapping evolution, of disintegrative 'here's*. and reintegrative 'there's,' with omnilocal vari-intertrans formabilities oK'limited duration identities..."

- Citation and context at System. 4 Jun'72

Kflrw A Threw:

See Interference: You Really Can't Get There From Here

See Energy, 16 Sep*67

Intertpaneformative, Oct*66

Line, 26 Aug'66

Fan: Interstellar Transmission of Man, Jun*66 Most Economical, 15 Jun¹'74 Regeneration, 26 Apr'71 System, 4 Jun'72* Time, 1 Apr'72 Weather, Feb'73 Error, >0 May'75

Octahedron as Conservation 4 Annihilation Model, (4) Angle 4 Frequency Design Control, Jul'71 Sea, 10 Sep'75

Here? Only Way fppp There:

See Omnidirectional Typewriter, (2)

Railroad Tracks: Great-circle Energy Tracks, (A)

See Heres 4 Theree

Theres

Heredity:

N.Y.Times. 15 May*72, H.M. Schmeck, Jr., "Immunology: A Code Spelling life or Death": "Another area of high current excitement centers on experiments showing that hereditary immunologic traits are probably an important factor in determining how susceptible any person may be to a given type of disease.² (Underlining by RBF)

RBF Marginalia: "One atom of chromium present or nonpresent — diff. between diabetes and no diabetes.

"A gene or DNA-RNA structural complex requires the right atoms for their chem. compounding--- G, C, T, A.

"No copper-spinach proximity » copper deficiency of humans. Copper inhibited by spinach inhibited by humans.

"Not because of different genes of species, but because of chemical element deficiency in locale of birth-growth geography, physiology, geology. (See Harry Schroeder-BF correspondence.)"

- Cite RBF marginalia on N.Y. Times of 15 May*72; re-edited by RBF, Santa Barbara, 12 Feb*73

See Design Revolution: Pulling the Bottom Up, (4) Life Is Not Physical, 29 Jun*72

Hertz: H.R.: (1857-1894)

See Algebra, 28 Oct*64

"You must go with life as it is and explore the

explorable. And then you may be entitled to (Judge ?). . . Unlike Siddhartha, I decided to ramify the ramifiable.

The Brahmins are pure contemplation . . . and they keep going through ablutions and penance--- when there's nothing to be penitent about."

- Cite RBF to EJA, Governor House Motel, Bethesda, 28 April 1971 after reading "Siddhartha," the night before.

. Take the vector equilibrium, rotate it 60 degrees to the next nestable position and suddenly it is polarised. It is in this polarized condition then, that a section through it makes the famous chemical hex that the chemists have used and the chemists recognize that form but ten or fifteen years ago they didn't have any interest in the vector equilibrium because they didn't have an experience like that, but they did in the polarized system. Apparently, then, all the chemical compounding in organic chemistry relates to polarized systems."

,L41. 32J5, —44Juf11 Jul'62

- Citation & context at Vector Equilibrium: Polarization
Chemical Hex:

See Vector Equilibrium: Polarization, (1)(2) Primitive, 18 Jul'76

Hexagon:

"The perimeter of the hexagon is exactly three times its diameter. They are, of course, cross sections through the vector equilibrium.

"The vector equilibrium hexagon... is the relaxed, cosmic neutral, zero energy-events state..."

(Adapted)

- Cite SYNERGETICS at Secs. 982.82 + 982.83, 30 Dec'73

Hexagon:

"Closest packed circles or spheres do not occupy all area or space, but six-triangled, nucleated hexagons do constitute the shortest-route cyclic enclosure of closest-packed nucleation and do uniformly occupy all planar area or volumetric space."

- Cite RBF galley correction to SYNERGETICS at Sec. 423.10.

2 Nov*73

Hexagon:

"The only instantaneity is eternity. All temporal (temporary) equilibrium life-time-space phenomena are sequential, complementary, and orderly transformations of space-nothingness into time-somethingness, and vice versa. Both space realizations and time realizations are always of orderly asymmetric degrees of discrete magnitudes. The hexagon is an instantaneous, eternal, simultaneous, planar section of equilibrium where all the chords are exactly equal to all the radii: six explosively disintegrative vectors exactly and finitely contained by six chordal vectors of equal magnitude."

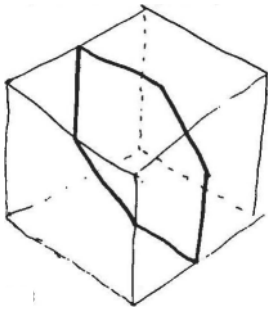
- Cite SYNERGETICS draft at Sec. 10j2.22y 22 Feb*73

Hexagon:

"The irrational radian and pi (ff) are not used by nature because angular accelerations are in finite package impelmente which are chordal (not arcs) and produce hexagons because the average of all angular stabilizations from all triangular interactions average at 60 degrees--- ergo radii and 60-degree chords are equal and identical; ergo six 60-degree chords equal one frequency cycle; ergo one unit of quantum."

- Cite RBF undated holograph done in November 1971 probably in New Delhi, India Incorporated in SYNERGETICS at Sec. 423.10, 11 Oct'?2

"Using a cube as a scaffold to demonstrate that six equilateral triangles constitute a hexagon (never proven by Greek geometry) in one plane and therefore represents the symmetrical vector system of a circle."



~ Cite RBF holograph, 6 May'4,8

Hexagonine the Circle:

See Foldability: Six Cases of Foldability of Great Circles, 22 Nov'73

Trisection of an Angle, 22 Nov'73

"The six circumferential energy vectors are finitely closed into unity. The six radials are disintegratively radiant. All vectors must be wavelinear. The explosives collapse like a coil spring in compression and are elongated by gravitational integrity."

- Cite RBF holograph for Herman Wolf, Boston. 1:20 a.n., 8 Kay '72

Hexagon:

Synergetics, Sec. 825.27, Sept*72

lissasaa * fitcaals. gf Saw .Tig:

(1)

See Genesis of Modelability □ Vector Equilibrium Tetrahedron: Two Tetrahedra

$H^?X \ll KQ_n$ - Genesis of B_{ow} Tie:

(2)

See Modelability, 12 Sep'71

Primitive, id Jul*76; 1y Jul*76

See King's Sign

Hexagon `` Genesis of Bow Tie Triangle & Hexagon Grid Hexahedron

Hex-pent Minimum Limit Case: Hexagon

See Closest Packing of Spheres Sequence (2) Congruence, 25 Aug¹?
Domain of a Point, May'72 Event, 29 May'72 Pi, Nov'71 Tensegrity;
Twelve Pentagons, Aug'72 Trisection of an Angle, 22 Nov*73 Vectoo
Equilibrium: Spheres 4 Spaces (1)(2) Twelve Pentagons, Aug'71 •falls
vs. Airspace Technology, (1) Octahedron as Photosynthesis Model, (A)
(B) Domains of Polyhedra, 7 Nov'73 Necklace, (A)

See Allspace Filling, 25 Sep'73

iiex-mnt Matrix⁵

See Turtle Hex-pent, 12 May'75

Hex-pent Sphere:

"The hex-pent sphere is a three-frequency sphere consisting of 12 pentagons and 20 hexagons. It consists of 60 fat diamonds plus 30 thin diamonds, totalling 90 diamonds in all. There are 180 chordal struts, all of which are the same length.

"The hex-pent sphere is the polyhedron with the largest possible number of identical-length edges whose vertices also lie in a sphere of the same radius: it thus manifests a limit case vector chord system.

"In the hex-pent sphere 20 vertexial hubs convene six chords each; 60 vertices convene three chords each; and 12 vertices convene five chords each, for a total of 92 vertices.

"This unique geodesic sphere represents the limit number of equi-length chords within a sphere of given radius with all the vertices equidistant from the sphere center."

- Cite RBF Ltr. to Sumet Jumsai,
Bangkok; 15 Sep'76

"The hex-pent sphere exhibits an anting property of transformability into a geodesic spiral tube. If any two polar-opposite, chord-connecting vertices are openingly released, the whole spherical structure of fat-thin diamonds will stretch out to a cylinder with those poles at the opposite ends. As it transforms into a geodesic spiral tube, the 180 equilength chord struts approach parallel bundling together. As the cylinder approaches pure parallelism of all its members, it becomes almost a tight rope.

"The sphere consists of 12 pentagons and 20 hexagons: when it transforms into the spiral geodesic tube, it has pents and 20 hexes,

'The most symmetrical tubular array occurs when the released polar pair of vertices are those occurring at the pentagon centers of the sphere.

"This spherical-to-spiral transformable structuring must be intimate to nuclear and atomic arrangement in vinyl and like plastics where the end of a very long rod of the plastic is pierced and air is blown into it between two sets of steel"

- Cite RBF Ltr. to Sumet Jumsai, Bangkok; 15 Sep*76 'rollers, and this bubble of air is continually rolled into the rod, stretching it into a thin transparent monomer film. The last roll through which the material passes folds together the two surfaces in a long tubular sheet. This tube is, after the last roll, slit open and the whole of it is stretched out into a longwise film and gathered into rolls. This is the way the thin plastic film such as Saran manufactured by Dow is made.

"It would seem then that this particular structure would be essential in accommodating going from a cylinder to a sphere and back to a cylinder again, which would account for how this invisible transformation occurs from a thick mass to a uniform thin film."

- Cite RUF Ltr. to Sumet Jumsai, Bangkok; 15 Sep'76

RbF DEFILITIUNL'

Hex-pent Structure of Purines:

"...I am greatly intrigued by your discovery of the two purines whose elementary components are hexagons and pentagons and the pyrimidines which have a hexagonal configurations only,*, the pentagon occurs only as a consequence of its being a component of a polyhedral system.'*

- Cite RBF Ltr, to Petr Jandacek,
Los Alamos, NK; 15 Dec*76
See Turtle Hex-pent

Tensegrity: Twelve Pentagons

Twelve Pentagons

Tensegrity liasts: Pentagonal Polarity

See Radome Sequence, (6)(?)

Now House, {1}

Tensegrity Masts: Pentagonal Polarity, 27 Dec'76

Hiblt:

"•Hibit* means to drink, to imbibe."

(Ed. Note: Not in OED. Eja.)

- Citation k context at Inhibit vs. Distribute. 2y Oct'72

Hierarchy;

"... The hierarchy of geometrical intertransformings which is the subject of this book..."

- Citation at Synergetic Strategy of Commencing with Totality
28 May¹72
Hierarchies:

"There's nothing in the gravity that we've now learned about--- that mass attraction--- that predicted precession. So we find that precession is synergetic to the mass attraction. Then we find there's nothing about the atoms per se--- an atom--- that tells you it combines to make molecules. There's nothing about molecules per se that predicted they will make biological protoplasm. There's nothing about biological protoplasm per se predicts both pine tree and elephant--- and the exchange of gases between the mammals and the vegetation. In other words I find that Universe is a series of hierarchies--- of hierarchies of synergies where the more complex is not explained by the lesser, if you really want to get any important kind of information you really have to start with the Universe and not with the parts. And that's exactly where a child always starts. A child is always interested in that whole Universe."

- Cite RBF address, transcript p.6, Tel Aviv, 1b Jun'72

Hierarchy of Constellar Configurations:

"Out of cumulative patterning overlays there emerges what seem to be generalized principles apparently governing all associative and disassociative transformings and their resultant regeneratively persistent hierarchy of constellar configurations. These hierarchies of constellar configurations disclose in turn a hierarchy of dynamically symmetrical constellation phases and their respective maxima-minima, asymmetric and complementary, accommodative transformabilities which are apparently permitted within an omnirational, omnidirectional, omniequi-economic, energy-accounting, coordinate system of Universe. This omnirational, arithmetical-geometrical accountability is of such sublime simplicity in contrast

to the awkward 'mathematics' of all known yesterdays as to have occasioned an almost universal incredibility and nonconsideration of its potential significance though it has been in disclosure for one quarter of a century."

- Cite INTRODUCTION to OMNIDIRECTIONAL HALO, pp.120-121, 1959
Hierarchy of Crystallizations:

See Frequency, Jun'66 (p.90)

See Concentric Hierarchy Limits

Cosmic Hierarchy

See Synergetic Strategy of Commencing with Totality, 26 May'72

Mites & Quarks as Basic Notes, (1)
Hierarchy of Dynamic Interactions;
See Reciprocity, (1)

"It is implicit . . . that mathematics, logic, science, analysis, and teleologic design discipline must all take origin in an hierarchy of patterns, and that initiations at any lesser level are abortive and futile. This is to say that all such present economic criteria as is generated from the limited facets of generalization which seek 'keys' or 'basic building parts' from which to predict wholes is fallacious and obsolete.

` ` Conversely, the more comprehensive the pattern originally selected and defined, the more effectively may the contained subpattern reciprocities be identified and treated."

- Cite Ltr. to Jim Fittgibboni (?), Raleigh NC, p.4, undated
(1954-59)

Hierarchy of Tool?:

See Scrap Sorting 4. Mongering (3)

See Generalization of Generalizations Synergy of Synergies

See Synergy: Degrees Of, (6)

Hierarchy: Hlpr.archle?= (1A)

See Atomic Triangulated Substructuring: Hierarchy Of Bonding Hierarchies Closed System Hierarchy Energy Magnitudes: Order Of Energy Quanta Values Environmental Events Hierarchy Epistemological Hierarchies Generalization: Degrees Of Generalization of Generalizations Great-circle Spinnable Symmetries: Hierarchy Of Low Order Prime Numbers: Hierarchy Of Manifests Magic Numbers Powering Quantum Hierarchies Structural Quanta Synergetic Accounting Advantages: Hierarchy Of Synergy: Degrees Of

See Superficial Hierarchy

Synergetic Hierarchy

Tetrahedron: Hierarchy of Pulsating Arrays

Topological Hierarchies

Tolerance Sequence

Volumetric Hierarchy

Volume-surface Hierarchy

Topological ti. Quantum Hierarchies

Prehierarchical

Concentric Hierarchy Limits

Communications Hierarchy

Basic Nestable Configurations: Hierarchy Of

Cosmic Hierarchy

Geometrical Hierarchy

Primitive Hierarchy

See Universal Integrity; Second-power Congruence of Gravitational & Radiational Constants, 9 Jan*74

Resolution, 12 H»y'75

Wave, 12 May'75

Nature in a Corner, 12 Nov¹75

Mite as Model for Quark, 3 May* 77

(3)

See Hierarchy of Conetoliar Configurations

Hierarchy of Crystallisations

Hierarchy of Geometrical Intertransfownings

Hierarchies of Dynamic Interactions

Hierarchy of Dynamically Symmetrical Constellation Phases

Hierarchy of Patterns

Hierarchy of Tools

Hieroglyphs;

See Communicationa Hierarchy, (2)

Higher Consciousness:

See Cosmic Intelligence Science: The Great Design Higher Wisdom

See Frequency: High i Low Freouency: High Frequency Ultra

See "Out" aa the Containing *k* the Contained, 5 May'74

See Balance Frequency: High & Low Low Pressures vs. Positives Tidal Weather as Exlchange of Highs k Lows

(2)

See Superstition, 1938

Wind Stress 4 Houses, (6) Instrumente, 20 Sep'76

See Antipriorities Weapons Technology

Highest Speed:

See Top Speeds Top Velocity

See Tidal, 31 >lay'?1

See Tangency. J1 Kay'71

Tidal, 31 friay*71

See Line Between Two Sphere Canters, 7 NOT'73

See Tidal

High. Pgygr. (D

"You can only introduce power into an area for so long before you have to feed the people and power is no good without eating, . . The most incredible thing is that in the areas where all the people are there is no power or food. . . So everything comes back to electrical power. . . Identifying the kilowatts with the internal metabolics. . . what they* are really doing is getting on to energy networks. That's where the standard of living is. . . We talk about this longer transmission of energy from here to there. To get work done. There is no way that we can get work done in quantity and speed compared to that of electrical transmission. Better than pipelines or tankers, and so forth.

To get it from here to there you have to use relatively high voltage. After World War I the United States was set on a new level of high voltage for transmission and we've been operating on that ... until we have now come to a new era realizing we could step up to a million kilowatts from 138,000. Through the past decades you could only trasnmit about 350 miles, which meant that you couldn't really reach the next time zone. In generating electricity whatever you generate that isn't used, is wasted."

- Cite RBF to World Game, Jun-Jul'69

"If you can't anticipate your peak loads your customers will desert you, because they can't put in their own power generation. So you want to be sure to have as much as they need, so □ you always have to generate a little more than is actually used. That is wasted. But by integrating the living patterns of two cities you can even out the peaks and valleys--- so you always make money, and up go your profits by integrating cities. Say ft 350 miles was the limit. Suddenly we're coming into an entirely new era, and it is now actually being instituted, of being able to use a million volts which means 1500 miles. The 1500 miles means we're going to be able to integrate three time zones right across the country. The net effect is to increase deposits both in the United States government and in the private sector of about 30 percent--- a very big step-up."

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part 2, pp. 23-33*

See Electrical Network

World Power Grid

See Copper, (1)

See Automobile is only Half the Invention Mine is Part of the Mole Nest
is Part of the Bird Tools are Part of Hunan Beings

See City

Freeways

Social Highway Experience: Three Autos

Traffic

Automobile as Only Half the Invention

See Automobile, 5 May'72; circa 194S Private Enterprise, 1971 Industry, 19&3

Hilbert, David: (1862-1943)

Hinging:

See Angularly Hinged Convergence Unhinged: Unhinging

See Chemical Bonds. May*72

Liquid, 196?

Squares, 1965

Walking. 31 May'71

Chemical Bonds: Double Bond, 19 Dec'73

Dymaxion Airocean World lap. (a),(d), (e)

Wave Pattern of a Stone Dropped in Liquid,

22 Jun*77

Historical:

"The historical aggregate of men's experiences is continually transforming and only momentarily residual."

(Adapted.)

- See RBF amendment to SYKGETICS Draft

•Universe' 1971

Historical Event Cognition:

"The Doppler Effect also may be operating in our historical event cognition system in such a manner that the relative frequency and wavelengths of approaching historical effects are compacted, and Receding ones thinned out. It could be that by travelling mentally backward in history as far as we have, any information about humans could--- like drawing a bowstring--- impel our thoughts effectively into the future."

- Citation and context at Doppler Effect. 2 Mar'68
- 3jiazTnvr,~?~ferch---as-amplif i-ed by BBE-P..iiiglnJtia CO Auil-
t971 foi'-SYNEI'CKTieSlteaft

History?

"There is an a priori universal law in the controlled complexity that tolerates man's pressurized nonsense, as nature permits each day's seemingly new Universe of semifamiliarities, semiwonders, and semimystery, what humans might think of as history unfolding on this little planet. There is the Game of Cosmic History, in which Universe goes on approximately unaware of human ntasense while accommodating its omnilocal gameplay ing.'*

- citation & context at Nature Permits It Sequence (1), 27 Dec'73

History:

"Because every action has its reaction, as we achieve new magnitudes, million folding our forward undertakings in time so will we millionfold our knowledge backward in time. The archaeological, anthropological, and ecological history will be as stimulating to mankind as will be the extension of knowledge through realized technology."

- Cite **THE PROSPECT FOR HUMANITY**, Sat. Review, 29 Aug'64

Hlatsry: Considering History titers History:

See Heisenberg-Eliot- Pound Sequence, 28 Jan¹69

History rrp in the Sailor*a & Shipbuilder*a Viewpoint:

See Naga to Eden, 17 Oct'74

See Age

Age of Cybernetics

Chick Breaking Out of the Egg

Communications & Culture

Determinism

Dymaxion-concept-trend-history

Early Words Evolution

Future: Kan Backs into His Future

Game of Cosmic History

Heartbeat Magnitude Sequence Heisenberg-Eliot-Pound Sequence

Knowledge Backward in Time

History: (10)

See News & Evolution

Old Words

Past

Past Otherness

Pyramid Technology

Romance of History in the Making

Science: History Of

Science-technology-industry-economics-politics

Sequence

Technology & Culture

Unpredictable: Unpredicted

Will of History

Yesterday

See Battleship, 13 Mar'73

Child Sequence (3)

Earth, 19b5

Ekisties, Aug'72

Inhibit, y Apr'40

Literacy, 18 Aug'70

Nature Permits It Sequence (2)

Universe, 1965

Common Sense: Official News, Dec*69

Museum, 9 Jan*75

Communications Hierarchy, (2) (3)

Structural Sequence, (C) Philosophy, 11 Aug*76 New York City (12)

Culture, 27 Jan'77

Fuller, R.B: Ecological Predictions of 1Q27, 22 Jun'77

Environment, (A)

See Artist: Histrionics

Hoff, van't:

See van't Hoff

See Frequency: Alternate Wavelength Frequency, 1y Apr*73

Holding Patterns of Energy;

'Tetrahedron is a fundamental energy holding pattern whether regular or irregular--- the energy being held within the internal octahedron of every tetrahedron.

- Cite SYNERGETICS draft at Sec 95+13*-; Apr '72

See Airplanes Stacked up for Landing

Boats at Anchor Retard the River's Flow

Bounce Patterns of Energy

Local Holding Patterns

Octahedron: Energy Holding Pattern

See Mass. 1959

Muted, 13 May'73

Shunt, Jun'66

Tetrahedral Dynamics, (2)

Valving, 13 Pay'73

Holding Patierno far Usability:

See Environment Controls (1)

Holding Patterns:

See Shunt: Shunting

See Shunt, Jun*66

Omnidirectional Typewriter (4)

See Coming Apart * Holding I'ogetner

Gathering Point

Coming Towardnesa: Coming Together Phase

Hale in the Ocean:

See Island, Sep*72

KBF UEFIKI'i'IUhS

vbs. Pnlywr.M:

"There la a hole in the Universe that la you and it has nothing to do with matter."

- Cite KBF to BU'R, Kent, Ohio, 23 May»72

"In closest packing of spheres only the first layer doesn't want to go anywhere-- to be neutral. At the third layer you get turbinig.

"In the victrola record the edges turn but the center theoretically does not move. But you cannot demonstrate this phenomenon--- where the center of the axis is absolutely imobile--- in a three-dimensional model. It can only be demonstrated in a four-dimensional model like the vector equilibrium jitterbug."

- Cite RBF at Penn Bell videotaping, Philadelphia, PA., 24 Jan*75

Hole in the Victrola Di«g:

See Reel of Tape Recorder

(2)

See Two, (1)

See Black Hole

Coring

File Cards with Triangular Array of Holes Icosahedron: Inside-outing
of Icosahedron Invisible Hole

Minimum Hole

Torus

Toration

Hole:

(2)

See Meaningless, Oct*66

Hollern ? Syn_{erg}y:

See Synergy, 20 Feb'77

See Comprehensive: Comprehenativity

Hierarchy

Pattern: Hierarchy of Patterne

Starting with Universe

Synergetic Strategy of Commencing with Totality

System Totality

Totality

Whole

Whole System

See Comprehension, 10 Jan'74

Design Science 4c World Game, (B)

Models, y Jan'74

Puzzle of Washington Crossing the Delaware, (1)

Scenario Universe May'72
Synergy of Synergies, 31 May'71
Syntax, 16 Oct'72
General Systems Theory, H
Gravity, 11 Feb'76
Synergy, 20 Feb'77

Hol] ow: Hollowed Out: j
See Hands
Insideness &. Outsideness

Surface Strength of Structures Vessel

See Snow Mound. 10 Oct*63 Truss, Dec*61 Intuition Sequence (2)

HQXY choate

See Heavenly Twins, May*72 Trinity: Equation Of, 1938

Kams: At-Home in the Universq:
(1)
See Earthian

Universe Cltixaenship World Citixen 'World Man

Hfflaa: At Home in the Universe:
See Human Unsettlement, (6)
Home:
See Unsettling vs. Settlements, 20 Sep*76

See Cross-breeding World Ilan Human Unsettlement Sovereignty:
Elimination Of

Homogenised: Homogeneity:

See Egg Embryo: Homogenised & Returned to Shell

See Conceptual Physics, (1)(2)

Homosexuality:

RBF: . During all those thousands and thousands of

years before our time, nature really gave man the capacity to make many, many babies. Now suddenly she doesn't need them anymore. So I'm not at all surprised to see girls dressing like boys and boys dressing like girls. I'm not at all surprised to see women getting very naked, because the more naked they are, the more they tend to discourage the sex urge. Part of the procreative urge is man's insatiable curiosity. You are covered up with skirts and man is driven by curiosity. Take away the skirts and he says to hell with it. And I find us getting enormous amounts of homosexuality, which I see as nature simply supplying a negative urge which advances our capacity not to make babies."

Playboy: "Then homosexuality would rank as something intended by evolution?"

RBF: Yes, to short circuit. Here the good-and-badding kind of idea has led us completely astray. So many things that are changing or coming to a stop tend to make people feel negative, but it is simply nature winding up certain phases quite rapidly right now."

- Ite B_{ar}y Fa_{rr}ei, Interview, 1972.

Homosexuality:

"...As survival rate and life sustaining capability increase, fewer births are required. This may be related to our developing capacities in interchanging our physical parts, of producing mechanical organs, of having progressively fewer organisms to replenish. The drive in humanity

to reproduce as prodigally as possible decreases considerably. This may be reflected in social behaviors--- when all the girls begin to look like boys and boys like girls, wear the same clothes... This may be part of a discouraging process in the idea of producing more babies.

"We shall have to stop looking askance on trends in relation to sex merely as a reproductive capability, i.e., that it is normal to make babies. Society will have to change in its assessment of what the proclivities of humanity may be. Our viewpoints on homosexuality, for example, may have to be reconsidered and more wisely adjusted."

- Citation and context at Population Sequence Feb'67

See Human Beings i Complex Universe, {14) Population Sequence, (J)(4)*

Hony • I Go for My Honey;

See Linear Programing, 5 Jun'73

Honey:

bee Bee: Honey-seeking Bee

Honeycomb:

See Matrix, 13 Nov*69

Hooked:

Sea Fisherman Teme

See Instrumental Hook-up

Seo Beautiful, 1938

Co-orbiting of Earth *It* Moon around Sun, Apr'71

See Barrel

Three-way Great-circling

KBF jaFimriuhS

Hope:

"in an infinite Universe everybody haa access to hope.**

£ EJA comment: , jpelieve the proper interpretation of the above is not that there is no hope in finite Universe, but that in infinite Universe tnere is no certain prospect except hope._7

Z` ` On 10 Sep'74 at 3200 Idaho, Wash., DC, RBF confirmed that above interpretation ia an accurate reflection of his meaning. - EJA. J

- Cite KBF in Corcoran Gallery Address, ./ashington JU, Feb ` 72

Hope:

(1)

See Fear & Longing

See Life, 22 Apr'68 Belief, 6 Jul'75 New York City, (7)

Horizontal Skyscraper:

See Air Delivered City, 30 Mar'70 Building Business, (5) New York City (8)

BBF D2FIKITIUKS

Horizontal va. Vertical:

"It is in evidence that the horizontal vulnerability of structural components to gravitational effects requires the strongest awering stratagems. Columns are easy; beams are difficult. Ships' masts support their boom, not vice versa. The walls and columns of history's ruins stand the longest. Rarely are the horizontal beams, elevated floorings or roofs to be found intact, if at all, v/ith the exception of domes which combine both horizontal and vertical behaviors progressively translated into mutual synergatical aid and integrated success."

- Cite I&I, DOI>2.5, p. 154. SBBI 1963
See Vertical is to Live: Horizontal ie to Die
See Tactile: The Tactile Sense, 6 Jun>69
Tactile Sequence (1)

Orbital Escape from Critical Proximity, (1)

See Planck's Constant, (C)
Horseshit:

EJA to RBF: 'Bucky. you know people say what does Fuller mean with all this talk about 'intertransformabilities'? . . . That's just horseshit.'

RBF to EJA: "Yes, that's right. That's just what horseshit is! ... a beautiful example of intertransformabilities."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 9 Feb'73
See Omnlmedium Transport Sequence, (3H4)
See Gravity (f)

Horae & Waron:

See Buftgy Industry

Hostage;

See Ambassador, 23 Jan*75

Hotel:

See Service Industry, 15 May'73

Hot vs. Cold;

See Cold Valve of Time vs. Hot Valve of Energy

Hot Valve of Energy:

See Cold Valve of Time vs. Hot Valve of Energy

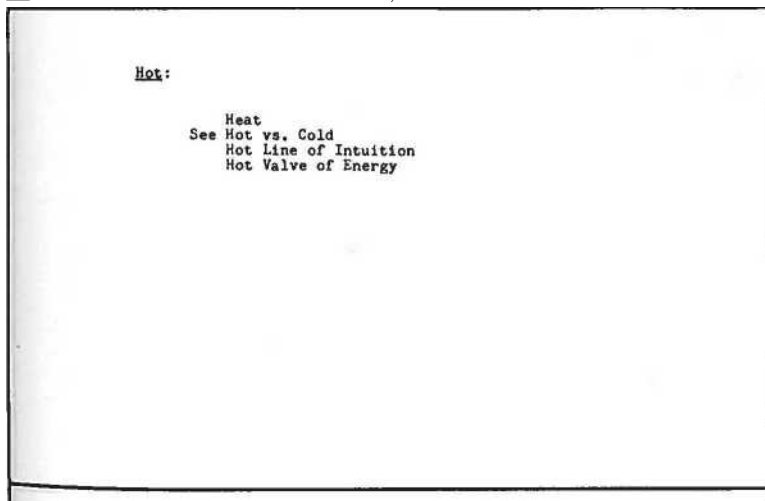
Hot Line of Intuition:

^M. . . local individual organisms

Consisting of a plurality of maximally complex functions Planetarily
situate as biological, self-reproducing and regenerating entitles

Some being furnished with integral brain controls,
 And one special control group wired by the hot line of intuition
 To universal mind's front office switchboard.
 And with each individual organism
 Having its own unique evolutionary life sequences
 Of local self realizations
 And group attainments
 Gradually evolving individually
 By trial and error discoveries
 To final remergent synchronization with totality."

- Citation &. context at Universal Mlnd, 15 Aug'72
tOL-££ACHHxztARTH ,



See Mobile Rentability vs. Immobile Purchasing, 20 Sep'76

See Now Hourglass Flux Pattern

See Magnetic Field, May'49

**Quantum Mechanics: Grand Strategy, 30 Jan'75 Teleology: Bow Tie
 Symbol, 1938**

See Capitalize Your Life-hours

Lifetime: Personal Lifetime Experience for Elective Investment

Economic Accounting System: Human Life-hour Production

See Economic Accounting System, (E) Invented Periodicities. May*49
Human Unsettled.ent, (3)

House:

"•House,¹ in comprehensive designing, would be as incidental to the world-around network dwelling service as is the telephone transceiver instrument to the energy processing in communication systems, which are in turn within the larger systems of industry."

- Bite RBF quoted by William Kuhns in Post-Industrial Prophets," (Harper-Colophon), pp.217-238. 1971

House:

"Then you find that humanity, very justly, is happy when it gets through the war and survives and has the boys back from the war. You have gone through terrible winters on the frontier and here is your little family--- you survived. That is what you care about and you rejoice and in your rejoicing you identify anything around you with the success of the survival. You say, here is this humble little house. What

a wonderful little house it is! Whata wonderful days we have gone through in that house. So we say I love that house, and you are identifying and rejoicing in your euccess with the visible shelter. You now have time and it needs some new shingles, or some new boards in here and so we have a little more tools and we will carve some of these. . . We will put up new ones, and this time they will be carved to show how much we aporeciate it--- let's honor it. let's decorate it. So graduallly the structures became embellished. Through all the

history* of man this make-do form of enclosure becomes gradually ta embellished and develops certain logical characteristics of the kinds of materials it was fashioned from, and the kinds of time you had available, and the kinds of tools you had available."

- Cite Oregon Lecture #1, pp. 17-18.

1 Jul'62

House:

"It is *hus» in Anglo-baxon, old Saxon, old French, mid-low, old-high and nid-high German, and in the Horse and Gothic tongues, (In Gothic it is sometimes used in combination with *Gud' - 'Gud-house.') In old English, it is 'hus,' 'hous,¹ or •howes'; in Danish and Swedish 'hus,* in Dutch *huis' and in German 'haus.' it is etymologically connected with hut--- hidehoard--- hood--- and hat. And among its various synonyms are residence, dwelling, abode, lodging, booth (bothy), and shelter. Its multitudinous special meanings include:

'Whorehouse

Warehouse

Special chamber (smokehouse, toolhouse, etc.) Household (meaning the family)

House of Rothschild (meaning a family of ancestors Legislative body Audience of a play Commercial firm

in astrology, 12th part of heaven.

- Cite NIKE CHAINS TO THE MOON, p.32, 193\$

HBF JEFihiTluuS

House:

"House: a phenomenon to which I am, upon first consideration, an outsider, i/hat is a house? A block of brick, stone, wood, of square openings called 'wind-o's' applied to its surface? The alphabet-book illustration under *H' with an undeniable superficial child romance appeal? A major sensorial object of awakening life?"

- Cite NIHh CHAINS TO THE >10UH, p.10, 1938

Houses &. Infrastructure:

'The multi terraced waterfalls of wages to be paid and profits to be made in all the subcontracting ramifications of the original US government's 'defense' commitments now of \$»100 billion a year, then induce progressive resettlement of wage-earners in various new localities which are exploited by real-estaters who enormously inflate previous farm-land values by staking out lots and running water and sewer lines, a few paved streets and sidewalks, maintenance of which become the legal responsibility of the owners and their local governments and are funded by tax assessments, the anticipation of which is used to repay moneys borrowed by the local governments through issuance of bonds whose ultimate payment is guaranteed by the up-to-now-seemingly certain resale value of the physical properties themselves and their costly 'infrastructure' of streets, sewers, water, gas, and electricity lines, transportations systems, and government buildings, etc.

'So-called private individual homes are only superficially individual, for the hydraulic wash-away of the Earth surrounding their foundations discloses the private houses to be only fancy terminal boxes mounted on the ends of pipes with the whole community functionally a unit mechanical organism.* - Citation &. context at Building Industry. (5) (6); 20 Sep*76

House as a Ship:

House as Terminal of Community Mechanism:

"So-called private individual homes are only superficially individual, for the hydraulic wash-away of the Earth surrounding their foundations discloses the private houses to be only fancy terminal boxes mounted on the ends of pipes with the whole community functionally a unit mechanical organism.^{1*}

- Citation &. context at Houses &. Infrastructure, 20 Sep* 76

See Butter Grain Bin Dome House Dwelling Machines Dymaxion House Economic Prowess Symbols Energy Environment-harvesting Machines Housing Miniature Castle Mobile Homes Now House Wichita House Wind Stress &. Houses Yesterday's Private Castle Mentality

See Package, 1 Feb'75 Neutral. 1 Feb'75 Aesthetics of Uniformity, (1)(2) Domes, 12 May'77

Housing:

Q. How do you account for the inertia of the building industry?

RBF: "Automobiles were not developed by the carriage

makers. The armorers did not develop the airplane. Don't look to the building industry for anything."

- Cite RBF in videotaping sessions, Philadelphia, Pa., 1 Feb'75
riBF DriFIh li' 1UHS

Hfiasing.;

'Humanity's housing structures ana livingry in general are, to a hlgm degree, only superstitiously-evolved economic prowess symbols, Inefficiently repetitious of ail yesterday's inake-au wxStaKes«` `

- Ciataion ana context at Buildings as . l achines (2), 1J Nov'69

See Antipriorities

Bathroom as Symbolism and Association Buildings Building Business
Dwelling Service Industry Dymaxion House Floating City Industrial
Lag Service Industry Shelter

Modile Homes

Environment Controls

Unhousable Half of Humanity

See Empty, May'70

Gross World Product Sequence (4)

Industrial Lag (2)

Otnnimedia Transport Sequence, 12)

Wood Technology,

Aesthetics of Uniformity, (1)(2)

Pathology: Preventive vs. Curative, (1)

Doing What Needs to Pe Done, Human Unsettlement, (3)(4)

How:

"Out of the a priori void... out of the unanswerable»why a little how is
extracted."

-Cite Whv: The Unanswerable Why. 8 bar'73

How Come?

See Why For? *ft.* How Come?

Hoy Lltvlo J Know:

"It is a common attitude of humanity to say: I knew how to get to the Moon all the time.... Vanity.... Would we go to the store and pick our own tongues and guts and intestines? Nature puts a lovely curving sheath over all that so we can be attractive, Man has such a sheath of pride so he won't be mortified by all his failures and apparent impotence.

"It's an omnidirectional game of chess with each of us just one way Universe could have turned out. I say: How little I know because the mystery gets ever more entrancing. It's all incredibly beautiful.'*

- Cite RBF in videotaping session Philadelphia, Pa., 1 Feb'75

"The more we know the more mysterious it becomes that we can and do know both aught and naught. The number one a priori characteristic of the entirely mysterious life is awareness which develops gradually into comprehension only to become aware of how inherently little we know. But that little we know or may come to know additionally is ever subject to further vast integral exploration, discovery, differentiation, and comprehension."

- Cite SYNERGETICS draft at Sec. 1056.01, 1J May'73

"The a ` priori characteristic of the entirely mysteriously occasioned life is awareness--- which develops only to how little we know."

- Citation A. context at Unknowable. 8 Mar*73

"Confronted with earnestly acquired information, we realise that no matter how many details regarding local time events we may recognize and recall, we must confess that the more we seem to know the more we learn of how little we know— but that little can be amplified, and has been, and will continue so to be.

"The only reason we find our own lives worth recounting and studying is because, if healthy, we are then good normal beings; all are born geniuses, but most children have in the past been swiftly degenlused by their parents'm misdirected love which sought in fear to guide the children past the frequent roads to pain which they had experienced."

- Cite BEAR ISLAND STUKY, gaily p.35, 196S

See Dare to Be Naive Invisible: Nothing so Invisible as the Obvious Unlearning

See Unknowable, 8 Mar*73*

Wright, Frank Lloyd, 4 Oct'75

How the Mind Starts:

See Thirty Minimum Aspects of a System,(B)

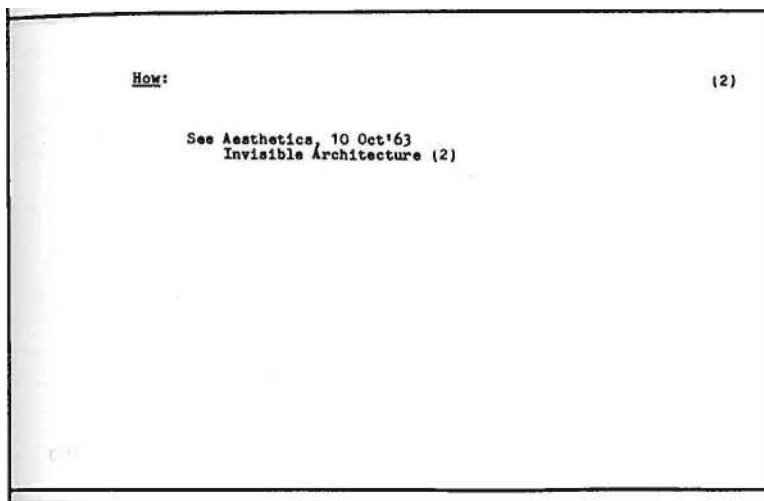
How Do You Think?

See Epistemology, 28 May*75

How to Make the World Work:

See Making the World Work

**Sae How to Make tha World Work Know-how Why For? &□ How Come?
How Do You Think?**



Hub: Hubs:

See Male & Female Turbining Hube

Huddle:

(1)

See Flying Huddle

21

See Sphere, 30 Dec*73

Human:

"The human is the nucleus of environment. He has named it

- Citation at Environment t 22 Sep*73

Humans:

"Humans are temporal, finite, limited, inherently unable to comprehend the incomprehensible."

- Citation and context at Why: The Unanswerable Why. 8 Mar*73

Human:

"Each human demonstrates the complex interaccommodation of an aggregate of generalized principles."

- Citation and context at Generalized Principle (B), 22 55a y'73

Humane:

That's what humans always start."

' • Being between-ness.

That's where problems

- Citation at Between: Vector Equilibrium as Between-ness Model. 7 Nov'72

Humans:

"Humans are each one a special-case unfolding Integrity of the complex aggregate of abstract, weightless, omni-interaccommodative, maximally synergetic, non-sensorial Universe of eternal timeless principles. Humanity, being a macro—>micro Universe unfolding eventuation, is physically irreversible yet eternally integrated with Universe, Humanity cannot shrink and return into the womb and revert to as yet unfertilised ova.

- Citation & context at Universe. 24 Mar*71

Humana: "Humans have abstract 'tree rings' of experience."

- Citation & context at Twilight of Experiences, May'49

Human Beings :

Q. "What is the minimum system that you can

describe as a human being?"

RBF: "Awareness and the phenomenon love have nothing

to do with the organism they employ---which is just a confluence of 1000 (exhausted) tons of food, water, and fuel. The question tries to make the human being a system.

"Kind thoughts and concepts are systems; the human being is not a system. The thinkable is systemic and relevant, but human beings, the metaphysical capability to tune-in---loving, caring---I have no way to put that into a system. You can call the organism a system if you want to, but the internal systems of organisms are very complex."

- Cite RBF to Question by Dr. Michael Bruwer at "or Id Came Workshop"77; Philadelphia, PA; 22 Jun'77

Human Beings:

"Here are human beings on board of our planet and they do have very extraordinary capabilities.... Now, how and why would human beings have all this extraordinary capability that I found other creatures didn't have. I want to identify the difference between human beings and any other of the biological phenomena that I know. I could say that human beings are not only halfway between the biggest and the littlest; but what differentiates them from all the others is something very interesting.

"All other species than man have integral equipment fitting them for a special advantage in « special environments: the bird has wings. He can fly beautifully with his integral wings.

But when he's not flying--- which is a great deal of the time--- he cannot divest himself of his wings and he's greatly encumbered by his wings in getting along in other environmental conditions. And you'll find this in each of the species. What is really unique about man is that he doesn't have this integral special equipment for special environments and has instead an enormous amount of information-gathering capability.*¹

- Cite RBF to Harvard Law School Forum, 10 bee'73

Musan Being;

"Of all the subcosmic, integrally inter patterning, complexes that we know of in our Universe, there is no organic complex whose degree of complexity in any way compares with that of the human being* We have only one counterpart of the total human complexity, and that is Universe itself.* That such a complex miniature Universe is found to be present on this planet, and that it is 'born* absolutely ignorant, is part of the manifold of design integrities."

"□Apparently, man matches the Universe in displaying the same relative abundance of the 92 self-regenerative chemical elements."

Human Beings:

"'You and I are walking overlapping life cell creations and life cell deaths, atoms coming in and going out."

- Cite RBF in Barry Farrell Playboy Interview, 1972, p. 6.

RBF DaFIkITIUNS

Human Being:

"I think unquestionably that humans are designed to be the most extraordinary information processing and problem solving capabilities locally available at this particular planetary point in Universe to handle very complex local problems. This Universe is quite clearly a regenerative phenomenon where no energies are known to have been created no energies are known to have been lost, in which the energies are conserved; a self-regenerating Universe that is continually evolving."

- Cite Museums Keynote Address Denver, pp. 8-9. 2 Jun'71

Human Being:

"Of all the complexes we know of in our Universe there is no organic complex in any way compares with that of the human being, we have only one counterpart of total complexity, and that is the Universe itself. Each of us seems to be a miniature Universe. That such a complex miniature Universe is found to be present on this planet, and that it is born absolutely Ignorant, is part of the manifold of design integrities."

- Cite FMSWTTmr-ifnynnt n

i pF'

- Citation at Universe, 2 Jun'71

"I am quite confident that the biogeneticists will not be able to design a better human because we are omnidirectional and you can't improve on the middle and the more symmetrical we are, the nearer we are to the middle. So I am talking about all these aberrations: that's the trouble when you get asymmetric...."

"I will explain it to you omnidirectionally. Human beings are---as far as I can find out---in the really center of things. We have in all other living organisms, having really special equipment built-in, fastened in, that gives them special advantages in special environments. But human beings are unique in that they don't have this built in, that they are in the center of things, that they have this mind which discovers principles and if they employ the principles they can fly better than the bird with his wings; they can dive deeper than the whale which was designed just for that water---who can't get along without it.

"We can go into all the different environments with our mind,"

- Cite transcript p. 21, RBF taped Interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

"but we stay strictly in the middle here. What is unique about us is the middle. If human beings were linear or specialized, the biogeneticists could make him a little better. They could make him jump higher---but because we deal in principles and not in the actual physical equipment and are actually the center, we can't improve on the center ...and the best, most balanced, human beings are really nearest the center. That's all, they are just less asymmetrical, and these things are not built-in, they are purely of the mind."

- Cite transcript p.21, RBF taped interview with Dr., Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Human Beings at the Center- (1)

See Jan as Halfway in Range of Size of All Creatures

Overspecialization of Biological Species

See Human Beings in Complex Universe,

Q: "What is your conception of mental health?"

RBF: "I start off with my saying that when I feel great I don't feel anything. I am astonished at how quickly one forgets it when pain is gone. There is a synergetic whole. When we say *1 feel great,' it means you feel nothing and are absolutely wide open receptively.

"As you know, I make a great differentiation between the brain and the mind. I see the brain of all creatures as always coordinating the input from Universe of the physical senses. The brain then makes a special package and remembers these special cases. Brains are always dealing in special cases. Kind is the capability of human creatures---that we don't know any other creatures to have---to make from time to time a discovery of relationships existing between special cases that are not in any one special case considered separately. This is really almost another statement of synergy, which is the behavior of wholes unpredicted by the behavior of parts. Kind can discover what those synergetic relationships are."

Michael Bruwer, Chicago, IL; 16 Feb

- Cite RBF interview with Dr.

• 78

"For instance, Newton discovered the law of the mass interattraction of bodies, where, if you double the distance you reduce the attractiveness to one quarter of what it was. The interattractiveness varies as the second power of the arithmetical distances. Human mind discovers these generalized principles which are related to the fact that Universe is inherently complex. The inherent complexity is now proven in science.

"We have the clearly demonstrated proclivity of human beings throughout all history to want to find the building blocks or the key. They look for one thing as being the clue. That may be because their ego possibly wants to monopolize the one thing.

"./hat we have discovered is that we have fundamental complementarity as recognized by physics only in 1922. Then we get to discovering the proton and the neutron in 1928. By 1950 we have the Nobel prize given to physicists for demonstrating that complementarity is not the mirror image, -/e had assumed up to that time that it was actually a mirror image. It was"

- Cite RBF interview w/Dr. Michael Bruwer; Chicalo, IL; 16 Feb'78
Human beings <x Complex Universe: 43)

'called parity. Then they found that parity is not so. Then we have the proton and the neutron always and only coexisting and their masses are different; they are very close---one is interchangeable with the other, but they are different. So we are now dealing in a Universe where there is inherent complexity. Unity is plural and at minimum two. This has got to be very relevant to our mental health builders.

"If I want one word describing the experience of life, I use the word awareness: no otherness, no awareness. One of the first things a child begins to demonstrate to you is the discovery of his left hand with his right hand, the discovery of its toe, of its tongue. . . the discovery of the otherness within self and the otherness that is the motherness. So I say mental health would have to relate to the fact that there is this fundamental complementarity in Universe.

"Unity is plural and at minimum two. You probably have very bad health when you try to look out for just me---the single building block out there. That is where mental health goes bad, trying somehow to justify this self-survival business. So we have the individual looking out for self and feeling that self is Universe."

- Cite H3F interview w/Dr. Michael Bruwer; Chicago, IL: 16 Feb±78
Hunan Beings *ic* Complex Universe: (4)

"The concept of 'Unity is plural and at minimum two' opened up the field of quantum mechanics. Quantum mechanics really gets down to being a fourfold affair---Just like the tetrahedron. It was a recognition of the complementarity. I say I have a rubber glove on my left hand. I have only one rubber glove. It is red. I turn the Vim of it down and see that it is green inside. I gradually roll it off and no longer do I have a left-hand rubber glove. How it fits my right hand only. The left hand has disappeared. I find there is always the rest of the Universe to complement this. This hapiened to be tuned-in.

"If the rest of Universe is tune-in-ablebut is not at the moment tuned in, we isolate the tuned-in set. . . and it is a very different way of talking about things: not just space, but actually tuning,

"I find myself operating in terms of tuning---tune-in and tune-out. That has a very great deal to do with sanity and mental health. You realize that there is the rest of the untuned-in; and each one of us tunes in little special episode programs of a great Scenario Universe, each one of which is"

- Cite RBF interview w/Dr. Michael Bruwer; Chicago, IL; 16 Feb*78

‘ ’built into the big one but is not the big one. It is just a manifest of the bigger one and so we are tuning in special programs. When we get enough programs we begin to get an idea of what the whole of it is all about. You get this sense of some of that relationship: synergetics.

' 'Well, out of the net of all the things that I have given you, I have given you that unity is plural and at minimum two, and I am talking about relationships. . . it is that interrelationship of the twoness which is what the human mind is able to go after and from time to time to discover relationships---the actual mathematics of it. Every human being has this capability potentially.

"But nature doesn't have too many of these principles to be discovered. What the little child is trying to do---immediately-- is it wants to understand. It is trying to understand the relationship between the stars and the smallest things, between the macro and the micro, and the parents don't help with their continually saying 'never'mind about that, just pay attention to the separate things.' So we immediately take the child away"

- Cite R3F interview w/Dr. Michael Bruwer; Chicago, IL; 16 Feb'78 "from the sane, from the absolute balance of trying to understand the total interrelatedness. . . Whew! the parents say, 'No I'm just going to give you a spot, a special thing to look at.

Q: "What about the emotional aspects of mental health?"

RdF: "That's the side where we have humanity. Humanity is in a Universe which is inherently complex. It does have 92 chemical elements, and not just hydrogen. Darwin came along at the time of Dalton. Dalton was a great physicist. We thought he was going to be able to make all of the chemical elements out of hydrogen, so it was logical for Darwin to think about the building block as a single cell which would get more complicated gradually, and by mathematical probability would gradually get us into something as extraordinary as human beings.

"But I know now and see now that Universe is inherently complex, that is, it does have a plurality of principles like optics, and gravity, and so forth. There is some interrelatedness of them,"

- Cite RBF interview w/Dr. Michael Bruwer; Chicago, IL: 16 Feb'78

RdF DEFINITIONS

but they are really separate principles. There really is a number one, and there is a number two. The prime numbers are unique behaviors. There is a minimum of a fourness of vertices of that insideness and outsideness in order to have a system and to have thinkability. Where there are four points there are six relationships between them. So the number six brings in the prime number three---and the prime number two is in the vertexes. Prime numbers are unique to what I call primitive experience and minimum experience.

"You can't have a system of less than four points that divide the Universe into insideness and outsideness of the system. The number four is the beginning number and not the number one. Unity is plural and at minimum two. There is a minimum of four vertexes, a minimum of six basic relationships that are the tetrahedron: the six degrees of freedom each have a positive and a negative so you have the twelve degrees of freedom right there.

"A little child represents the human being designed by Universe to have the very important function of being a local information gatherer and a local problem-solver, and gathering that information in greater and greater ways from the

“ Cite RBF interview w/Dr. Michael Bruwer; Chicago IL; 16 Feb'78

”microcosm and macrocosm, getting information from an incredible 11i-billion-light-years-around sweepout. . . optically and photographically.

”Hunan beings are here as a function of Universe. We have to find our way and be sure that we develop. We are born naked, helpless, and ignorant with hunger, thirst, and procreative urge—and curiosity to drive us to make mistakes. We learn gradually by trial and error what works and what doesn't work. And we invent words to be able to intercommunicate our experiences about what works and what doesn't work. This is a tremendously important sequence of events taking place. We are at the point Where we have 150,000 words in the Oxford dictionary”, making it clear that human beings have agreed to those 150,000 nuances of experiences that are so unique as to

require their own word. That we have agreed on all that seems to me a great victory of man because it is very hard to agree on fundamentals. Here we have an enormous accomplishment and capability to interact. This enables us to integrate experiences of both those of us alive with those of us of the past who are dead'—through their”

-Cite RUF interview w/Dr. Michael druwer; Chicago IL: 16 Feb'78 "writing. Humanity has gotten to some kind of a point here where there is enough information that we can be bom into better functioning. Our ultimate functioning is to be as a local problem solver.

"I saw that nature, in order to get us through making all those mistakes, must be sure that we continually repeat ourselves so she built in a very powerful sex urge.

"No human being would ever design themselves. I have checked this with kids in school, and have said 'If you had to go to the supernarket and pick out your own liver and your own stomach and your eyeballs, and the whole works, it would look very gooeey to you. You wouldn't think of hanging them up on a skeleton; and you would have no proclivity to have a sex urge with other complexes of similar equipment.* So nature then deliberately put a single skin over this—a most economical skin and made it opaoue so you couldn't see all the machinery, and made it seem like all this oneness. It would be hydraulically structured so that the water wouldn't freeze. Nature was using the by-product heat to keep it at just the right temperature, and keep it warm and smooth so”

-Cite RBF interview w/Dr. Michael Eruwwr; Chicago IL: 16 Feb'78

Hunan beings 6- Complex Universe: (10)

”people get the urge to actually cohabitate. I think it was an enormous design accomplishment of nature to take the complexity of the quadrillion atoms in our brain and get all that much activity and make it all look so simple: really like a China doll.

’Nature gave us proclivity to reproduce—until we were sure we had enough information so that we wouldn't have to produce so many more. She wanted to be sure that we would learn about principles, as we ar*¹ now, so that we can double our life expectancy, and maybe even learn how to replace all the parts—and just have a continuous human being. . . I don't know. . . a continuous human being may be coming into the picture.

“We are discovering that the human is not the organic, but that we are the metaphysical—the mind, looking at relationships which are not in or of the parts but are just relationships between the parts.

”Mind is very, very different from the brain which is part of the physical, with the physical always being temporal, limited”

-Cite RBF interview with M. Bruwer; Chicago, IL; 16 Feb'78

Hunan beings k Complex Univerge: (11)

"case, having beginnings and endings. Brain wants explanations of how the Universe begins and ends. But mind is discovering these eternal principles and deals in eternity instead of temporality and the terminal; it doesn't have to have a beginning and an end of Universe at all. It just has to find relationships existing between. . . whatever is the mind in part of us, the metaphysical, is this relationship existing, but is not in the parts by themselves---that we are something apart from it, like the tuned part. The physical and the brain part are all that blah that is tuned in. You and I are really the non-tuned-in, the totality, the only capability that can tune in all the different ones. We are on the eternal side.

"So I see that humanity really is immortal, but I see us confused about life. We think of life as being physical. We said 'animate and inanimate.' The inanimate was clearly a cold hard stone and the animate was clearly warm soft flesh. . . . the warm soft lily petal, or something like that, if it was animate."

-Cite RBF taping by Dr. Michael Bruwer; Chicago, IL; 16 Feb'78

Hyman Beings, k coinpiex UnlYgrae: U 2)

"We have human beings gradually then, thinking that life is physical; and then gradually getting into chemistry, physics, and biology, and separating these things out, and finally in the biology discovering controls in the design, getting into genetics and the chromosomes, and finding that some of these controls brought about blue eyes. . .and so forth.

"We began to have accelerated generations of other living creatures from which they could make observations to see if by marrying these two---to see what kind of results we could get. Fruit flies work very well; and the tobacco mosaic virus. In that world of viruses and the protein shell where they discovered the DNA/HNA in a world of virology where we have physicists, geneticists, biologists, and mathematicians--and all of them excited by the results they are getting--so excited with the results that none of them are tending to philosophize.

"They are all so specialized; they don't tend to look at the total significance of it. What had always been thought of as a clear threshold between the animate and the inanimate... but at that level of virus you can call the whole show purely atonic: You could call it purely crystal, absolutely inanimate.

-Cite RBF taping by Dr. Michael Bruwer; Chicago, IL: 16 Feb*78

"The point of it is that you came to it from biology. Studying the controls of the design of this equipment, you said life is the equipment. Because you came in from there you are assuming that this is somehow still animate, whereas everything that you have found is inanimate, --that is inanimate has become clearer and clearer; and what is animate has become less and less clear. So we finally get to where you find that we consist completely of atoms—and that atoms are completely inanimate, and so that whatever you are sumtotally is completely inanimate.

"This brings me around to the error man made thinking that life was the equipment used. I have developed an analogy where we have a friend who saVs 'I have this other friend who you would like very much. I would like the two of you to meet.* So our friend introduces you over the telephone.... You get to know each other very well, but you have never met: it is always over the telephone.... This begins to be the oldest friend you have, but you have never seen him.... All you ever know about Joe is over the telephone. We have been misidentifying ourselves. Obviously, the telephone is not Joe."

- Cite RJF taping by Dr. Michael Bruwer; Chicago, IL; 16 Feb'78 "We have been misidentifying the regenerative transcievers as being the equipment; we have been identifying ourselves as being it instead of being the metaphysical.

"I am now getting to the point where I see that life may carry on and not have to reprocreate. As a consequence of much that is going on in our day, like all of the homosexuals, all of the male and female, are simply nature doing this. I think it was very deliberate when you began to see the boys with their long hair, and you couldn't t^{tr}ll whether you were looking at the boy or the girl. Nature is really cutting down on the proclivity for making babies. About the same time she gives human beings the ability to discover the pill, and so forth. It became perfectly clear that nature is now... that much of what may be considered as being off balance and so forth, is that nature is deliberately cutting down on the proclivity to procreate...,"

"What I did like was the idea in relation to health. We don't have the special built-in artifacts that other creatures do.

We learn the principles and then we make the artifacts separate from ourselves. We are not living in a Universe that is linear. We are living in an omnidirectional Universe of"

- Cite RBF taping by Dr. Michael Bruwer; Chicago, IL: 16 Feb'78

Human beings & Complex Universe: (15)

"convergence and divergence. We are at the center. There is no way we could design improved human beings because you can't improve upon the center. If we were linear, you could make it a little further out or a little higher, but you can't improve upon the center.

"I don't expect anything to happen other than to take people who have been aberrated and get them back into the center.

I think that every day when we wake up we get aberrated into a special set of patterns, What I call sleep is allowing us to retract all the aberrations and get back to center again. I learned it was a pretty good idea when I was going to sleep to try to review all the problems I have because when I wake up, I may have some of those answered. That has happened many times. I say before I go to sleep, I am going to do this kind of thinking about the great integrity of Universe itself and try to understand why we are here and to understand that there is a greater intellect operating than you and I and we don't have anything to do with it at all. I think that may help to get me back to center, even before going to sleep. With that out of the way, I will get back to normal more quickly."

- Cite R3F taping by Dr. Michael Bruwer; Chicago, IL; 16 Feb'78

See Individual & Group Principl

"You are so much liquid. You have to know this to understand human beings. The only difference between ourselves and hard, cold machinery is that we also have these metabolic processes processing energy to be regenerated and these have a byproduct heat of 98.6°. It's as if you put a natural heater into the tree so that its liquid wouldn't freeze, so it wouldn't crystallize and break off. So that when you and I run into each other we don't get too badly hurt... Hydraulics, and pneumatics, and the heating so you're not going to freeze up. That's

what we have here. That's what makes us seem different from the hard machinery, where we're only doing it in pure compression. So nature has simply gone considerably further and doing a much better design by using this load distributing capability.'

- Cite Univ, of Alaska Address, p.28, 20 Apr '72

flHV Human Beings fc Hard Machinery:

"It was deemed to be common sense that warm-blooded, moist, and soft-skinned humans were clearly not to be confused with hard cold granite or steel objects."

- Context at Animate and Inanimate Sequence (A), 13 Nov*69

Hunan Beinen k Hard Machinery:

(1)

See Humans as Machines

Animate it Inanimate Sequence Cartilage vs. Bone Flesh: Animal
Flesh

Human. Balnm * Hard I'ACHlncr/:

See Load Distribution, 1} Dec' Scrap Sorting i Mongering

<2 >

73 (3)(4)

See Body as Mechanism

See Human Design, 5 Jun'75

Synergy, 20 Feb'77

Human Beings ic, Complex Universe, (9) (10)

Human Design?

"...The human design as received on planet Earth starts with optimum Inclusion of general adaptability; ergo, humans cannot be fundamentally improved upon physically."

- Citation k context at Human Mind k Physical Evolution, (1), 5 Jun'75

Human Ecology Transformations:

"The unheralded human ecology transformations have developed only as inadvertent, unanticipated interactions of individually undertaken uncoordinated inventions..."

- Citation and context at Inventions as Ljfewavs of Human Behaviors,. 1965

Hup*n Ecology Transformations:

See GeosOcial Revolution. (1) Space Technology, (1j(7)

Human Events:

" • • • The irreversible succession of self-regenerative human events Experiences, intuitions, experiments, discoveries and productions.

- T5raft~Teb~71 , p. fj .

- Citation at Irreversibility_TFeb'71

Sea Early Man

See Space aa Nontuned Angle &. frequency Information,

22 Feb'77

See Outbound Packaging of Human Food Waste

Sec Humane as Machines

See Awareness, 10 Feb'73

Human Life-hour Production:

See Hour: Human L^xfe-houra

IB Humans as Machines; (1)

"Man?

"A self-balancing, twenty-eight-jointed adapter base biped; an electrochemical reduction plant, integral with segregated storages of special energy extracts in storage batteries, for subsequent actuation of thousands of hydraulic and pneumatic pumps, with motors attached; 62,000 miles of capillaries; millions of warning signals, railroad and conveyor systems; crushers and cranes (of which the arms are magnificent twenty-three-jointed affairs with selfsurfacing and lubricating systems, and a universally distributed telephone system needing no service for 70 years if well managed); the whole extraordinarily complex mechanism guided with exquisite precision from a turret in which are located telescopic and microscopic self-registering and recording range finders, a spectroscope, etcetera, the turret control being closely allied with an air conditioning intake- and-exhaust, and a main fuel intake.

"Within the few cubic inches housing the turret mechanisms, there is room, also, for two sound-wave and sound-directionfinder recording diaphragms, a filing and instant reference system, and an expertly devised analytical laboratory large enough not only to contain minute records over every last"

- Cite I Seem to Be A verb, Queen, Pay '70

"and continual event of up to 70 years' experience, or more, but to extend, by computation*, and abstract fabrication, this experience with relative accuracy into all corners of the observed Universe. There is also a forecasting and tactical plotting department for the reduction of future possibilities and probabilities to generally successful specific choice.

"Finally, the whole structure is not only directly and simply mobile on land and in water, but indirectly and by exquisite precision of complexity, mobile in air, and. even in the intangible, mathematically sensed electrical 'world,' by means of the extensions of the primary integral mechanism to secondary mechanical compositions of its own devising, operable either by a direct mechanical hook-up with the device, or by indirect control through wired or wireless electrical impulses."

- Cite 1 SEEM TO BE A VERS, Queen, May '70 (Not in Bantam version)
- Cite i.inu C1U1..S Tb THIL J.UUU, pp.18-19, 193

See Man as an Invention

Body as Mechanism

Human beings 4. Hard Machinery

Life's Temporary Vehicles

Human Instrument Vehicle

Sensing, Storing & Intuiting Device

See Machines. 1970

Man, Oct'66

Humans Are One-thousandth, of a Kile Tall:

See Spaceship Earth, (d)

Twelve-inch Steel World Globe, (1)

"Goldy points out that the initially regenerative organismic equipment of any biological species, including that of humans, can be inbred to concentrate the programmed probability of dominance of certain behavioral characteristics in the offspring; and that the human design as received on planet Earth starts with optimum inclusion of general adaptability; ergo, humans cannot be fundamentally improved upon physically,

"Humans are not only halfway between the largest and smallest known biological species, but are distinguished from all other biological species in that all other species have predominant 'built-in' equipment, giving them special physical performance advantages in special environments. Humans can only be protected, supported, and accommodated more effectively by human mind's capability to employ abstract principles wherewith to invent and produce various artifacts that will permit humans to cope with evolutionary changes of the environment, within which, the humans are to function.

"Goldy shows that the modification of the biological organisms by the inbreeding through concentration of special-type genes---"

- Cite GOLDYLOCKS, p.K7, 5 Jun'75 "for instance, by the mating of two fast-running horses— increases the mathematical probability of offspring with such specialized fast-running physical behavior excellence. Species, which progressive reduction of general adaptability always lead toward eventual extinction of that species when those bred-out, infrequent, extreme environmental conditions, adaptability to which had been sacrificed with the inbreeding, do occur.

"Goldy also points out that inbreeding experience shows that human organisms could be progressively inbred to attain high probability of retaining only tree-branch-swinging simian characteristics and capabilities in the offspring, while concurrently outbreeding many of the comprehensive range of human faculties and capabilities. This would require the provision of a complex of sghrted-out, ecological environment support devices, or biological species whose operative presence permitted the unique specialization within the generalized cosmic complex of chemistries and frequencies of eternally regenerative Universe.

"Goldy then pints out that, on the other hand, there is no"

- Cite GOLDILOCKS, p. K8, 5 Jun'75

"breeding experience of Earthians which suggests that the limited inventory of different chemical elements constituting amoebas could be progressively amplified and complexed to produce the wide variety of chemical elements constituting the unique information-harvesting organisms employed by metanhy- sical humanity,

"On the other hand, humans have been able to separate out and transplant hearts, kidneys, blood, skin, bones of humans, sometimes substituting mechanical devices for keeping the separated-out human constituents separately alive by remote complementary inter-functioning devices. Originally integrally complex human functions could be multiplyingly deployed into a plurality of intercomplementary functioning devices, organisms, and creatures. It is implicit that amoebas and other simple organisms can be progressively, subdiviasionally isolated out of complex organisms such as those of humans and Introduced into an intercomplementary ecological environment-sustain!ng complex, but not vice versa, Goldy says Darwin's evolutionary sequence, was brilliantly conceived, but its occurrence programming was in inverse of reality,"

A

- Cite GOLDYLOCKS, p. K9, 5 Jun'75

"Humans are as complex as Universe. Each human is one way in which all the potential intertransformabillties, decrees of freedom, and frequency variables could eventuate, provided all the other complementary evolution events of Universe had been concurrently transpiring.

"As partially noted previously,¹ Goldy says, ` the complex physical organisms employed by exclusively metaphysical humans differ from all other species in that all other species have highly specialised, built-in, special functioning equipment integral with their unit organisms which provide special capabilities in special environments, whereas the human organism lacks any such special integral equipment for functioning in special environments.

"Many creatures have brains. Brains always and only coordinat- ingly apprehend, store, and recall, only the special-case input information provided by humans' senses: smelling, tasting, touching, hearing, seeing, and possibly an ultra-high-frequency electromagnetic wave tune-in-ability. Brains of all the brain- equipped creatures always and only apprehend, memory-bank, and reconsider the special case information sense-harvested from"

- Cite GOLDYLOCKS, pp. K9,K10, 5 Jun'75
their succession of special case experiences.

"In addition to their brains* special-information apprehending, storing, and retrieving capability, the metaphysically operative humans have minds which have the (only-intuitively-triggered), exclusively unique capability of discovering the synergetic, weightless,covariant, complex interrelationships always existing only between, but never in, any of the separately-considered, special case phenomena with which the brain is exclusively preoccupied, Human mind not only can discover the weightless, abstract, only-mathematically-statable, generalised scientific principles governing physical behaviors of Universe, but human mind can also use the generalized principles to produce the special case technology with which to cope successfully within any special case environment, and do so more effectively than can those creatures with special-environment-adapted, integral equipment.

"Bernoulli's discovery of the principles governing behaviors of atmospheric pressure differentials, which led to comprehension of the negative-pressure lift produced by motion through the air on top of a wingfoil, which eventually made possible"

- Cite GOLDYLOCKS, p.III, 5 Jun*75 "human wingfoil flight 40 times faster than that of birds. When, however, humans are not using their mind and intuition-discovered equipment, can detach themselves from that equipment, and, unburdened, can make that equipment available to others. Generalisation-informed human minds can deal with any special environment, but in order to do so have developed a myriad of detached-from-self tools and devices with which to operate more successfully, not only in all the known special environments around our planet Earth's surface than can any of the many known creatures especially and integrally equipped for operation in those special environments, but also occurring outside the Earth's biosphere in 'general space' and on the airless, waterless Moon where no other only-integral-species can survive. All of humanity's nonintegral, special environment operations equipment may be employed interchangeably by all humans. Goldy remarks that apparently humans' minds have the potential capability of technically advantaging humans in sufficient degree to permit their eventual, safe, and progressively informing exploration of any and all physical and metaphysical environments in local Universe. "Since 'life' and its comprehending mind are only metaphysical, weightless, sizeless, and immortal, there are no physical environmental conditions within which it cannot cognitively prosper."

- Cite GOLDILOCKS, p.K11, 5 Jun'75

"For these and other reasons, Goldy assumes that the only-from-mind-to-mind communicable, abstract, weightless, synergetic, pattern integrities, with which the minds of exclusively metaphysical human life operate is utterly transcendental to any physical evolution transformability. In confirmation of this, Goldy notes that when human organisms are declared dead, all the physical chemistry misidentified by scientists as constituting the prime ingredients of human life

are as yet present, ergo, those who speak of the 'chemistry of life' are, unwittingly, self-misinforming. Life is not chemistry. Life is not physical. Life is indestructible, immortal, eternal. Life is only weightlessly-and oraniinvisibly present."

- Cite GOLDYLOCKS, p. K12, 5 Jun'75

See Man's Conscious Participation In Evolution Intellect in Physical Universe

Human Organism:

"Human organisms are Universe's Most complex local technologies.

- Cite Dreyfus Preface, "Decease of Meaning

28 April 1971, p. 2

See Electromagnetic Transmission of Human Organism

See Human Mind & Physical Evolution, (3) Subconscious, 20 Feb'7?

Kwn fignao Ponging AD^d XnfgnpUgn Gathering:

(i)

Radius of Static Ranging: Dynamic Velocity:

Tactile 1/1000th of a mile 10 miles per hour

Olfactoral 1 mile 400 miles per hour

Aural 100 miles 1100 miles per hour

Visual 6,000,000,000,000,000 miles* 700,000,000 miles per hour

r* One light year is six trillion miles and humans see Andromeda with naked eye one million light years away, which means six quintillion miles. J

"If we try to plot two curves of these static and dynamic human sensing capabilities on a chart, we will have no trouble in positioning the first three senses;

but to reach the point on the chart at which the sight capabilities occur, we will have to take an airplane and fly for many days to reach those positions. It is clear that as we recede from the first three set of points, they will gradually tend to appear as one."

- Cite RBF addition to SYNEMOETICS galley at Sec. 801.09 , 22 Nov*|
Human Sense Ranging and Information Gathering:

"This disparity has not been taught to us. We were told that our senses were approximately equal and alternate capabilities. Court imposed 'damage costs' for their respective losses are approximately equal. We found out the disparity ourselves by examining the limit-case conditions, which can only be discovered by physical experience. This method of discovery is called 'operational procedure.'"

- Cite RBF addition to SYNERGETICS galley at Sec. 801.09, 22 Nov'73

See Locomotion: Radius of Kan's Locomotion

Privacy

Sweepout

Man's Universe Penetrations

Sense: Sensoriality

See Human Beings, 10 Dec'73}

Visual Symphony (1)(2)

Myopia: Incasting vs. Broadcasting, 22 Jan'75

Children as Only Pure Scientists, (2)

Hunan's Technology

See Nature's Technology vs. Humans' Technology

"I think anger is a secondary event. I am going to review something that has been going on in Philadelphia where I am the world fellow in residence in four universities and I have a lot to do with the University of Pennsylvania in particular. The head of the University of Pennsylvania Museum-- ex-Senator Clark---asked if I would be in a program they were running for the Bicentennial, called 'War and Peace.' They had a number of seminars inviting very Important people from around the world on the phenomenon aggression and they brought together those of the highest reputation... of any knowledge at all on behaviorism and aggression in the biological species.

"I summarized the last meeting we had in Philadelphia and apparently---to the satisfaction of all those participating--- I point out that as even humans, we have 30 days that we can go without food; we can go without water for only about a week; and we can go without air for not more than two minutes. If it is available to human beings they will consume two pounds of dry food a day, about five pounds of water, and seven pounds of oxygen extracted from 5L noivids"

- Cite transcript p.5 of RBF tated interview with Dr. Michael Bruwer, Ritz Carltort Hotel, Chicago; 20 Feb'77

"of atmosphere. What we use the most of, we go the shortest time without. What we use the least of, we can go the longest time without. And I think nature very deliberately gave us this long tolerance with food and water so that we would have a way to learn something.

*In behavioral science with animals we have what is called punishment and reward--and they are the thrashings and gold cups. Punishment is not getting what we need within nature's allowed tolerance of time--where you don't go panicky. And reward is getting what

you need within the period. Everything sublimely moves along and everything is O.K. and I would say human being have learned, in the behavior games of animals to find out what the animals recognizes in the way of colors and shapes and what fish do and frogs do and so forth--all by doing these experiments within the tolerable limits of which this vital supply can be had by the creature.

"I would think nature---having us all bom naked, helpless, and ignorant, and having to find our way--gave us a long tolerance on food so we would get to know our geography before we starved to death. And the ones we need the most of--the"

- Cite transcript p.6 RBF taped interview with Ur. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb`77

"oxygen--she didn't have us maneuver on that at all. The air has always been socialised and food has always been competed for--and the water many times at oases.

"So taking that basic tenet, I point out that the father and the mother with their children have gone to the theater and there is one of those horrible catastrophes, where there is a great fire. And what really happens is that the oxygen gets used up so that they suffocated. The whole theater is not burned down, but they just suffocated. And you would find that the father and the mother who would consciously give their lives spontaneously and lovingly to their children, went mad in less than two minutes tolerance without air and have run over their own children. So here is our own fail-safe secondary mechanism which is absolutely deathly.

"The father and the mother had this first proclivity, which is this very great feeling for the child before any aggressive thing. Aggression is a fail-safe mechanism to finally get life to do something very desperately. It is also very blind. So it is like that anger. That anger then, to me, is the"

- Cite transcript p.6 RBF tap»»»d inter view with Dr. Michael Druwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

H_{uren} TQlgj.anjx

"secondary trigger that comes in after we try to resolve things comprehensively in a spontaneous and logical and loving way. In other words, they are not equal and alternate--- one always comes first. If the first one is satisfied the other one doesn't occur. This function I have given you about nature helped human beings learn what they could eat and what they couldn't eat what are the tolerances of the human being, and so forth."

- Cite transcript p.7 R3F taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

"Humans are often spoken of as behaving like animals. Vast experimental study of animal reflexes and proclivities has disclosed reliable benign behaviors to be predictable when the creatures' vital necessities are both habitually and readily available well within critical limits of safe, healthy input periodicities of the chromosomal and DNA-RKA optimum metabolic processing of the subject species creatures.

"Such scientifically conducted zoological behavior studies use the words reward and punishment. By the word reward they do not refer to a gold medal. Their word punishment does not refer to whipping. The animal behavior scientist's word reward means that the creature is acquiring the vital lifesupport chemistries of air, food, and water well within the critical metabolic timing tolerance. Punishment, to them, means that the creature's subconsciously generated hunger, thirst and respiratory instincts are not met within comfortably tolerable time limits, whereafter the creature panics;

its original subconscious, spontaneous, Innate trust that its environment will always provide what it wants and needs'*

- Cite SYNERGETICS, 2nd. Ed. At Secs. 181-182; 17 May '75 "exactly when it is needed, having been violated, the creature panics and forever after its behavior pattern becomes unpredictable.

"It is clear that with the pushing of the panic button a secondary set of subconscious behavior controls has been activated. It is one of comprehensive anticipatory design science's selfdisciplined responsibilities always to include fail-safe, automatically switched-in, alternate circuitry of mechanical functioning whenever a prime function facility is found wanting. When a series of failures has blown out all the alternate circuits' fuses then a sense of lethal frustration sets in which is identified as panic. Once panicked, the individuals--- creatures or humans --- tend to trust nothing and their behavior then becomes utterly unpredictable. They become spontaneously suspicious of their environment in general and prone to be spontaneously hostile and aggressive.

"When they are aggressive, or even worse when they panic, both humans and animals demonstrate a subconscious drive only for self-survival. For Instance, when a great theater fire disaster occurs and the fire quickly exhausts all the oxygen,"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 182-18L, 17 May* 75

"people suffocate within two minutes. When the fire is over and many of the human dead are found Inside unscorched, their death having been caused by suffocation, we discover that the otherwise loving fathers, lost personal consciousness and stampeded over their own children crushing them to death--- the children for whom the conscious fathers would gladly have given their lives a hundred times over.

"This frustratedlv insecure or panicked animal iurvival drive is not a primary human behavior; it is an only secondary and subordinate "fail-safe" behavior that occurs only when the very broad limits of physical tolerance are exceeded. When it is available, humans consume about two dry pounds of food daily as well as five poundd of water and seven pounds of oxygen, which their blood extracts from the 50 pounds of atmosphere that humans inhale daily. Humans can go 30 days without food; seven days without water; but only two minutes without air. With 30 days tolerance humans have plenty of time to decide how to cope with vital food problems; with only a week's waterless tolerance they have to think and act with expedition; with only one-and-a-half minute's oxygenless tolerance they rarely have time to think and cope successfully. Because the"

- Cite SYNERGETICS, 2nd. Ed. at Sec. 184-185, 17 May'75

"substances that humans require the least can be gone without for 30 days, nature has far millions of years used humans' hunger and the fertility potentials to force them to learn by trial and error how most competently to solve problems. But because more than a minute or so absence of oxygen, of which humans use the most, could not be tolerated, nature provided the air everywhere around the world and in effect 'socialited' it.

"As long as the 30-day, seven-day, and two-minute tolerances of food, water, and air are not exceeded, humans* minds tend to remain in ascendance over their brain-reflexive s ensing end people are considerate of their fellow humans. When the human is stressed beyond these tolerable limits, then the procon- ditioned-reflexing brain function takes over from the thoughtful, loving, orderly reasoning of mind and the SfccondarWy utterly thoughtless behavior occurs.

"It is at least scientifically plausible, and possibly even scientifically validated, to say that not only all humans but all creatures are designed to behave spontaneously in a benyij manner and that all creatures have toleration limits"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 185-1*7, 17 Fay'75

"within which they continue to function with subconsciously spontaneous amiability, but that many have been stressed and distressed beyond those limits early in their lives and consequently have developed aggressive, belligerent, or outrightly nad proclivities. This is not to say that this switch by both creatures and humans from dominance by their primary proclivities to dominance by their secondary proclivities is an □ irreparable condition of life on Earth. Though humans as yet know little about complete repair of their innate propensities there are promising signs that such cures are not beyond human minds' successful attainment."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 187, 17 May'75

See Environmental Events Hierarchy

Enough to Go Around

Fire: Fan T, ampling His Fellow Wen to Death in a Fire Fire in a Theater

Scarcity: Not Enough to Go Around

See Tooling of Domes, (1)(2)

Kama VnMttlcmgnt • (i)

"World War I was called World War I because the stage on which it waa acted was an historically unprecedented and entirely new world-around involvement. All previous wars of humanity related to food-producing lands. The farm boys were taken from the farms to

fight the battles. All the food produced was taken from the farms for war support. The warring troops trampled down the farms. When the wars were over, everyone had lost. War Id War I was called that because it related not to the food-producing lands but to the metals which produced tin cans and refrigeration which effectively conserved, preserved, and facilitated food production and produced steel steamships with which to effect the food's world-around distribution; which metals lay all around the world and rarely under the farm lands--- all of which world-around metal ore lands were involved in' the production of the new inanimate-energy-powered production machinery. (One telephone instrument employe metals from three continents of our planet.)

"When World War I was over, the copper in the electric generators and motors did not rot as did the pre-World-War-I faro produce; nor did the copper return to the mines."

- Cite ACCOMODATING HUI'AK UNSETTLE! uiKT, p.1 5; 20 Sep'76

Hunan ungotUcnicnv

(2)

"Th® electric generator# hooked up to the waterfall# kept producing electricity and the overland wire# kept distributing that electricity to mass-production factories and human homes. Energy is the essence of wealth, wealth being the organised capability to support life.

"When World War I wa# over, all the metal-producing capability and energy generation persisted. In contradistinction to Previous war# there was an enormous wealth gain by humanity.

his high producing capability went not only into automobile#, but into farm machinery. It reduced the 90 percent of humanity necessary on the farms to six percent. Those not needed on the farms migrated to the cities. The canned or refrigerated food could now

reach them anywhere. The new technology and its mass production under controlled environmental conditions made the old building craft technology--- operating under noncontrolled-environmental-conditions--- fundamentally obsolete; but the conditioned reflexes of humanity and society's preoccupation with the many accepted ways of earning its living obscured the fact that the World War II-initiated mass-production technologies of the sea and sky had unexpectedly rendered the old building arts completely"

- Cite ACCOMODATING HUMAN UNSETTLEMENT , pp.15-16; 20 Sep* 76
Human unacted upon.- (3)

"obsolete. World War II took humanity's technology into the sky and deep into the ocean and eventually into outer space. These latter arts required an enormous step-up in doing more with less in order to make all logistics flyable, rocketable, or electromagnetically transmittable.

"Subsequent to World War II it was found that all the metals of all kinds involved in the general technology of humanity were being consistently melted out of their old use forms on an average of every 22 years and became reemployed with an interim gained know-how to accomplish a far higher performance per pound-, erg-, and hour-technology for many times the number of humans served on the previous round. Japan became one of the world's greatest industrial countries without any mines for they employed only recirculating scrap. The 50-years-earlier-doomed building arts prototyped by yesterday's fortresses became clearly obsolete as ways for humanity to cope with ever increasingly new environmental confrontations and the automobile's uprooting of theretofore exclusively-locally-living humans.

"In pre-automobile 1900 USA cities and factory towns, only the rich owned their houses. There were official fall and" - Cite ACCOMODATING HUMAN UNSETTLEMENT, p.16; 20 Sep'76

Human UnafUlemeia? (4)

"spring 'moving days' when the average US urban family moved from one house to another house, but only within their same home town--to more or less expensive rentals according to their changing means. With the advent of the automobile

between World Wars I and II, workers could reach their factories or offices many miles away---could hunt and find better pay. Money-making corporations seeking to reduce labor costs by instituting automation, and opposed now by ever- more-effectively-organized labor, moved their factories to faraway out-of-town locations. The workers followed. Human families began to move out of town into new industries. In 1950 the average American family, both farm and urban, was moving out of town every six years. In 1975 the average American family was moving out of town every three years. Humans with legs to move were freeing themselves from the rooted dwelling patterns imposed by the roots of their earlier agrarian era. Human settlements had been inherent to both the agrarian and mill town eras. Now human unsettlement was occurring. Using marine life analogies, human life was graduating from its barnacle and coral era and was entering into its heavily armed, crab and lobster crawling-about stage---but here and there graduating into its free-swimming age."

- Cite ACCOT 2-ODATING UbiN UKSLT. LEI TENT, p.16; 20 Sep'76
Human Unsettlement;

"As World War I began in 1914, the average American walked 1,100 miles a year and rode 100 miles a year in some vehicle. In 1976 the average human in the United States is still walking 1,100 miles a year, but is averaging 20,000 miles by vehicle.

"There were no airplanes in 1900., In 1976, the human traffic going in and out of the airports is greater than the human railway traffic of 1900.

"Because of the historical! well known obstacles to such an exclusively science-fiction idea as that of 'travelling around the world in 80 days,' or any number of days, the concept was held to be practically impossible. However, the turn of the century advances in steamships and railroads changed the situation. In 1910, the retiring Harvard President, Dr. Eliot, made a trip around the world which all the world's newspapers followed reporting every incident of such an extraordinary human venture. In 1976, a large proportion of all the college graduates in their 20s and 30s have become world-around citizens. Ninety percent of the 1900's world humans were illiterate. Ninety percent"

- Cite ACCOK.ODTAING HUI-IAK UKSETi LuXNT ,pp. 16-17; 20 Sep'76
RbF DEFINITIONS

"of 1975's world humans are literate, (then President

Eliot retired from Harvard in 1910, only four undergraduates owned their own automobiles. In 1975, *11 university campuses are vast parking lots.

"This is why Vancouver's Habitat was an historical watershed. It was the end of human settlement----in exclusively local geography and in major poverty. It was the beginning of the era of local geographical unsettlement and transition into the historically unprecedented and utterly unexpected condition of all humans-successfully-at~home~in-Universe."

.Cite ACCOMODATING HUMAN UNSETTLEKE1IT, p.17; 20 Sep'76

Human Unsettlement:

See ACCOMMODATING HUI-AN UNSETTLEKENT, 20 Sep* 76

See Unsettling vs. Settlements
Cross-breeding World Kan
Homogenising of Nations
See Montreal Expo'67 Dome. (B)
Building Industry, (6j

See Acres Per Individual Human Being Average Human Being Ex-
traterrestrial Humans Helpless: Humans Born Helpless Individual
Man

Metabolic Gears of Humans tfomb of Total Human Consciousness
Tools are Part of Human Beings Trees vs. Humans

Marine Life Analogy of Humans Local Information Gatherer

See Aberrating, 23 Jun'75

Animate & Inanimate Sequence, (A)*

Between: VE as Between-ness Model, 5 Nov'72*

Bundle of Experiences, May'49*

Crystallines 9 Dec'73

Conceptual Limits, 22 Jun'77

Ego, May'49

Environment, (A); 22 Sep'73*

Equilibrium, 25 Feb'69

Generalized Principle, (B)*

Individual Universes, (2)

Inventions as Lifeways of Human Behaviors. 1965* Irreversibility,
Feb'71*

Machines, 1970

Metabolic Flow, (1)

Metaphysical Wave Patterns, 6 Nov'73

See Order, Jun'69

Pattern Integrity, (A)(B)

Synergy of Synergeis, May'72

Universe, 2 Jun*?1*; 24 ilar'71*

Huron Belnga: Umana: (3)

See Human Beings 4 Hard Machinery

Hunan Ecology Transformations

Human Events

Human Evolution

Human Instrument Vehicle

Human Life-hour Production

Humans as Machines

Humans Are One-thousandth of a Mile Tall

Human Srganism

Human Sense Ranging & Information Gathering

Human Tolerance Limits

Human Design

Human Mind t Physical Evolution

Human Parts Replacement

Human Body

Human U_n settlement

Human Food Waste

Human Beings at the Center

Humans' Technology

Human Beings & Complex Universe

Humane City: (1)

"The humane city---what it might be---is a very challenging matter. Number one: we have to realize, in trying to answer that properly, that human beings are probably not on our little planet just to be amused, or to be pleased or displeased. We probably have a very important and unique function in Universe. What is unique about humans in contradistinction to any other phenomenon we know is their minds.

"So I would say that a humane city would have to give the human beings the time and the ease with which really to use their minds and not just their muscles. I don't think you could possibly design a humane city if you designed it on the basis of how are you going to make money out of real estate. You would quite clearly have to try to accommodate human beings on our planet who are all becoming very rapidly world-interested world citizens; and they are going to continually deploy for various experiences around the world; and they are going to converge from time to time---converging as we are here in this city.

"So they are not going to have a city ever again where it is"

- Cite RBF at "Town Meeting of the Air," Kennedy Center, Wash., DC; 10 Sep'75

Humane City: (2)

"designed for people to be put and stay there throughout their whole life. All of us are going to be very transient with a higher and higher frequency of transiency.

"In order then to have the really satisfactory-to-humans city, we'd have to solve many other problems, particularly assessing the methods by which human beings account their energy---account their wealth. I am convinced that humanity is incredibly wealthy today. That is, that it has the know-how to take care of all of humanity at the highest standard of living that anybody has ever known; but it is preoccupied with long, age-held misassumptions that there is no where nearly enough to go around, nowhere nearly enough resources to support all human life. It has to be you or me. World society is spending \$200 billion a year for the last 20 years on the wastefulness of getting ready for war---just to destroy each other; and this increases the scarcity of effective life support.

"I think then, to bring about the ideal city for humans, you would have to bring about a gradual accommodation of what we are here for--or else I think we're not going to stay on this* planet very long anyway. That is, you would have to really"

- Cite RBF on Town Meeting of the Air, Wash., DC, 10 Sep*75

"accommodate this extraordinary intellectual and mental capability of humans. Inasmuch as we're all here for problemsolving with those minds, it will not eliminate problems but the local problems of the Universe or something other than the questions of jdst how we might get on. Such a city would get completely away from the idea of inventing jobs just so people will have life-support buying capability. We will not waste those extraordinary amounts of gasoline just getting to work and away from work. We will not waste a great deal of the resources of the Earth for invented jobs, for invented ways of getting life support distributed.

"So I'll simply say... My statement is that the ideal city can be designed, we know how to do it technically. Whether we realize this... it will be a question of how rapidly humanity gets over its age-old preoccupations and arrives at a proper way of accounting their wealth and know-how, for that is what real wealth is, accrediting the enormous energies we have in a way that can take care of everybody, in a way that we already know how to do. I think that would be the humane city with its high potential of real success for all."

- Cig 1'75 "National Town Meeting of the Air, Wash.,DC;

Humanity:

Q. ..'hat will you be best remembered for? What are the
major influences on your life?

RBF: "It is a humanity breakthrough, not me. I have

enormous indebtedness, but no favorites. I like all humanity."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb'75

Humanity:

"Universe is the aggregate of eternal generalised principles whose nonunitarily conceptual scenario is unfoldingly manifest in a variety of special-case, local, time-space transformative, evolutionary events. Humans are each a special-case unfoldment-integrity of the multi-alternated complex aggregate of abstract, weightless, omni-interaccommodative, maximally synergistic, non-sensorial, eternal, timeless principles of Universe. Humanity being a macro---micro Universe unfolding eventuation, is physically irreversible yet eternally integrated with Universe. Humanity cannot shrink and return into the womb and revert to as yet unfertilised ova. Humanity can only evolve toward cosmic totality, which in turn can only be evolvingly regenerated through new-born humanity."

(See Universe. 24 Mar*71 for earlier version.)

- Cite RBF rewrite of SYNERGETICS galley at Sec. 311.03, 30 Oct*73

Humanity: = Humanity: Individuals as miniature Universe, each a consequence of
a unique way of playing the game Universe.”

“ff

LJ

.Pili fTI linniTTfTiinli ~~nn-nil~~ ~~nii~~, ~~1 ff~~”, ~~—f!~~ i ~~ff~~ ~~ii~~ «?

- Citation at Miniature Universes. 13 May*73

KBF DEFINITIONS

Humanity:

”Humanity has been born without asking so to be •

- Citation and context at Pollution_f 1908

.Final Eyaq: Hunanities. Final Cosmic Exam:

See Desovereignization Sequence, (4)(7)

Fan as a Function of Universe. 30 Apr*78

Womb of Permitted Ignorance, (1)

World-around Communications Transcends Politics, (2)

IWnltr:

(D

See Commitment to Humanity

**Crisis of Humanity Destiny of Humanity Human Being Individual Uni-
verses Man**

Man vs. Humanity

Miniature Universes

Prognostication about Future of Man

Prospect for Humanity

Still birth of Humanity Success

Continuous Fan

Interlink All of Humanity

Womb: Humanity Cannot Return into the Womb Everybody's Business
Omni-humanity Unhousable Half of Humanity

See Atomic Bomb, Feb'72 bkisticg, Aug'72 Pollution, 1968 Success,
May'72 Universe, 24 Mar'71*

HsaaalW Humnltee:

(1)

See Literary Man Science: Gap Between Science & the Humanities

See Religion, 6 Jul'62

Humor;

See Light Side vs. Serioue Side of any Question Laughter Artist: Hi-
etrionice Comedy &. Tragedy of Errors Accidental Theatergoer

TEXT CITATION

Humpty Dumpty: How Humpty Dumpty Reassembled Himself:

Bxin i Mind, p.99, Nay '72

BumX-BMEEtX '

See Status Quo, 15 Sep*71

"It is said that stones do not have hunger. But stones are hygroscopic and do successively import and export both water and energy as heat or radiation. New stones progressively aggregate and disintegrate. We may say stones have both syntropically importing 'appetites' and self-scavenging or self-purging entropic export proclivities.*"

- Citation context at Life & Death. (1}, 20 May'75

Hunger:

"Nature's own simplest trick in programming is to starve us so that we will eat. That is the only kind of valving that the economists understand. . . Stones do not have hunger."

- Citation and context at Economics, 16 Feb'73

See Ecology Sequence, (F)

Economics, 16 Feb'73

See Automation of Metabolic and Regenerative Processes

Berry Picking

Hunger: Stones Do Not Have Hunger

Helpless: Humans Born Helpless

See Automation, Dec*69

Divide to Conquer Sequence, (2)

Ecology Sequence. (F)

Human Tolerance Limits, (4) Longing: Fear & Longing, Dec*69 Tactile Sequence. (2) Life & Death, (2) Helpless: Humans Born Helpless, 15 May'75 Mistake, 9 Nov*75 Pronouns: I - We - Us, (2)

Mv Hunting:

"Kan is compression. . . Man is isolated, the hunter, discontinuous. . . It all changes when hunting becomes

obsolete."

* Citation and context at Male & Female. 19 Dec'71

Hunting Men Ware Linear:

See Air Space, May*65

Hunting:

See Design Revolution: Pulling the Bottom Up, (3) Divide it Conquer.
(B) Male t Female, 1\$ Dec'71 ; 1 Feb'75 Conununications Hierarchy,
(2)

HurrXans:

(D

See Typhoon

See Environment Events Hierarchy. (3)

Wind Power Sequence, (6); (a)

Wind Stress ft Houses, (8)

Energy Involvement of 92 Elements, (2) Geodesic Domes, 24 Jan*58

Huxley, Aldous: (1894-1963)

TEXT CITATIONS

Huxley, Aldous:

Mexico '63, p. 100, 10 Oct «63

Prospects jfor Humanity, Sat. Review, 19 Sep'64

Hydraulics:

"With hydraulics you can get up to any kind of compression strength you want. We have never found any limit because it's noncompressible. And it's always distributing its loads. And hydraulic will burst anything. You can put a hydraulic pump under a great stone church and lift it just like that! No trouble at all. You lift whole highways with hydraulics. So we're going to come nov/ with this beautiful high tensile capability getting up in the millions and we're going to balance that with hydraulics. You're going to see some fantastically delicate substance coming.* I just want to introduce you to some of the strategies and evolutionary things going on when we're going to do more with less."

- Cite Univ, of Alaska Address, pp.27-28, 20 Apr *72

RBF DEFINITIONS

Hydraulics:

"When I put tensegrity octahedra together in triple bond I get polarized, three-way, independent compression weaving sets in a tensegrity matrix flat or spheroidal structure. When I associate tensegrity octahedra with 4-strut central angle tensegrity tetrahedra I get a non-polarized rigid (non-compressible liquid-like) omnidirectional 3-strut-event compressional islanding in an omnidirectional tensegrity. (To this equilibrium, i»e.. as near as possible to equilib.--- but always (plus) + OR (minus) - .*»

(N.B. Caption supplied by RBF on holograph.)

- Cite undated RBF holograph on paper of Onchiota Conference Center, Sterling Forest/ Tuxedo, Hew York.

Hydraulic Circuitry:

See Roots, 6 Nov*72

Hydraulic Containers:

See Vessel

Hydraulics:

Synergetics has discovered "the identification of tensegrity with pneumatics and hydraulics--- it's load distribution, that's the point."

- Cite RBF to EJA re SYNERGETICS Draft. Sec. 251.19, 20 Dec.

See Colloidal Chemistry

Fluid

Force-fluid

Human Beings t Hard Machinery Pneumatics Pneumatic-hydraulic

Prestressed Concrete Sequence

Fog Gun

Liquid vs. Solid Load Distribution

(2)

See Compound, 1} Kar*73

Trees, (j); (VII); (c)(d) Redundancy: Reduction Of. 22 Apr'71 .Vichita House, (2)

See Cosmic Accounting Sequence, (2) Ecology Sequence. (B): (a) Fossil Fuels, 1973 Syntropy i Entropy, 31 May'74 Radiation ys. Crystal Model, 9 Jun*75

HydroclotrU Pan:

See Gravity, (A) Industry, 1963

See Income Energy

Hydrogen;

"...The smaller and simpler, more symmetrical, frequently- occurring in Universe... for example, the hydrogen limit minimum simplex constituting not only nine-tenths of physical Universe but most frequently and most omnipresent in Universe."

- Citation and context at Regenerative Design; Law Of (3) 13 Mar'73

HjdjQKgn:

"In this system of biggest systems built of smaller systems the tetrahedron is the smallest, ergo most universal. Speaking holistically, the tetrahedron is predominant; all of which is analagous to the smallest chemical element, Hydrogen, being the most universally present and plentiful, constituting 90 percent of the relative abundance of chemical elements in Universe....*'

- Citation and context at System Totality, 7 Mar'73

RHF DEFih'ITIUNS

Hydrogen:

"Hydrogen's one convex proton contains its own concave nucleus."

Cite SYNERGETICS draft at Sed. 413.04, 29 May'72

Hydrogen Atom:

"... Humanity is indeed destined To be as comprehensively successful
Ab is the hydrogen atom..***

- Citation and context at Success, Jan'?2

See Circuit: Hydrogen i Oxygen as a Circuit

See Carbon, 8 Jun'72 Darwin, (A) Light, 26 Oct'72 Nucleus. 25
Aug'71 Proton 1 Neutron, 22 Apr'68 Heproducible. 30 May*72
Success, Jan'72* Surround, 29 Eay'?2 Twenty Questions, (1) Wind
Power Sequence, (1) Mite as Model for Quark, 3 May'77 Hunan beings
it Hard Machinery, (6)

Hydroponics;

See Now House, (4)

Hvdroaohares

See Roots, 6 Nov'72 Temperature of the Human Body, (1)

Hyperbolic Paraboloid: Four-frequency:

"A flat four-sided frame (A) can be folded to define a nonplanar hyperbolic paraboloid (B.C.D.).

"The edges of the four-sided frame are joined with lines parallel to its edges. This forms the basic grid of the

hyperbolic paraboloid. When the frame is in planar position (A) all the grid lines are of equal length. As opposite vertexes of the frame are lifted the grid lines change lengths at unequal rates. Shown here is a four frequency system which, when in closed position (E) reveals that there are two different cross lengths in addition to the length of the frame edge. Although the lengths shorten as the altitude increases there are always only two different cross lengths for a four frequency hyperbolic paraboloid. The moment the four-sided frame is no longer planar the fact of the two different axis lengths is revealed."

- Cite caption to Synergetics Illustration #75 (undated) incorporated in SYNERGETICS, 2nd. Ed. at Sec. 540.31-.32. 14 May '75

,^HHyperbolic Paraboloid¹

See Basic Raft

Cube: Diagonal of Cube as Wave Propagation Model Deliberately Non-straight Line

"The wholesale exodus of mathematicians from reality with the usual, notable, and relatively few exceptions, such as Euler, occurred simply because the mathematicians' inability to cope epistemologically with the increasing flood of emergent inter-w relatedness of physical reality which imposed many hyphens between the adjacent sciences--- of physics and biology for instance--- as the increasing specializations found themselves inadvertently overlapping on the joint thresholds of the older sciences. Leaving the weddings of

biochemists, physio-chemists, astro-physicists, et al., mathematicians plunged into the ultramorphic abstraction behind a screen of axiomatic inadequacy whose alleged 'obviousness' of unprovable first truths' were, to me, neither true nor obvious. With each advance of the physical sciences the mathematical axioms were ever less apt, even as tentative hypotheses. There was nothing wrong with the mathematicians' play once they had adopted the axiomatic rules of their game."

- RBF inaugural address, pp.5/2-5/31 First International Congress for Stereology. Proceedings. Vienna. 18 Apr'63

Hyphenated Sciences:

Science: Comprehensive Integration of the Sciences

See Responsibility, 14 Oct'69

iimsrlax=

See Industrial Hypocrisy

Hypotenuse:

"The hypotenuses actually function only as the edges of the positive and negative tetrahedra which alone permit the cube to exist as a structure."

- Citation & context at Prime Vector. (1), 19 Nov'74

Hypotenuse:

"...All the structuring of nature is probably done by rational tetrahedral increment coordination in which the XYZ coordinates also may be employed to describe the arrangements, but only in awkward irrationality because of the cube edges' inherent irrationality in respect to their cubic face diagonals* hypotenuse values, which hypotenuses are the edges of the tetrahedra in the omnidirectional matrix of vectors in the natural structuring..."

- Citation i context at Tetrahedral Coordination of Nature. 1965

TEXT CITATION

Hypotenuse - Wave:

Sec. 463.03

See Cube: Diagonal of Cube aa Control Length

**Cube: Diagonal of Cube aa Wave Propagation Model Pythagorean
Theorem**

Prime Vector

See XYZ Coordinate System {1}

Prime Vector, 19 Nov'74*

Quantum Sequence, (2)

Stabilized Vector Equilibrium, 23 Feb'72

See Askewness, 6 Nov'72

Assumptions, 1946

Halo Concept, Jun'71

I:

"I have just become by my awareness of you."

- Cite SYNERGETIC text at Sec.223.11; RBF correction to galley, 11 Oct'73

HBF DEFINITIONS

I;

"... And that brings us to us--- to humanity and to even tinier you-and-i and to Bear island and to even yet tinier again me and to yet again tinier I."

- Cite BEAR ISLxKD STUKY, galley.9, 1968

See Ego

Ego Dropout

Identity

Individuality

Matrix of You &, I Me Self

Verb: I Seem To Be a Verb Pronouns: I - We - Ue Environment: Equation Of

See Local vs. Comprehensive (2)

Individuality &. Degrees of Freedom, (2)

Ice:

"Children can learn from their remembered observation of the rotational progression of angles that the hour and minute hands of a clock have moved; that the tree and the vine have grown; and that the pond's top has frozen into ice that surprisingly floats---whereas getting colder means getting denser and heavier per given volume, which would suggest that ice should sink to the pond's bottom.

"But the crystallization of water forms a 'space frame' whose members do not fill allspace, and whose vacated space embraces and incorporates oxygen from the atmosphere---which makes ice lighter than water. The crystallization of water takes up more room than does the water in its liquid nonform condition. Crystallization is structurally and vectorially linear; it is not allspace-filling. Crystalline structurings are interspersed by additional atmospheric molecules occupying more volume (ergo having less mass); the process of crystallization cracks open its closed containers. If ice did not float, if ice sank to the bottom, life would have long since disappeared from Planet Earth."

- Cite SYNERGETICS 2 draft at S_ec. 100.022; 29 Apr'77

Ice

See Invisible Pneumatics, 27 Dec'73

"The energy conservation of a closed local system improves twofold each time the system's linear dimensions are doubled. This principle is demonstrated in stars and in icebergs. Icebergs can melt only as fast as they can import heat from their surrounding environment of air and ocean through the surface of the iceberg. The larger the iceberg, the lower the ratio of surface area to its volume or mass. However, as icebergs melt, their mass gets smaller at a mathematical velocity of the third power while their surface area decreases only at a velocity of the second power. This is to say the volume decreases much more rapidly than does the surface area so, as icebergs get smaller the amount of surface area for each unit of volume of its interior mass increases at an accelerating rate.

"Therefore, icebergs melt faster and faster and when the final piece of ice dwindles to pea size it can be seen by the human eye to accelerate to extinction. Due to the principle of energy conservation improvement with size, the larger the domed-over city, the more stable its atmospheric conditions become and at ever-decreasing cost per unit of volume.

- Cite CASE FOR A DG-IED CITY, 26 Sep '65

iceberg = Hate of Melting

Synergetics, 2nd. Ed. - Sec. 1053.76

See Dome: Rationale for the Big Dome, (B)

Iceland Spar Crystals:

See Octahedron Model of Doubleness of Unity, (1) Octahedron as Conservation & Annihilation Model, 23 Kay'75

Iceland;

"One hundred architects had invited no to Iceland. They Have a population of a quarter million, 70 percent of whom live in Reykjavik. And their parliament has a wonderful name— it's called the 'Thing.' With all their glaciers and volcanoes they live with both natural extremes and most of the rest of the world has really passed them by. The people are beautiful the men have that rough Veiking look, but with features like the Scots. They have the second highest per capita wealth. Their men live to 72 and their women to 74*. • • They just seem to have been isolated by the Xlmighty.

"And they have the best standard of living; nothing at all showy, but every comfort that doesn't show. And they Just call themselves by first names, or it might be Erik Erkson, but that would be Just for that one person and not a family name.

"Iceland was completely bypassed by all the east-westing of the ocean trade. They were the last to take on Christianity and so they started out as Lutherans, but it really hasn't caught on with them and they are reverting to paganism. We talked about how you find god yourself. No more secondhand god—that is the essence of the Iceland program."

Cite RBF ^{t0 EJA} » by telephone from Phila. office; 7 Oct'75

Icosacap:

"Five spherical triangles of a spherical icosahelron, having a common vertex."

- Cite Patent No. 2,682,235, June 29, 1954 BUILDING CONSTRUCTION

j.CQSahgtjlQIV

'"There is nothing polarized about tetrahedron or icosahedron.

.... That is to say that there are a plurality of poles, not one pole,"

- Cite HBF rewrite of 9 Jul'62 citation; Wash., DC, 8 Apr'75

ICffiahgtfrQIP

"...The transition stage of the icosahedron alone permits Individuality in progression to the omni-intertriangulated spherical phase,"

- Citation and context at Comprehension, 16 Feb'73

Icosahedron;

"There is, for instance, the minimum twentyfoldness of the- icosahedron's 20 equiangular, triangular (ergo structural), facets which constitute the highest common unit-angle, unitedge, and unit-vertex structural denominator of universal structural systems. The icosahedron encloses the most volume with the least energy investment as work or matter. Universal limits of eternal abstract principles are indestructible. The discontinuous-compression, continuous tension icosahedronal structures are utterly indestructible pattern integrities. They are employed as the protein shells of almost all the viruses. In principle, they are probably involved in the 20 enzymes."

- Cite SYNERGETICS draft at Sec. 1055.03, 2 Oct'72

Icosahedron;

"The Icosahedron, in order to contract, must be a single layer affair. The icosahedron has only the outer shell layer--- but as high a frequency as we want. The nuclear group is in a closest-packing array, but in effect vacant or vacated."

- Cite K0F to EJA, Blackstone Hotel, Chicago, 31 May 1971

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KBF DEFICIT lust.

Icosahedron:

"The tetrahedron, octahedron and icosahedron relate to physics, the internal affairs of the atom."

- Citation and context at Physics: Difference Between Physics And Chemistry, 31 May'71

Icosahedron:

"Vector equilibrium displays omnidirectional closest packing. The icosahedron and dodecahedron display only circumferential closest Backing."

- Cite RBF to EJA Fairfield, Conn, Chez Wolf, 18 Jun'71

Rewritten by RBF, 3200 Idaho, Wash De, 29 May'72

Icosahedron:

"The icosahedron and dodecahedron are inherently non-nuclear at all frequencies.*"

- Cite RBF to EJA, J200 Idaho, Wash DC, 28 May*72

JgoBahgdrgrfl;

"The tetrahedron accepts further closest packing The icosahedron refuses further closest packing."

- Cite RBF to EJA. Fairfield, Conn., Ches Wolf.

'IUIPUUIT UUIil fi&r **>' PETEK PEAKf r. DbFAMITlufc

icosahedron;

"An icosahedron is simply a 'one-frequency' geodesic sphere."

Cite P. Pearce letter to Dale Klaus 31 Kay 1967

Icosahedron:

"The icosahedron is the most efficient volume per unit of invested structure."

- Cite P. PEARCE, Inventory of Concepts, June 1967

Icosahedron:

"When the central sphere is removed from the vector equilibrium it contracts symmetri

cally to a more compact arrangement which is the icosahedron.

"The vector equilibrium has eight triangular faces and six square faces. The six square faces shift to become twelve triangular faces: 12 + 8 = 20 triangular faces for the icosahedron."

- Cite Caption Illustration `i 60. 1067

Icosahedron:

"The number of spheres along the edge of the icosahedron is always one more than the frequency of modular subdivisions of the icosahedron's linear edge."

- Cite KBF Ltr. to Dr. Robt. W. Horne, 1 Dec '65, P. 1.

Icosahedron:

"If I am nature and I want to enclose some volume and do it with MB a minimum of effort, I have to triangulate, and the icosahedron is the polyhedron which I would use. It is not surprising to find nature using many icosahedron."

- (Li&e-Car bendale- Or a-ft Na t>ure-i-e-Coordination-;---pr-, -S---

- Cite Ledgmont Lab. Address, p. 22, 15 Oct'64

Icosahedron:

"The largest volume, least eventomnitriangular system is the icosahe-dron and its multiple subtriangulated geodesic patterning . . . what I call the geodesic structuring."

- Cite RBF Ltr. to Dr. Urmston, 8 Oct. *64, p. 2

Icosahedron;

"The icosahedron" is "a multiphase tetra, all of whose vertexes lie on the surface of a sphere. By exploding the form onto the sphere and symmetrically subdividing its faes, we arrive at the three-way greatcircle grid of the geodesic structure."

- Cite MCHALE, p.31, 1962

Icosahedron: (1j

' • If we take the vector equilibrium with the center ball as the nucleus we can make a model of the 12 balls around one and put rubber bands between their centers. It is very easy to make a necklace of rubber bands of four great circles around together, the four greſt circles being the four great planes of the tetrahedron that went through the common center of vector equilibrium. When we have rubber bands it is possible to strebbh the rubber band and pull the center ball out. We must remember that the vector equilibrium has six square faces and eight triangular faces. When we pull the center ball out these six square faces immediately rotate in such a manner that each of them becomes a diamond. Every one of the souare faces become a diamond and the whole system becomes the icosahedron.

"The balls simply rotate and contract a little. The center ball was keeping them from packing and so there is a little more compactibility when the center ball goes out.

"Now we see omni-triangulation and no more squares. We

- Cite Oregon Lecture #7, p.293, 11 Jul'62

Icosahedron: (2)

"Discover that an icosahedron is a first-degree contraction of vector equilibrium. If the center ball just got a little smaller and smaller the system would very quickly contract down to the icosahedron. We never catch vector equilibrium in true existence in reality; it is always contracting or expanding.

"In the icosahedron we get to a very prominent fiveness, that is, around every vertex we can always count five."

- Cite Oregon Lecture #7, p.293, 11 Jul'62

kgahsdren:

"There is nothing at all polarised about tetrahedron or Icosahedron..

(See RBF rewrite of above at Icosahedron. 8 Apr'75)

- Cite Oregon Lecture #5, pp. 17V-180, y Jul'62

Icosahedron:

"... A concentric system of icosahedron layers cannot

be formed by closest packing. All central coring must be removed or shrunk before an external icosahedron shell can be formed."

- Cite MARKS, p. 45, 1960

Icosahedron:

"A polyhedron of twenty faces."

- Cite Patent No. 2,682,235. June 29, 1954 BUILDING CONSTRUCTION

Icosahedron:

"The icosahedron has the highest number of identical and symmetric surface truss facets of all great circle defined polyhedra, providing 20 faces, 12 vertexes, and 30 edges."

- Cite PENNA. TRIANGLE, p. 12, Nov. '52

$e > f \sim \text{Sec. 7dO.Of}$

Icosahedron:

"The icosahedron {20 faces, 30 edges) can be posited as a multi phased tetrahedron all of whose vertexes lie on the surface of a sphere.¹

- Cite undated typescript among SYNERGETICS PAPERS (From RBF)

Icosahedron: Circumferential Closest Packing:

"...The icosahedron does not accommodate additional closest-packed sphere layers and never develops a nucleus. The icosahedron's one and only exclusively circumferentially closest packing of omni-intertriangulated uniradius

spheres can increase its frequency only as a shell and not as a nucleus.

"If the icosahedron develops a further outward shell it will have to discard its internal shell because the central angles of the icosahedron will not allow of two or more closest-packed omnitriangulated concentric shells to be constructed. Only one closest packed shell is permitted. Considered internally, the icosahedron cannot accommodate even one uniradius, tangentially contiguous interior or nuclear sphere of equal radius to those of MVits closest packed uniradius outer shell."

- Cite SYNERGETICS draft at Secs. 1011.36 + 37, 17 Feb»73

ftBF DiFINITicNS

Icosahedron: Contraction from ~~thJX4drda-La3-er~~ cf

"There is something to warn you about. If I made the five layers of the vector equilibrium, you could not have the condition I have spoken about of becoming icosahedron. You could not have two adjacent layers of vector equilibria and then have them collapse and become the icosahedron. . . , I could take any single layer of the vector equilibrium and if there is nothing inside to push it outwardly, it will collapse into becoming the icosahedron. But

if there are two layers, one inside the other, the radius contracts when that occurs, and these two layers will not roll on each other. The gears block each other. So you can only have this contraction in the vector equilibrium in a single layer and it has to be the outside layer remote from other layers.

"For this reason we begin to be suspicious about the icosahedron's condition of 18.63 and its relation to the electron--- we begin to be suspicious that we have the electron kind of shells going in the icosahedron, which are remote from the nucleus group and are therefore not frustrated from contracting in that condition."

- Cite Oregon Lecture j/7, p. 256. 11 Jul '62

*Let AT C J C L P's of / CoS*_w L t >*. , fL C. *72.]*

RdF DEFINITIONS

Ippahedral Disconnect?

``Closures and pulsations disconnected at the icosahedron stage."

- Citation and context at Invisible Circuitry (1), 28 Oct '72

"Here we have the tetrahedron as unity, volumetrically.

The octahedron has a volume of four, the cube has a volume of three, and the vector equilibrium has a volume of 20. But the icosahedron has a strange number: 18.51. This is a very interesting number because the ratio of the mass of an electron to its neutron is 1:18.185.

It's the same fraction. But when you compound that 18.51 with the volume of what we call a vector-edged cube, which has a volume of 8.49, the two together give you a whole number 27, which is a second-power number and seems very interesting. So the whole thing comes out rational by combining two fractions and makes the effect sum totally rational."

- Cite RBF to Verner Smythe, NYC, Reel 2, p.3, 11 Mar'69

"The icosahedral phase of self-structuring is identifiable uniquely with the electron whose mass relationship to the proton is as 1 : 18.36. whereas the icosahedron's volume is to the vector equilibrium's volume as 20 : 18.51. This difference is to be identified with the ratioing of the electromagnetic constant to the gravitational constant."

- Cite SYNERGETICS draft at Sec. 1052.\$*, ? Mar'73

IHMMM icosahedron as Electron Model;

"The icosahedron is the electron world."

- Cite RBF to EJA, Beverly Hotel, New York, H Sept. 1971

"... To have it become icosahedron it can only be done one M with one layer. It's only the outer layer which can be collapsed into an icosahedron. That is why I am quite confident this is the electron. The electron is always outside the rest of the system and not touching it."

- Cite RBF to Verner Smythe, NYC, Reel 2, pp.2-3, 11 Mar'69

"Then the icosahedron has a volume of 18.51, It is an

odd number, but you find that number complemented--- one of the few that doesn't have a whole number--- complemented by another that comes out 27. An interesting number because its number close, the fraction 18.51, very, very close to the weight ratio of electrons to protons. I think it is close enough to be worth to be looked at sometimes. It may have some of those kinds of behaviors. Its volume is 20, nearer to talk that way, nearer to 18.51, and it has 26 Faces!"

- Cite Ledgemont Lab. Address, pp.21-22, 15 Oct'64 "Where the volume of tetrahedron is one, octahedron is four and the volume of the icosahedron is not quite that of the vector equilibrium. The volume of the vector equilibrium was 26 and the icosahedron is 18.63. It is the only point where we get to a strange number, but 18.63 is a very interesting kind of number because the electron is one-eighteen-hundred-and-sixty-third of a proton. So it is a very interesting kind of a number when you begin to get into atomics."

- Cite Oregon Lecture 7» p, 249* Jul'62
Icosahedron as Electron Model,

See Edge vs. Radius, S Oct'71

Shunting, 5 Nov'73

Universal Integrity: VE & Icosa, (1)(2)

S Quantum Module, 4 Jun*77

"Note how the equator of the icosahedron never gets near any of the vertexes and so we see how it really will hold energy."

- Citation in context at Harmonics, (3), 1 Feb*75

Icosahedron: Great Circles Of:

"It is a characteristic of the icosahedron's great circles

59° 02 "

54° 54'

iCjli

16S° 50* to make symmetrical Interception of themselves.

"In maintaining triangular grids of this surface, an altitude will continue as an edge and the exterior triangulation, with the exception of the 18° circles which 'quantum' the 20 icosahedral triangular apexes will have yes-n-yes-no and the set can be made continuous one way or the other, but not both at the same time."

- Cite RBF redictation of 26 May*48 holograph, Oct'72 jTS'Vo T?7. so 1
"It is a characteristic of the icosahedron's great circles

59° 02'

54 54

W8^U 50'

to make symmetrical interception of themselves. In maintaining triangular grids of their surface an altitude will continue as an edge and the ? triangulation, with the

exception of the 18° circles which 'quarter' the 20 icosahedronal triangles, all have Yes, No, Yes, No, and the set can be made continuous or the other, but not both at the same time."

- RBF holograph, 26 May` 48

See Triangulation. 31 Jan'75

0 Module, 29 Sew'76

Icosahedron: Inside-Outing of Icosahedron:

"When you seemingly turned the icosahedron inside-out, it was just the same as if you had adjoined the original icosahedron with a ring of irregular tetrahedrons, which is the same as if we covered the surfaces of an octahedron with 8 tetrahedrons--- and then those tetra's were complemented by octahedrons around them, etc. So that what

happens when a hole is proposed is that we are starting with secondary or tertiary or subsequent layers and are away from our primary and primordial energetic systems. This is to say, you will find the icosahedron will fit inside your first development and we might then say that successive enclosures of primary forms (vector equilibrium, icosahedron, octahedron, tetrahedron) constitute inside-outing waves. Just as the tetrahedron is really the octahedron's inside-obverse wave. And what we have is (that?) when we go to the neutral center of the vector equilibrium (Universe ?) --- turns itself inside-out and it looks just like a vector equilibrium again."

- Cite Ltr. from ROF to Duncan Stuart, 10 Jan'50

Icosahedron As Local Shunting Circuit:

"The icosahedron makes it possible to have individuality in Universe. The vector equilibrium never pauses at equilibrium, but our consciousness is caught in the icosahedron when mind closes the switch. Our mind, always integrating, opens the switch."

"The icosahedron: its function in Universe is to close the switch into a local shunting circuit. It gets itself locked up even more by its six great circles--- which is why electrons are borrowable and Independent of the proton-neutron group.

"The vector equilibrium railroad tracks are trans-world--- like being in an airplane; you can go anywhere. But the icosahedron is stuck locally with no way to get to another continent. The vector equilibrium is how you go from one sphere to another, from Earth to Mars."

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun'72 Incorporated in SLT; R>k.TICS at fee, 458.10, 11 C`ct'72

"Of the three fundamental structures, the tetrahedron contains the most surface and the most structural quanta per volume; it is therefore the strongest structure per unit of volume. On the other hand, the icosahedron provides the most volume with the least surface and least structural quanta per units of volume and, though least strong, it is structurally stable and gives therefore the most efficient volume per units of invested structural quanta....

"That is the reason for the employment of the triangulated icosahedron as the most efficient fundamental volume-controlling device of nature. This is the way I developed the multifrequency-modulated icosahedron and geodesic structuring. This is probably the same reason that nature used the multifrequency-modulated icosahedron for the protein shells of the viruses to house most efficiently and safely all the DNA-RNA genetic code design control of all the biological species development. I decided also to obtain high local strength on the Icosahedron by subtriangulating its 20 basic Icosa LCD spherical triangles with locally superimposed tetrahedra; i.e., an octahedrontetrahedron truss, which would take highly concentrated local loads or impacts with minimum effort while the surrounding rings of triangles would swiftly distribute and diminishingly

- CIt SYNERGETICS text at Sec.s V .03 ' 9 Nov'73

"Inhibit the outward waves of stress from the point of concentrated loading. I had also discovered the foregoing structural mathematics of structural quanta topology and reduced it to demonstrated geodesic dome practice before the virologists were using geodesic spheres for their protein shell structuring.

- Cite SYNERGETICS text at Sec. 612.11; galley rewrite 9 Nov'73

HbF DEFINITIONS

J9_gsah₇dr₇n: Sub triangular-ion;

"Of the three fundamental structures the tetrahedron contains the least volume with the most surface and is therefore the strongest structure per unit of volume. Whereas the icosahedron gives the most volume with the least surface, and although least strong, it is stable and gives the most efficient volume per units of invested structure. That is the reason I decided to develop* the triangulated icosahedron as the fundamental volumecontrolling device of man. I decided also to obtain high local strength on the icosahedron by subtriangulating its twenty basic spherical triangles with locally superimposed tetrahedra--- i.e., an octahedron-tetrahedron truss--- which would take highly concentrated local loads or impacts with minimum effort, while the surrounding rings of triangles would swiftly distribute and diminishingly inhibit the outward waves of stresses from the point of concentrated loading."

- Cite Mexico '63, p. 28. 10 Oct '63

See Gravitational Constant

Spherical Icosahedron

Star Tetrahedron 3c Icosahedron

Tensegrity Icosahedron

Twenty

Universal Integrity: VE & Icosa

VE & Icosa

Dymaxion Airocean World Map: Icosahedral Version

Tetra, Octa & Icosa

Icosasphere

Sphere \square Icosa

Icoahadron:

See Allspace Filling. 17 Feb'73
Comprehension, Io Feb'73*
Constant Relative Abundance, 29 Nov'72
Decimal & Duodecimal, i960
Indivldiuality, 10 Jan'74
Individual System Formation, 15 May'72
Physics: Difference between Physic® &. Chemistry,
31 Kay'71*
Physics as Internal Affairs of the Atom, 31 May'71
Sphere, 25 Feb'74
Spherical Tetrahedron, 10 Sep'74
Star Tetrahedron & VE, 9 Nov'73
Oranges, Aug'71
Domain of an Area, Dec'71
Domain of an Edge, Dec'71
Trigonometry, 26 Sep'77

Icosasphere;

'All spheres are high-frequency geodesic spheres; i.e., triangular faceted polyhedra, most frequently icosahedral because the Icosasphere is the structurally most economical.

- Citation & context at Sphere_t, 30 Dec'73

Idea - Artifact:

See Soleri, Paolo, 10 Sep'75

See Fuller, R.B: Indexing ROF Ideas (1) Mental Mouthfuls Cosmic Fish Feeding a Flock of Sea Gulls Fisherman Theme Generalizations Reduced to One Word Puzzle of Washington Crossing the Delaware

Idea Stealing:

"Nothing is so easy to steal as the right bright idea.

The department manager appropriates his subordinate's idea and presents it as his own to the company vice president, who in turn adopts the idea and presents it as his own to the company president, who in turn presents it as his own to the board of directors, which rewards the president with a \$25,000 a year raise. In New York's publishing world idea stealing is called 'Let's have lunch,'"

-Cite I SEEM TO BE a VERB, Queen, May '70 (Not in Bantam edition)

See Coincidental Articulation Lunch: Let's Have Lunch Plagiarism

See Anonymity, 19 Dec'71 Technology, 14 Sep'71 Williams, Robert, 3 Jun*72

Xtrea Trending:

(1)

See Physical to Metaphysical

Progressions Trend: Trending

ISat-Xcsnllm:

12)

See Triangle, (1)

Idea: Bright

See Reduction to Practice, 2y Jan"75

Ideal;

'•Vector equilibrium and ideal are the same. Nature never stops there. Universe has it. But in our temporal life there will always be some degree of lag or asymmetry which misses the exactitude of the ideal. The exact and the ideal would be the same."

- Cite RBF to EJA, Kennedy Airport, NY, 1 Apr '72

IdeaJ:

"Every time you enter eternity, everything called shape is cancelled and therefore there can be no static frame of reference. Our scenario Universe does not have shape nor is there relation to any static frame. There is an ideal which is eternal and inherently complex, which complexity is accompanied by the ideal transformability which synergetics elucidates."

"The episodes have shape, but the shape is always mildly asymmetrical and continually transforming. There is conceptual shape in the ideal, i.e., the ideal tetrahedron but no size, no time."

- Citation and context at Eternity (1), 23 May '72

Ideals:

"... Structural, pattern-governing, conceptualizable principles ... govern all eternally regenerative design evolution including the complex patterning potential, symmetrically and asymmetrically limited, pulsative regeneration, in respect to all of which are ideals only conceivable, as is experientially manifest in synergetics and in my closed system topological hierarchy..."

- Ci_{hg}P_{ia}F_{li}.c_gSn^tm

See Subconscious, 14 Feb'72

Ideal Generalisation:

See Metaphysical, 14 Feb'72

Idealistic:

See Ramify the Idealistic

Ideal vs, Real:

ID

See Potential

Active Manifest Operative Radiant Realized

See Universal Integrity: Manifest & Potential Ratios, 1 Apr'72

Ideal Structurings

See Radome Sequence, (4)

Idea* Synergetics:

"The timeless and the changeless are intercomplementary aspects of ideal synergetics.' "

- Cite RBF to EJA, Kennedy Airport, NY, 1 Apr '72

See Timeless. 1 Apr '72 for full context.

Ideal Synergetica:

"The eternality of synergetics is conceptually experienciable independent of the successive experiences of relativity of time and size."

- Citation and context at Size. 22 Jun'72

See Future of Synergetic

Visible Synergetics

Ideal Totrabadron:

See Ideal, 2J May*72

Tranofprffgbltty:

See Universal Integrity: VE &, Icosa, (1)

jdrallnd Volume:

See Universal Integrity: Manifest 4 Potential Ratios 1 Apr'72

iisal: Idealism: Idealistic: (1)

City as Center of Abstract Intercourse

See Conceptuality Independent of Size t Time Fuller, R.B: His Neo-Platonism Exact " Ideal

Image: All We Do is Deal in Images

Metaphysical

Mind: Concept of God as Kind

Mind: Great Eternal Mind

Nucleated Systems: Idealistic Vectorial Geometry Of Omniscience

Ramify the Idealistic

Tetrahedron as Conceptual Model

Triangle as Signature of God

Universal Integrity: Manifest 4c Potential Ratios

Universal Integrity: VE & Icosa World as Idea in the Mind of God Traffic
in Ideas: Idea Exchange

KS&: XM£1: Idgajjism: Jasalls£i£: (2)

See Abstraction, 10 Dec'64 Architecture, Jan'34 Conceptuality, 1
Apr'72 Eternity, (2); (1)* Future of Synergetics, 1 Apr'72 Inheritance,
14 Feb'72 Insinuatability, 6 Nov'72 Now, 14 Feb`72 Metaphysical,
14 Feb'72 Principle, U Feb'72; 22 Feb'72 Radome Sequence. (4)
Relationships, i960 Size, 22 Jun'72* Subconscious, 14 Feb`72
Timeless, 1 Apr'72* Tomorrow, Feb'67 Triangle, (1) Universe, 20
Jan'66; 1955 Thinking, (A)

See Idea Stealing

Ideal Design

Ideal Generalization Idealistic

Ideal vs. Real

Ideal Structuring

Ideal Synergetics

Ideal Tetrahedron

Ideal Transformability Ideal Unity Idealized Volume

Identical;

"... The integrity of Scenario Universe's

Never exactly identical recyclings."

- Citation and context at Metaphysical. p.1J2 May '72

HBF DEFINITIONS

Identical:

"The word identical is permitted when you are dealing with conceptual eternity and when you are not dealing with the indeterminism of experience."

- Citation at Conceptual Eternity_t 14 Sep'71

JdsntAsal:

(i)

Aee AoDroximateness

Exactitude

Coincidental Articulation

Nonidentical

See Conceptual Eternity. 14 Sep'71*
Metaphysical, May'72*

See Local Identifications

Interidentifiability

See Experience, 1971

Invisible HoJ.e, 16 Jun* 72

Physical Is Always the Imperfect, 14 Feb'72

In fc Out, 19 Jun'71

Pronouns: I * We - Us, (1)

Identity:

"No man can prove upon awakening that he is the man who he thinks went to bed the night before, or that anything he recollects is anything other than a convincing dream."

- Cite I SEEM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Identity;

` ` In answer to the question, 'What do you want to be?' one third-grader wrote: 'I would like to be myself.'

I tried to be other things but I always failed."

- Cite I SEEK TO BE A VERB, Queen, Kay '70 (Not in Bantam edition)

Identity:

"Is the human an accidental 'theatergoer'

Who happened in on the 'play of life'—

To like it or not—

Or does humanity perform

An essential function in universe?

We find the latter to be true. . • .

"Lian's function in universe

Is metaphysical and antientropic.

He is essential to the conservation of universe Which is in itself

An intellectual conception."

- Cite D0X1AD1S, pp. 310,311, 20 Jun

• 66

RBF DEFINITIONS

Identity:

"We have been misidentifying the regenerative transceivers as being the equipment; we have been identifying ourselves as being it instead of being the metaphysical."

- Citation & context at Human Beings & Complex Universe,. (14) 16 Feb'78

Identity: "Identity results only from recognition and communication of the interrelationships within a family of uniquely repetitive frequencies."

- Cite SYNERGETICS, 2nd. Ed., front matter, Author's Note on Rationale for Repetition in This Worfyp. xxii. 2 Jul*75

Horn try:

rr«qumcle»»Ult' Only froo * fa«lly of uniq««ly repatitlva

- Citation & context at Raoetlwl w», 28 Kay'75

70

Identity:

"Identity relates to brain which is special case. You cannot identify the general. Identity is inherently special case."

- Cite RBF to EJA, 200 Locust, Phila., PA, 24 Jan*75

"The only way that we know that we 'are,' that we are alive in Universe la through information apprehended by our sensorial faculties."

- Cite RBF on Synergetics draft Sept. 1971. "Conceptuality Sensoriality: Sweepout."

K0F UEF1N1T1UNS

Identity;

""What is really important about you or me is the thinkable you and me, what we have done with these images, the relatedness we have found, what communications we have made to one another."

- 5 Jul 262
- Citation at Thinkable You and Ma, 5 Jul»62

RBF DEFINITIONS

Identity:

"No man can prove upon awakening that he is the man who he thinks went earlier to sleep, or that aught else which he thinks he recollects is other than a convincing dream."

(This phrase in parentheses in the text.)

- Context at Definitive. 1959

See Continuous Man Individuality Individual: Theory Of The Me Personality Phantom Captain Self

You & Me

You Do Not Belong to You Matrix of You t I

We-me Geographical Identity No Absolute Identity Ego

Human Beings & Complex Universe, (11) (12)* See Awareness, 13 Jul'74

Death 22 Jul'71; 13 Mar'71

Definitive, 1959*

Disintegrative 'Here's, 4 Jun'72

Dream, 1968

Hair, 9 Jul'62

Hole in the Universe, 23 May'72

Fuller, H.B: On Creativity, 23 May'72 Individual, Jun'66

Mirror: You Might Just as Well Be Looking at Yourself in the Mirror, 20 Feb'73 Pattern, 1954

Rafts: Early World Drifting on Rafts, 11 Jul'62 Remembered, 1968
Thinkable You (1)

Thinkable You &. Ke, 5 Jul'62*

Verb: I Seem to Be a Verb, May*70» 16 Aug'70 '.-/hole System, 28
May'72 Individual Universes, (1) RejXfifHtive, 28 May'75* Aesthetics
of Uniformity, (1) Woman is Continuous, 11 Aug*77

Ideographs; Ideograma:

See Culture, 1 Feb*75

Coimunications Hierarchy, (2)

Ideologies Become Supranational:

See .

Desovereignization Sequence, (3)

See Leaders: Take Away the Leaders

See Political Mandates: Inventory Of, 27 Dec*73 Individual Economic
Initiative, 2 Jun*71 Geoaoclal Revolution (3) Linear Programming, 5
Jun*73 World Pattern vs. Local Pattern, 29 Jan'75 Desovereignization
Sequence, (3) Womb Population, (4) Doing What Needs to Be Done,
(2)

(2)

IX:

"In technology man Is empowered to WM explore and develop his
own □if¹ without reference to the limiting response of other preoc-
cupied egos."

(Reconfirmed by RBF, without change, 8 *pr'75)

- Citation & context at Technology. 1947

See Individual Life as One Way Universe Could Have

Turned Out

Probability

Line: If it exists

Time: If There is Time

Ignorance:

"Primordial does not exist. There could not be anything prior to order.
Man is disorderly only in his ignorance:"

- Citation at Primordial, 22 Jul*71

KBF UEFIKITuKS

ignorance:

"Chaos and ignorance are both conditions of the brain's only sense
harvested and stored information as yet unSenlightenedly reviewed
and comprehendingly

processed by the order-seeking and finding mind."

(FrocrAbA -bpeeKpT-yA) / Uun'66

~~Cite synergistic draft, "Symmetry," Sec. 532.04~~

- Citation 4, context at Order. Jul*71

Ignorance:

(1)

"... Man's participation in the moderate success of his complex relationship to Universe has of necessity been accomplished by a variety of indirectly-arrived-at advantages, only ignorantly induced, and conversely reciprocal to the original acts of ignorance. He backs into his future.

"Ignorance hither-and-yons impulsively until brought up short at unpredictable periods by unpredictable push-pull limits. It is slowly becoming evidenced that, though man had been ignorant of the factors governing his successful survival as a species, the reciprocal positive functions governing the periodic alternations which net a successfully steered course may be adduced, only, however, by proper documentation and realistic inversion of the negative evaluations and predilections of ignorance.

'Vanity and superstition constitute the plus and minus springs of ignorance, the expansive and contractive 'raison d'etre' of boast and fear. The boasts and fears of ignorance may be maintained spontaneously only when there is no obviously periodic contradiction in physical experience.

- TOTAL THINKING, I&I, p.230, May'49

"Abandoning vain boastw, the competent but fog-shrouded navigator learned by experience to blow his horn to generate echoes from unseen headlands and thus to position himself and dissipate fears of danger. Ignorance is the inherently diminishing negative residue, the obscuring mist of the receding mental wilderness progressively dissipated by intellect, the inherent positive of Universe that may by inference of the record turn every adversity to ultimate advantage. . .

"Ignorance may only be dissipated as intellect traits by physical initiative in design realizations of anticipated periodic functions, designed to disclose coincidence with the periodic contradictions forcefully experienced and thus potentially further revealing in principle. Thus, the designed experiment is resolvable, eventually, into general behavior laws of the energetic Universe, whose interactions in turn become subject to increasingly reliable predictions by man."

- Cite TOTAL THINKING, Itl, pp.230-231, lay'49

Ignorance:

"Ignorant of his own coming 'blessed event,' ignorant of the circumstances of his realization, ignorant of final causes and effects, ignorant of consequences and significance, and ignorant of absolute values, man is clearly a priori ignorant. He is born helpless and nurtured by progenitors but meagerly understanding him, who in turn have experienced the identical involuntary helplessness and meager understanding. Ignorance is indeed a priori."

- Cite TOTAL THINKING, I&I, p. 229. >7*49

See World Game as Football Game, 23 Aug*70

See Entropy as Lack of Information Helpless: Humans Born Helpless
Lethal Ignorance Magnitude Ignorance Nonthinking Reflexes Residual
Ignorance Social Ignorance Status Quo Starved by Ignorance
Womb of Permitted Ignorance Yesterday's Ignorance Runaway of
Ignorance Crisis of Ignorance Escape From Ignorance

Ignorant

See Building Business, 26 Sep'68 Chaos, Jun'68 Epistemology, 8
Jan'66 Inflation, Sep'73 Mind as Verb, Llay'72 Walls, 1967 Superstition,
May*49 Obnoxious, 24 Apr'76 News file Evolution, (3) No Energy
Crisis, (A)

See Geophysical Year

Illions:

one-illion two-illion three-illion four-illion five-illion six-illion seven-illion eight-illion
nine-illion ten-illion eleven-illion , , , , — , —, —, — , , , , — twelve-illion

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 - fchirteen-illion
 - Cite HEARTBEATS AND ILLIONS, World Mag.,

Illions:

See Heartbeats &. Illions

**See Design Revolution: Pulling the Bottom Up, (5) Reverse Optimism,
 Aug'64**

*11 • <; Qg la .Es»l-la-teKsa:

See Set, 5 Jul'62

See Mirror Image

d)

Nonmirror Image

See Enantiodromia, 28 Jan'76

Imaginary:

**"In speaking of his 'purely imaginary straight line' the mathematician
 uses four words all of which were invented by man to accommodate
 his need to communicate his experiences to self or others:**

"Imaginary: 'Image-inary.' This means man's communication of what he thinks it is that he thinks his brain is doing with the objects of his experience. His discovery of general conceptual principles characterizing all of his several experiences--- as the rock, having insideness and outsideness, the many pebbles, having their corners knocked off and developing roundness: he thinks there could be pure 'roundness' and thus imagined a perfect sphere."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

~T|n i| |i|ii| i~ ii ii|| I—| Tnvented Word:

See Line: Imaginary Straight Line, 22 Apr'71

Imaginary Number:

"The mathematician talks of 'pure imaginary numbers' on the false assumption that mathematics could be a priori to experience."

- Citi Herflrlx-Hotel, New York 1J JSqrah _1971

- Citation & context at Mathematics, 13 Mar*?1

"In the mid-19th Century the invisibility of electromagnet icsjplus the seeming non-modeltability of N energy behaviors brought science to the abandonment of conceptual models, and to solving fourth dimensional problems by the mathematical invention of 'imaginary number.'^w

- Cite UNESCO TIFIIS 1968, p. 4

"... In the fundamental accounting of energy behaviors, fourth and fifth power relationships occur. The scientists found that they could accommodate the fourth and fifth powering by use of non-modelable, complex number calculations by involving the square root of minus one. In effect this calculation of imaginary number is accomplished by borrowing 'hour' from 'tomorrow's clock' to solve the problem after which we repay tomorrow."

f> Cite NASA Speech, p.78, Jun'66

See Fourth Dimension: Borrowing from Tomorrow's Clock

"A blackboard drawing of a 12-line cube is only an imaginary impossible structure which could not exist in this part of Universe. It could only temporarily hold its shape in gravity-low regions of space or in another, imaginary Universe. Because we are realistically interested only in this Universe, we find the cube to be theoretical only."

- Citation and context at Cube (1) (2), 22 Feb'72

See Not Out of This World Outside: .That's Outside Outsid

Imagination:

**The greatest of all faculties is the ability of the imagination to formulate conceptually."

- C_1 1 j- Pi IHF qimtoed 111 'WI1U Will JWIH EII II I¹ i 11 -Eart-ll-g-'
HcBF---g Hill "art

- Citation & context; at Artist. Sep'71

kuF DEHMTI01.S

Imagination:

"Imagination means man's communication of what he thinks it is that he thinks his brain is doing with the objects of his experience."

- Cite HBF to EJA, Somerset Club, Boston, 22 April 1971 See Sphere, same citation, for full context

Imagination:

*. . . Imagination. Image-ination involves reconsidered and hypothetically rearranging the *function* of remembered experience as retrieved from the brain bank.*

Cite RBF rewrite of SYNERGETICS, Line,* Parch, '91 draft, later

' • Deliberately Non-Straight Sec. 522.01.

Imagination:

"One of the expressions we have used up to now has been derogatory regarding someone's character. You say, this person is full of imagination. The fact is that if they are not full of imagination they are not very sane. All we do is deal in these images. We traffic in the memory sets, the TV sets, the recall sets and certain incoming sets."

- Cite Oregon Lecture #3, p. 9«. 5 Jul*62

Imagination: Image-ize:

"Humana conceptualize, i.e., image-ize. or image-in. i.e., bring-in, i.e., capture conceptually, i.e., in-dividualize i.e., systemize by differentiating local

integrity from out of the total non-unitarily- conceptualizable integrity of generalized Universe."

- Citation and context at Conceptualize, 17 Feb'73

See System, 2b Dec*74

See Brain's TV Studio

Conceptual Tuning

Eccles

Image

Line: Imaginary Straight Line

Science: Left Hand *it*. Right Hand

Imaginatability

Thinkability

Conceptual - Imaginable

Sight: No J--an Has Ever Seen Outside of Himself Pretending ``

Image-ination

See Artist, Sep'71*

Conceptualise, 17 Feb'73*

Spaceship Earth (c)

Sphere, 22 Apr'71*

Word, 8 Oct*64

Feedback Lags, 1954

Child Sequence, (3)

Systematic Realization, 20 Dec'74

Sweepout, lay'72

Model, 22 Jan'75

You to I as Pattern Integrities, 22 Jan'75

Pretending, 8 Apr*75

Children as Only Pure Scientists (1)(2)

Imbibe:

See Drink

Hibit

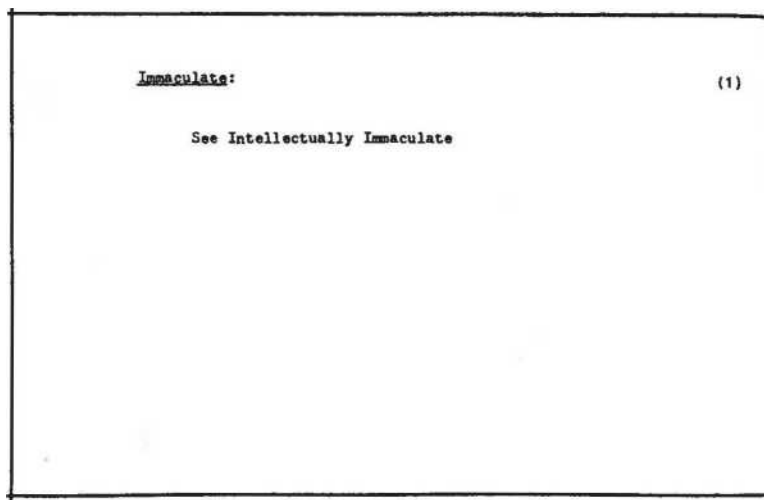
"There are a great many immaculate conceptions, but they are all metaphysical. Christ would not have had to be physical at all. There was no need for an Earth birth--- just a powerful thought. . . since we are dealing with pure mystery. A composite of all the eternal verities, whatever these mysterious principles are. We have had imperfect man. We have to have the theoretically perfect man as he goes through the vector equilibrium, he no longer needs the physical. . . . Everyone is 3.702 * short of his potential.'¹

(» For significance of 3.702 see Vector Equilibrium: Ratio of Volume to Quantum)

- Cite RBF to EJA, 3200 Idaho, .Washington De, 25 Jan '72

Immaculate Conception:

See Earth Birth



See Technology & Culture, 25 Oct'77

jjmigranf:

"We are like immigrants in a society of the young.

- Cite HBF to EJA, 3200 Idaho, Dec'69

Immobility: "I am averse to the word 'immobilize'. It belongs to the static norm of Newton's 'persistence., in a state of rest.' This is a way of thinking threatened by relativity and annihilated by contemporary physical science..."

'The word 'immobility'* tends to induce a phobia of imprisonment.

- Citation and context at Tetrahedral Dynamics (1), 4 to 57

**See Inventions which Decrease the Degrees of Freedom Newton's
Cosmic Norm of "At Rest" Newton vs. Einstein Static Mobile
Rentability vs. Immobile Purchasing**

See Death, 20 Jun'66

Hole in the Victrola Disc, 24 Jan'75 Tetrahedral Dynamics, (1)* Unsettling vs. Settlements, 20 Sep'76 Triacotahedron, 20 Jun'77

frQraJ-jty:

"The word is immoral rather than sinning. A man works hard and gets promoted and suddenly he finds that his new job carries with it the need to really compromise and let something go by. He's turning out goods that will work for a month. It's quite long before he discovers that somebody else has already arranged to make more profit by cutting down the quality. And he's just an executive; and it's months before he discovers all these production tricks. So the immorality part is the compromise, and not resigning or making a fuss. It's getting caught in the circle. It's an elusive kind of thing: that built-in immorality of the corporation."

- Cite RBF to Barry Farrell: Bear Island; Tape #8, Side B; transcript p. 22 Aug'70

See Good & Evil Sin

Immortality;

~~414b, Boston, 22 Apr 41, 1941~~, "Life is visible and invisible but immortal."

- LIU niF liuluip uph, Uuuuuuuu

- Citation at Life. 22 Apr'71

Immortality:

"...I am convinced of the weightlessness of all metaphysics, which weightlessness, in turn, implies immortality-"

- Citation and context at Brain's TV Studio (1), 6 Jun'69

See After Life

(1)

Death

*BD Continuous Man

Mortal

Life Is Not Physical

Yesterday's Concept of "Into the Next World"

/ wrwiltYi

(2)

See Brain's TV Studio (1)* Communicating i1)(2) Egi eternal. 10 Feb'73 Good & Evil Sequence (1) Life, 22 Apr'71* Tragedy, Feb'72 Triangle,(2) Redundancy: Reduction Of, 22 Apr'71

(Citations from RBF Marginalia on N.Y. Times article on 'Immunology,' 15 May'72)

See Self-communicate, 15 May'72 Triangular Topology Integrity. Individual System Formation, Order: Eternal Orderliness. Harn: LESSi-iGalliani, Antipathy. " 11

Heredity. " "

Neuron. " "

See Myopia: Incasting vs. Broadcasting, 22 Jan'75

See Radiation,(p.158-159) Jay'72

-Impel:

See Bounce-impel
Expelling 4, Impelling

Impel;

(2)

See Pellet, 3 Mar'73

Imperfect:

"Aberrations... produce each elusively off-center effects as possibly to result in an illusionary awareness of an approximately unlimited number of individually different awareness patterns, all of whose relative imperfections induce the illusion of a reality in which 'life*' is terminal, because physically imperfect..."

- Citation and context at Apprehending. 22 Nov'73

Imperfect:

'•The whole of Universe is a consequence of our not seeing instantly.
As a result of the Lags the physical is

always imperfect."

- eita RUF Ut-3gJA~3200 Idaho, Wash DC, 26 May*72

(Citation and context at Equanimity Model, 26 May'72}

ij&Bstm: laBuXiisla:

(D

See Physical Is Always the Imperfect Perfect t Imperfect

See Apprehending, 22 Nov'73*

Equanimity Model, 26 May'72*

Trinity: Equation of Trinity, 1938 Inventions, 1947

Impervious:

See No Continuums,

See ImportInga Impound: Impoundment

Impinge: (2)

See Environment, Feb'73

Environment Events Hierarchy, (1)-(4) Macro-micro. Dec*72 Star.
Dec*7* Stardust. (1) Trespassing: Not Trespassing, (1) Interference,
Nov'71

inalicH rwi

See Synergetica, 10 Jan'50

JUBIXSat:

See Standard of Living. 10 Oct'63 Two, (1)

ImplpgjQr):

"The word 'implosion*' is not correct. There is gravity, but not implosion. You may be talking about explosion inwardly: an inter-entity, tensionally induced, precess- ionally accomplished, omniembracing squeeze."

- Cite rtdF rewrite of 19 bec'71 citation; done at Wash. DC.

8 Apr'75 '

ImplOBion:

"The word 'implosion' is not correct. You may be talking about explosion inwardly. There is gravity* but not implosion."

- Cite RBF to EJA, J200 Idaho* Washington, DC, 1? Dec'71

Implosion:

"Implosion is tensive.*1

- Cite oral from R.B.F. to E.J.A.,

New York City, December 1970

fIIHMR Implosion-Explosion;

"An explosion is compressive.

Implosion is tensile."

- Cite R.B.F. oral to E.J. A.

New York City, December 1970

fMMM JtPlosion-exDlosion:

•We may hypothesize that as information increases exponentially---
explodes--- conceptuality implodes, becoming increasingly more
simplified."

- Citation at Conceptuality_f 1967

- Cite WD3 DECADE, Document 6,---i.hw-nimakjy » p_t 1967

Plosion-Explosion:

"The vector equilibrium is of the greatest importance to all of us because all the
nuclear tendencies to implosion and explosion are reversible and always in exact
balance.

The radials and the circumferentials are in balance. But the important thing is
that the radials which, if they are outwardly pushing, would tend to explode are
always frustrated by the tensile finiteness of the circumferential vectors which close
together in an orderly manner to cohere the disorderly sundering, • /hen the radial
vectors are tensilely contractive and separately implosive, they are always prevented
from doing so by the finitely closing pushers or compressors of the circumferential set
of vectors."

- Cite NASA Speech, p.BO, Jun*66

Vector Equilibrium (I); Jun'66

See Conceptuality, 1967*

Universal Integrity: Principle Of, 24 Mar'71;

8 May'72

Vector Equilibrium: Zero Tetrahedron, 4 Nov*73 Wire Wheel, 4
May'57 Macro-Micro, 12 Nov*75

See Explosion

Gravity *f* Implosion

Implosion-explosion

Stars: Implosive Forces of the Stars

Inward Explosion

See Radiation: Speed Of, (D)

Gravitational Constant, 8 May'72

See Weightless

See Death: Weighing of People aa they Die, 10 Oct'63 Metaphysical 4
Physical, 20 Jun'66 Universe, (B)

fomUPgr

"Gravity ia importing."

.Citation and context at Intereffecta. 25 Sep'73

See Balance

Boltzmann Sequence

Ecology Sequence

Intereffects

Pattern Integrity: Equation Of Tidal

Weather as Eysange of Highs & Lows Concentration vs. Radiation
Export-import Centers

See Coherence, 22 May'73

Dimensional Supremacy, 16 Nov'72

Intereffects, 25 Sep'73□

Local System. 1960

Shunt, Jun'60

System 4 Jun'72

Tidal (p.86), May'72

Orbital Feedbacks, 10 Sep'74

Local Entity, 1960

Kites Make All Regular Polyhedra, 27 May'72 Hunger: Stones Do Not
Have Hunger, 20 May'75 Orbital Feedback Circuitry vs. Critical Path

9 Sep'74

Q* "Do you think it would be a good idea to set up

an Information Center or some kind of Clearing House on all the work
that has to be done?"

RUF: "I don't know that you need an organization. This

World Game 'Workshop we're having here is such an effort. And we see what
individuals can do, like Hans Meyer who has brought out a bibliography of windmills
and their manufacturers, really all those in the field competing with him. We need
more of this kind of generosity instead of all the corporations' strategy of monopolizing
information for greater profits.

"Thus the design revolution is up against a great deal. Hence we started in
Carbondale the World Resources Inventory of Human Trends and Needs. All the
world-around architecture students wanted to get into that.... But I don't know about
a newsletter- I wouldn't want anything that made me into some kind of a guru. But
we can have people like Tony Gwilliam who is running this inventory of Energy-harvesting
Dwellingmachine Devices.

"Anyone who wants to get into the design revolution has to do really a lot of
work—and he has to be alert and on the"

- Cite RBF at World Game 'Workshop, Philadelphia, PA; 22 Jun'77

impossible: only the Impossible Happens:

(B)

"wau vive to pick up all the invisible news. Only the impossible happens. And the information turns up and just in time you'll get the information you need and you'll find that you can get around that mountain all right.*

- Cite RBF to World Game Workshop; Phila., PA; 22 Jun'77

Impossible: Only the Impossible Happens:

"I've come to the conclusion that only the impossible happens. It's been happening to me ever since I committed myself that way. And we've all got to go along with that great mystery. This is exactly the opposite of saying do it on a bank account; getting all the experts in to be sure it really works and you're going to make money. It's a very different way of looking at things,*

- Cite tape transcript, p.28; RBF to W. Wolf, Gloucester Mass
2 Jun'74 '

Impossible: Only the Impossible Happens:

"When Anne and I were living at 6 Burns Street rent controls were still in effect and there was no way the landlord could raise the rent, but there was also no way we could get a new icebox. They always maintained the icebox poorly, hoping we would move away; and if we made any improvements to the Icebox our landlord said he would own them.

"Shoji had started up the icebox because we were expected back soon and he wanted us to have ice ready. When the icebox burnt up it fell into the apartment of our neighbors below.

We never met them but they were always for the most obnoxious political candidates--- according to the posters on their door--- it was unpleasant even though I was apolitical. Sometimes when I was writing I would pace the floor till 4 a.m. I was quiet but they would knock on the ceiling anyway; we clearly didn't like each other and never met.

"I went to Bull ock'-Wil shire to get Allegra a watch because in buying a watch you had to pick ^a good place to get it repaired. When the saleswoman from Forest Hills discovered who we were, she wouldn't approve my check."

- Cite RBF videotaping session Philadelphia. Pa, 1 Feb'75 (Above supplements same citation (1)(2)J

Impossible: Only the Impossible Happens:

(D

".When we were living in Forest Hills, at 6 Jurns Street, once Shoji was staying in the apartment when Anne and I were away. .«'e had disconnected the icebox and put the furniture in the middle of the room for the walls to be painted. The day before Anne and I were due back from Lew Orleans, Shoji plugged the old GE- with the coils on the top- back in, and left. The next day we were stopped by a Louisiana trooper as Bill Parkhurst had culled the police to get word to us that our apartment had had a big fire. The icebojt caught on fire and fell into the apartment below; the rest of the apartment was in fair shape with smoke damage to my papers, but the insurance company granted a total loss. The people down stairs always complained anyway and banged on the ceiling whenever I worked late.

'•Months later I was visiting Allegra in Los Angeles and went to bullock's to get her a nice watch for Christmas. I told the sales clerk-- a very nice little lady--- to call the floor manager to approve my check. She said she could approve the check, but I answered that she didn't

understand; this check was from out of town, from Forest Hills, Long Island. She said why she and her husband lived in Forest Hills for years, but the only reason they left and came to the west coast was the awful people"

- Cite RBF to EJA, 3200 Idaho, 16 Dec'73

Impossible: Only the Impossible Hanneng:

"upstairs: they made so much noise and when their icebox fell through to our kitchen that was the last straw. So here I am working at Bullock's."

"Only the impossible happens."

- Cite RBF to EJA 3200 Idaho, Wash DC, 16 Dec*73

Impossible: Only the Impossible Hani eng:

"Only the impossible happens,"

EJA: " Jhy?"

"People take life very much for granted... that it happened at all is just about impossible. In fact, life is absolutely impossible."

- Cite RdF to EJA, 14 Dec'73

~~JJB&M~~ Only the Impossible Haptiena:

Impossible:

See Fantaepic Fantasy vs. Principle Never-never Land

Impounding Sun Energy: Nature's Most Important Trick:

"The chemistry of wood developed in many directions in Germany. They suddenly discovered that here was nature's most important trick in impounding Sun energy--- and in a most useful way, for therefrom you could release energy in many useful directions."

- Citation t context at Wood Technology. (2), 1946

See Collecting

Ecology Sequence

Impinge

Manifest: One

Photosynthesis

Rearrange Random Receipts

Self-impoundment

Stardust

Gathering Point

See Antientropy, (1)(2)

Biological Design, 13 Kar*7J Boltzmann Sequence, (1)-(6) Bumble-
bee, 6 Nov'7* Cosmic Accounting Sequence, (2) Cosmic vs. Terrestrial
Accounting, (2)(3) Economic Accounting System. (A) Energy Capital
Sequence, (A) Industrialization, 29 Jun ` 72 ran as a Function of Uni-
verse, (B)(C) Spaceship, (2)

Syntropy & Entropy, 31 Kay*74

Temperature of the Human Body, (1} •i/ind Power Sequence, (D) l/ind
Sucking Sequence, (1) (2} Cosmic Vacuum Cleaner, 16 May'75 Now
House, (6)

No Energy Crisis, (A) Technology: Enchantment vs. Disenchantment,
(5)

See Inventions which Decrease the Degrees of Freedom Phobia of Im-
prisonment

improvement

"As with the complex of synchronized convergent principles called airplane, compounded of the succession of flight experiences with a succession of improved designs incorporating all previous experience in action-reaction juxtapositions (called structure and mechanics), a trend to further inclusion and refinement of accelerating acceleration of improvement is inherent, but always Improvement is relative to the whole of already-secreted true experiences, whether as yet detected or not by the redesign cycle mutators."

- Citation in context at Periodic Experience, (11), May*49

Improvement:

"[.]Ships of special component chemistry may outperform others of less appropriate chemistry, but this is by obvious synergistic evolutionary improvement, and not by surprise."

- Citation and context at Ship. 1954-59

Improve: You Can't Improve on the Middle:

See Biogenetic Experimentation, 22 Jun'77

Improvement Only Perpetuates Original Errors:

See Assumption, 196

Improve the Scenario:

Sec. 217.03

See Doing What Needs to be Done Progress

See Discovery of Generalised Principle, 23 Dec'68 Beleaf, 6 Jul '75

See Improvement, 1954

PFQYg: ImfiTOZaaent:

(1)

See More You Use It the More It Improves Rectification

See Weapons Technology, (2) Periodic Experience, (11)* Fall-safe, 1j Sep'77

ISKSIIIM'

See Fudging

Gue33-improvise

KBF UcFINITIUNS

In;

are foci. Foci are in, because focusable, but always, as entropy shows, temporary.

Relationships exist between the ins because they are definable. Out is not really packaged."

__£ite RBF to EJA, Chicago. 1 June 1971.

In:

">Ve . . realize conceptually the finite, yet non sensorial, out-ness which can be converted into sensorial in-ness by the inside-outing process."

- Cite NEHRU SPEECH, p. 12. 13 Nov'69

"A point, then, ia when we go beyond the threshold of critical proximity and the in-ness proclivity prevails, in contradistinction to the differentiable other fallen-in aggregates orbiting precessionally in only mass-attractively- cohered remoteness outwardly beyond the critical proximity threshold."

- Citation 4 context at Point. 19 Jun'?1

See Between

Inbound In & Out

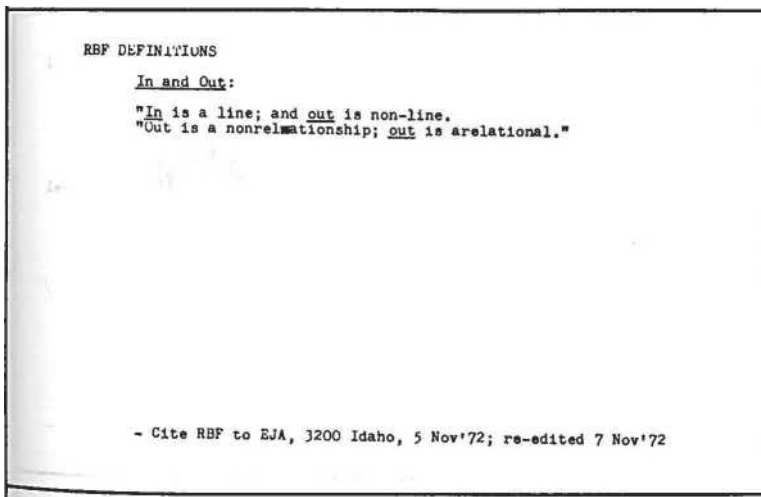
Inside

Out

Inward: Inwardness

Inward vs. Omnidirectional

See Invention, May'72



In & Out;

^HIn is temporal; out is eternal, ins are knowable; outs are unknowable. In is individually uniquely identifiable; Out, though total, inherently integral and finite, is nonidentifiable. in is individually uniquely directional;

Uut is any, all and no direction. Out is all direction, even when temporarily inward toward center it passes beyond the center to eventual outness."

- Cite KBF to EJA, Beverly Hotel, New York - 19 June 1971.

C«x<ri«Tv»inY- HWOIT-

fIB *ⁿ & Out:

"There is only omnidirectionnonconceptual 'out' and specifically directed conceptual 'in.*

""In¹ is individually unique. 'Xn*' is a direction toward the center of any one system of universe.

"In¹ is always a direction. 'Out' is not a direction."

- Cite SYNERGETICS Jraft - "Conceptuality:Space" - toy, 1971

In and Out;

"There are no specific directions or localities in Universe which may be opposingly designated as UP or DOWN. In their place we must use the words OUT and IN. We move in towards various individual masses or we move out from them. But the words in and out are not mirror-imaged opposites. In is in respect to individual experience foci. Out is common to all. In is discrete. Out is general. The in's are discontinuous. The out's are continuous.

Out is nothingness, i.e, non-experience. Only the nonexperience nothingness implies a continuum. The non- event continuum is the NOVENT."

CoMcer-TVwtfTy - Citation & context at Novent (1), 13 Nov'69

S°esi^li ~ CMar-lttMrtt-SFHKCU, p. 1V <3 Nov'69

In and Out:

"... I think your words 'up*' and 'down' are meaningless. Which direction is up? Which is down? Are people in China upside down? Which star should one's head be pointing at to be identified as 'up'? What you mean is what you say in your next phrase, i.e., in and out. Aviators come in for a landing and go out for altitude. In and out refer to focal centers of systems of local events of Universe only. ' In* is unique to individual systems. One 'out' is common to all systems and is omnidirectional in respect to any one system and Universe, being a plurality of continuities of local dynamical experiences, the direction out of Universe is not integrative as geometrically identifiable as it is permeative and comprehensive of experience. The outness permeates the nuclear event remoteness..."

- Citation and context at Tetrahedral Dynamics (3), 4 May'57

In_t Out k Around:

"...The president congratulated the astronauts for getting safely 'up' to the Moon and back 'down' to Earth again.... Even the astronauts themselves spoke on television from the Moon as "being up here on the Moon."....

"The correct words, of course, are 'in, out and around.*... into the Moon, into Mars, into Earth. 'In' is always one-directionally unique and is individually point-to-able. 'Out' is any direction. You go in to go out because out is not only any direction but is all directions---electro- magnetically speaking it is 'tuned-out.* In is what we are thinking about now. In is the momentary reality into which we are tuned. All the rest is for the moment tuned-out but equally real as progressively tuned-in.

"Physics finds that Universe has no solid things surrounded by and interspersed with space. Life is an inventory of in-and-out tunings. Birth is the first tuning-in; death may not be the last.

- Cite RBF preface to "American Space Photography"; 17 Kay*77

"There'a no up and down in Universe. In, out, and around are all the directions there are."

- Cite RBF to Yale studentsw, New Haven, 10 Dec*73

"The time factor ie always radial, outwardly, inwardly, and chordally around; always accounted in most economical to self-experience, energy-time relationship (i.e., geodesic} units."

- Citation and context at Time Vector_r 24 Sep*73

"There 1b a unique and limited set of angle and magnitude consequences of interfering events. These resultants may always be depicted as vectors in the inward-and-outward, omnidirectional, multifrequency-ranging, circumferential- or-radial relativistic system patternings, which altogether constitute the comprehensively combined metaphysical and physical 'reality' that is reported into and is processed by our brain and is reconsidered by our thoughts as referenced conceptually to various optimally selected observational axes and time-module durations."

- Cite SYNERGETICS text at Sec. 517.05; Nov'71

****Ia>** and around are the words that indicate conceptually all our sensing of directional behaviors of physical Universe, 'When these directions are modified by relative angle and frequency changes, they accurately satisfy our needs in respect to all conceptual systems of consciousness--- subjective or objective--- and all systematic considerations of experience, from instrumental probings of the atomic nucleus to celestial nebulae."

- Citation and context at UP and Down Sequence (A)(6), 1968

In, Out & Around Experiences: (j)

"Experience is always special case but always governed by generalized laws. Among the generalized laws governing experience is the law that there are three directional aspects of all experience: in, out, and around; these directions manifest an inward-outward pulsing and a surface-articulated patterning. The pulsing patterning has six consequences:

(1) the change in size wave frequency;

- (2) the plurality of professionally induced surface vertex-vortex rotations of the expansive-contractive pulsations acting as omni-non-polar vertex, alternately winding and unwinding, to alternately and symmetrically take in the slack of the contracting

s system or unwinding locally to permit symmetrical expansion;

- (3) the inherent axial rotation of the whole system;
- (4) the inherent orbitally-occasioned surface changings occasioned by external forces operating precessionally upon the conceptual system considered;*

- Cite SYNERGETICS, 2nd. Ed. at Sec. 502.05, 19 May*75

In „Put for Around Experiential (2)

^w(5) the precessionally induced inside-outing transfer-nations; and

(6) the local surface spiral wrinklins caused by axial torque; i.e., when opposite poles rotate in opposite directions (as with the Earth's clockwise rotation of high-pressure, clear-weather atmospheric motions and the counterclockwise spirally wrinkled cloud cover patterns of the low-pressure, stormy weather in the northern hemisphere and the oppositely spiralling behaviors in the southern hemisphere in respect to the same fair and stormy weather conditions)."

- Cite SYNERGETICS, 2nd. Ed. At Sec. 502.05, 19 May*75

Omniaroundness

See Radial-circumferential

Synergetic Proclivities Inwardness vs. Omnidirectional

Triangular-cammed, In-out-and-around Jitterbug Model

See Closed System. 26 May¹72 Fourth Dimension, 29 Nov'72 Non-polar Points. 7 Nov'73 Probability. (1J: 20 Feb'72 Responsibility, 13 Nov'69 Seven Axes of Symmetry, 13 May'73 Synergetics, 17 Oct*72 Tensegrity, 20 Oct'72 Time Vector, 24 Sep'73* Twoness, 23 May'72 Up and Down Sequence, (A)(6)* Velocity, 17 Nov'72 Time-size, 20 Dec'73 Precession t Degrees of Freedom, (2) Experience, Feb'50 Vector Equilibrium, 23 Oct'72 Nature in a Corner, 17 Nov'75 Infoscope, 13 Nov'75 Height, Length & t f d i t h, 19 Jul'76 Primitive, 18 Jul'76

la A. $\circ_{ut} * \bullet$ to $P_{ft} \circ$:

"You go in to go out because out ie not only any direction but is all directions---electromagnetically speaking it. is 'tuned-out.' In is what we are thinking about now."

- Citation context at In, Out. & Around_f 17 May'77

"In Is unidirectional, pointable. Out is omnidirectional, unpointable---go out, to-go-out, or go-in-to-go-out on the other side. Any direction from here is out; but only one direction from here is in. Go either temporarily in to go diametrically out on the other side of the individually identical local in, or go anydirectionally out... to the complete, eternal, unidentifiable non-ness, noneness of the a priori mysterious, Integrally regenerative, inherently complex Universe."

See Emerge to Converge

See Teleology, 1938

Womb Population, Kay'65 In, Out & Around, 17 May'77*

See Geometry of Inwardness & Outwardness

Halway-round-the-Worlding

Inside-out

Inward & Outward Twoness
 Involuting-evoluting
 Linear vs. Omniembracing
 Omnidiametric
 Omniradial
 Radial-circumferential
 Reversibility
 Spherical Field
 Syndro-resonance
 Up-and down
 'ave System Propagations
 Zero Koment of Transition from In to Out
 Fall-in Shunt-out
 Poles of Inward-outward Consideration
 See Convergence *tt* Divergence, 11 Feb'73
 De-finite, 1960
 Environment, Feb'73
 Gears. May'72
 Halo Concept, 22 Feb'72; 6 Nov'73
 Line. 7 Nov'72
 Meaning, Kay'49
 Middle, Feb'73
 Pattern, 1954
 Pulsation. 9 Nov'72
 Sphere, 3' May'71
 Star Tetrahedron, 8 Oct*71
 Star Tetrahedron & Vector Equilibrium, 9 Nov'73
 Radiation-gravitation: Angular Functions, 9 Jan'74
 Synergetics, 17 Oct'72
 System, 1954
 Tides, 19 Jun'71

Up-and-down Sequence, (4)
Circumferential Field, 9 Jan*74

See Spherical Field, y Jan'74 Time-size, 20 Dec*73 Heaven 4 Hell, 31
Fay'71 Duality of Universe, May*49 Macro-Micro, 12 Nov*75 ! 1964
Windowing the Nothingness, 25 Mar'76 Instruments, 20 Sep'76
Death. 29 Mar'77 Four intergeared Mobility Freedoms, 2 Nav'73

See Inside-out

Involuting-evoluting

Inward &. Outward Twoness

Inward vs. Outward Dismissal of Error

In & Out

In, out be around

In & Out: Go in to go out Inwardness vs. Omnidirectional Inward 6c
Outward Twoness

See Approxinatenes Inexactitude Residual Error

lMtCVr»CYi

(2)

See Reality, 21, Feb'72

Timo, 23 Kay'72

Observing k Articulating, 4 Aug'75

See Activity-inactivity

See Scarcity: Not Enough to go Around: Resource Inadequacy You or
Me

See Politics, 9 Dec*73

World Ganje, 29 Jun'72

Desovereignisatlon Sequence, (2) Selfishness, 20 Sep*76 Building Industry, (11) Propaganda, 29 liar*77

Inadvertence:

"Inadvertence is just one way of doing the right things for the wrong reasons."

- Cite RBF to EJA, Pagano's Rest., Phils., PA., 22 Jun'75

Inadvertence;

"Inadvertence la now a specific factor known in science as the 'random element,'" '

> Citation & context at America. 1936

Inadvertent;

"Science Identified aa aubjectlve... the Inadvertently experienced etlmulatlon of life..."

- Citation and context at Subjective k Objective 14 Sep'71

Inadvertent:

"Isotropic vector matrixes . . . are inadvertently, i.e. subjectively activated by the size-selective metabhysical consideration initiatives..."

- Citation and context at Size-selective, 30 Nov'72

Inadvertent Sideways:

See Trial &. Error, 5 Jun*73

Inadvertence - Bandog Element:

See Inadvertence, 1938

See Accidental
 Bee: Honey-seeking Bee
 Cui de Sac: Intuitively Inadvertent
 Deliberate
 Experience
 Happening
 Inadvertent " Sideways
 Revolution by Inadvertence
 Surprise
 Trial t Error
 Inadvertence `` Random Element
 Evolution by Inadvertence
 Doing Right Things for Wrong Reasons

Iliad vertengg: Inadvertent:

(2A) *

See America. 1938*

Automation, Jun'66

Connections Relatedness, 20 Feb*73 Dome: Rationale for Geodesic Dome, Ecology
 Sequence, (a)(b) Eye-beamed Thoughts, (V)-(VII) Fuller, R.B: Crisi of 1927, (a)-(d)
 Gibbs: Phase Rule, 26 Sep*73 Labor: American Labor, 1960 Limit Case: Closest-
 packed Symmetry Kan as Local Problem Solver, (1) Kass Production, Kay*72 More
 With Less: Sea Technology, (4) Size-selective, 30 Nov'72* Subjective & Objective, 14
 Sep'71* Suicide of Humanity, Jun*66 Technology, 17 Jul*73 Tidal, (p.129) Kay'72
 Outlaw Area, Jun'66 Life is a Sumtotal of Mistakes, (2)

(2)

, 17 Feb*73

Windows of Nothingness, (1)Q(2)

See Left &. Right, 7 Nov*75

Module: A Quanta Module: Introduction Of, 22 Feb'77

Inanimate:

"The inanimate is physical and entropic."

- Citation and context at Animate and Inanimate. 4 Mar*69

Inanimate Energy Power:

See Human Unsettlement, (1)

Inanimate:

See Animate & Inanimate

Death

Nonbiologicala

Inbound fc Outbound Field;

See Sonethingness, 16 Nov¹72

Inbound Point:

See Point: Inbound Point

Inbound-outbound Turnaround:

See Interrelationship Twoneaa, 27 Dec*74

Dynamic, 1950

Omnilirectional Terminal Case Corner, 13 Nov*75

KBF DEFINITIONS

Inbreeding:

"Inhrfiftding concentrates special-capability genes, but only at the expense of losing general adaptability, !•«, the ability of the species to cope with the infrequently occurring large, surprising and hostile events of the environment melange, while prospering--- only temporarily--- during the long intervals of innocuous, high-frequency, low-magnitude, environmental changes."

- Cite Dreyfuss Preface, "Decease of Meaning," p. 1028 Apr. '71.

Inbreeding;

"There are those /"children have special inbred aptitiudes and those more crossbred who are more comprehensively coordinated. . . Development of specialisation has been either a forced training affair or is a product of inbred talent--- as two musician parents tend to produce musical aptitude children."

- Cite NASA Speech, p. 19, Jun'66

Inbpeedpg:

"Because regenerative biological specialisation is arrived at by inbreeding of two similar aptitude types, specialization or hybridism is accomplished only at the cost of outbreeding or crowding out general adaptability which leaves a residue of unique behavior."

- Cite NASA Speech, p. 21. Jun'66

Jni?r«yUM»

(D

See Crossbreed!ng

Genetics: Genetic Code

Metaphysical Independent of Inbreeding Race

Darwin: Evolution May be Going the Other Way

See Darwin, (B)

(2)

Divide t Conquer Sequence. (1)

Talent, (1) Human Mind & Physical Evolution,

JnfianAftiasaaa:

"In the cosmic design of self-regeneration, incandescence subsides exportingly to gases, then to liquidity, which in turn subsides to crystalline. The rocks are thus regenerated. Stones do not have to regenerate metabolically; therefore they do not become hungry. ..."

- Citation and context at Ecology Sequence (F), 5 4^{un}'73

Incandescences: Incandescent:

See Liquid-crystal-vapor-incandescent phases

Incandescent:

Incandescence: 2j

See Crystal, 23 Jun'75

See Carnation

Jaswmtaii

(2)

See Eternal Slowdown, (2)

IncactlM. ya* Prwdcfrflting:

See Myopia: Incasting ve. Broadcasting

"Thinking is inherently exclusive. Experience, which coees before thinking, is inherently inclusive.*

- **Citation and context at Experience. Feb'50**

See Politico vs. World Gam®, 15 Jun*74

Experience, Feb*50*

Variables: Theory Of, Nov'71

See Inclusive t Exclusive

Segment of Inclusion: Segment of Conclusion
See Conceptual Totality, May'72

Love, 15 Oct¹72

Thinking, Feb'50

Performance: Equation Of, 193a
Income Energy;

See Energy Income

Incoming Sot:

See Set, 5 Jul*62

inconiprtanV

See Ugly - Incompetent

See Local Entity, i960

Incomprehensible:

"Humans... are inherently unable to comprehend the incomprehend-
able."

- Citation as Humana_f 8 Mar'73
Itn:ompr«hendab3,e:

See Unknowable

Inconceivability:

"Inconceivability does not mean infinite anymore
than does invisible."

- Cite OMNIDIREJTIONAL HALO, p. 134, 13% I960
Inconceivable + Invisible:

See Inconceivability, i960

Inconceivable + Ini mite:

See Inconceivability, i960

Incongruence:

See Congruence & Incongruence

See Consideration for Others

See Mathematics, 22 Apr'71

Incorruptible:

See Invisible Reality, 22 Jun'74

Increment;

"What we are doing is using a clock, which is an angular acceleration, and we say it went one minute, two minutes, and so forth--- these are linear increments. What we call site are some kind of linear increments which you could treat in terms of first and second power and you would not have a linear increment until the cycle was complete. We use some kind of a cycle. It may be a cycle of atomic oscillation. Or it could be a clock. But it is some kind of a cycle, and until the cycle is complete you don't have an increment

~~—G U.i, I.UULUA L. #6, —y «^J=34O—W.Jul*62r- 10 Jul'62~~

Citation and context at Acceleration and Cvelv,

(1)

Time-sizing

Package: Packaged

Idea increments

Time incrementation

Uniform tfounary Scale

See Cycle: Cyclic Experience Frequency Modular Subdivision Module
Minimum Increment Natural Time Increment

Increment: Incrementation:
(2)

See Acceleration: Angular 4 Linear (1)(2) Degrees of Freedom, 13
Dec'73 Dimensional Growth, 20 Dec*73 Experience, Jun'66 Infinity,
Feb'72 Size: Angle, Acceleration, and Cyclo, Time Vector. 24 Sep*73
Wave, Jun'66 Unit, Jul*71 Time & Size, Nov*71 Time & Space, Nov'71
Energetic Information, 23 Apr*76

10 Jul'62*

Independence of Local Reaource:

See Ship. 1954

Independence: Independent:
(D)

See Conceptuality Independent of Site Conceptuality Independent of
Size 4 Time Dependent

Inisisadsnta Independaat:
(2)

See Cosmic, 4 Mar* 73 Atom, 30 May'75

IndcfltrMctlblt •

See Tetrahedron, 11 Jul'62 Tetrahedron: Coordinate Synmetry,
May` 67 Life, J Jun*75

Indeterminate:
"Reality is always indeterminate."
- Citation at Reality. 5 May*74

RBF DhFIMTIONS

"Asymmetry is the reason that Heisenberg's measurement is always indeterminate. Asymmetry is physical.

Symmetry is metaphysical."

- Citation & context at Symmetry & Asymmetry. 24 Apr'71

- April 1971

"Resonantly propagated evolution oscillates between

observation and articulation ever reenacted hopefully to reduce magnitude tolerance of residual inaccuracy of observation or articulation."

- Draft Mart?1

Observing vs. Articulating, Mar*71

indeterminism*

"Indeterminism means that in a Universe of transformation there is nothing 'waiting*' for you."

- Cite RBF to Wirld Game V/ork8hop'77; Phila., PA; 20 Jun'77

Indeterminism

"The word identical is permitted when you are dealing with conceptual eternity and when you are not dealing with the Indeterminism of experience,"

- 14 Sept. 1971

- Citation & context at Conceptual Eternity_T 14 Sep*71

Mfoterpiinlgi;

• 'Because of the experimentally demonstrable fact that the minimum complex of acts involved in measuring always alter that which is being measured, we accept Heisenberg's principle of inherent indeterminism which concedes that absolute exactitude is unattainable. It is also experimentally demonstrable that the relative degree of inexactitude of measurement to be tolerated at any one moment is progressively reducible.

"In view of the foregoing (a) indeterminism, and (b) reducible tolerance, and subject to further modifying inclusions, exclusions, rearrangements, and refinements, we may assume that all definitions are tentative."

- Cite "Word Meanings," Ekistics, Vol. 28, Oct'6y

See Absolute Understanding is Precluded Approximateness

Boats at Anchor Retard the River's Flow

Exactitude

Finite Solutions

Heisenberg: Heisenberg-Eliot-Pound Sequence

Inaccuracy

Inexactitude

Measurement

Residual

Truth as Progressive Diminution of Residual Error

Uncertainty Principle

Vitalistics

Tolerance

Perfect ** Direction

See Axiom, Jun'66

**Conceptual Eternity, 14 Sep*71* Communications Theory, 20 Jun'66
Dream. 1968**

**Eternal Slowdown, (1) Identical, 14 Sep'71 Metaphysical, 14 Feb'72
Microcosm, May*72 Observing vs. Articulating, Mar*71* Reality, 24
Feb*72: 5 May'74* Relativity, May*49**

Scenario Universe, Dec'69; 22 Anr'68 Sphere, Jun*66

**Symmetry & Asymmetry, 24 Apr*71* Tenuous, 10 Feb'73 Thinking,
1960**

ⁿCpi&Barative Tablq - - of modular congruences of Cardinal numbers of various cultural number systems as expressed in Arabic numerals with the individual integer symbols integrated (as 'Indigo*') which discloses synergetic wave-module behaviors inherent in nature's a priori orderly integrative effects of progressive powers of interactions of number:

Indig: " Indies:

I 2 3 ¥ S' 6

7
ID

- Cite RBF holograph, undated, in papers he left behind April 1972.
f₁₃n

Incorporated in SYNERGETICS text at Sec. 1220.13

Indigs;

"As a measure of intellectual economy I soon named as Indiga the sum of the integrated digits.*¹

- Cite "Numerology," p. 8 Oct. *71 •
SYNERGETIC

Indlea:

"You integrate digits--- for example 3728 - to integrate digits you add $3 + 7 \cdot 10, + 2 - 12, + 8 - 20$. And "20" just becomes *2" to the numerologists. When we take the integration of all the multiplication tables, you get a series of single digit numbers. "10" is a "1". Indigs can be played only with one through nine. "Nine" is zero, nein, none, nothing. "Casting out nines," means working only with the energy left after the nines are taken out."

- Cite RBF to EJA, Chez Wolf, Fairfield, Conn. 18 June 1971

Indie:

India is a Synergetics term for 'integrated digit.'

(Adapted.)

(SEE DIGITAL CHART, Table 1: Functional Properties of Digits.)

- Cite DYMAXIOK COMP SYSTEM. Table 1.

1944

Xndix Bow Tie Model:

See Teleology: Bow Tie Symbol

Cflnxgtfftse-

See Octantatlon

Indies:

See Discontinuous Wave Pattern of Indigs tightness: 'Begeted* tightness Octantation

Interwave Behavior of Number

Teleologic Quanta Series Teleology: Bow Tie Symbol Wave Quanta t
Indig Bow Ties

1945

See Carrier Wave, 9 Mar'73

y«^{tra}hedron aa Three-petalled Flower Bud 11 Feb'73

Zero Wave, 9 Mar'73

See Direct

. Indirect

See Metaphysical & Physical, 19 Nov*74

Indlacreto;

See Omnidirectional, 23 Sep'73

Indispensable:

"I don't believe in indispensable. I am almost a dispensable accessory— and the sooner I am the better,"

- Cit ERBF to EJA, Pagano's Rest., Phlla., PA., 22 Jun'75

Indispensable Center:

"At the .indispensable center of the sphere the Universe turns itself inside-out."

- For full context see Vacuum. 19 Feb re-write

Individual:

"Each individual's environment of the moment is different from the next moment and from that of every other individual, though two or more individuals may think that they are mutually experiencing the same environment.

- Citation and context at Environment r Jun'66 Incorporated in SYNERGETICS 2 at sec 264.1\$.

Individual;

"Every individual is a pattern integrity and it is an evolutionary pattern integrity; it is not a static pattern integrity."

- Citation at Pattern Integrity_f 9 Jul'62

Incorporated in SYNERGETICS 2 at sec 264.15

Individual:

"...The individual is the product and servant of a plurality."

- Citation & context at Indivtduality, 1947 Incorporated in SYNERGET-ICS 2 at sec 264.15.

"The individual can address himself to finding out what nature may be trying to do in relation to the incredibly complex design of eternally regenerative Universe....

"The momentum of the conditioned reflexes of the politics and national sovereignties cannot bring about the changes society needs now. All the great economic and political

institutions are going to have to go. This is the undertaking of the little individual.... And you're up against fear all the way."

- Cite RBF to meeting of Design Science Institute. Aspen, Colorado 13 Jul»74

"I was interested in what the individual could do on behalf of his fellow man . . . even in a very few years.

"Starting without any money, without any credit, what can the little individual do that the great corporations and great organisations and great states can't do? . . . And so I really felt that there were things that the individual could do, he really could take initiatives like that. And he could work on something that would not be needed for 50 years--- and no corporation would do that and no state would do that. And so I saw a great many things that were needed, exactly the ones that would be needed in 50 years and we'd really be in trouble if we didn't do it. And luckily it's almost 50 years ago that I started doing it. The reason that I'm really here with you is that the things I really did undertake nobody else has underbaked to do. I'm really coming into phase now because they were so far out from what were considered logical and practical and worth budgeting.

"So the strategy I was employing, and the tiny little capital you and I have, which is just our experience. Self-experience. Beautiful equipment and how it can be really be turned to the powerful advantage of the many."

- Cite RBF lecture at Wistar Inst. EJA transcript p.9, 19 Feb'73
Ytd.ua 1 Etajipml-g. .InjUflUYg: (1)

"I said, 'What can a little man effect toward such realizations in the face of the formidable power of great corporations, and all their know-how, guns, monies, armies, tools, and information?'¹

"Then, self-answering: 'The individual can take initiatives without anybody's permission.' Only individuals can think, and can look for the principles manifest in their experiences that others may be overlooking because they are too preoccupied with how to please some boss or with how to earn money, how to take care of today's bills. Only the individual disregards his spontaneous fears and commits himself

- (a) to employing his every opportunity, meager or great, and exploring for physical ways of employing those principles on behalf of humanity— and
- (b) eschews Just philosophizing and trying as an author to persuade others to think and act in different ways— and
- (c) commits himself exclusively to reforming the human environment by developing tools which cope more effectively and *

- Cite BBF in Michael Ben-Eli Interview, AD, Dec'72
no

Individual Economic Initiative: (2)

"economically with evolutionary challenges in concert with the proposition that nature, physically, by virtue of the second law of thermodynamics, i.e., entropy, is always giving off energies from each and every local system and is thereby irreversibly, continually, and inexorably transforming the environment, ergo altering the biological adjustment schemes."

- Cite RBF in Michael Ben-Eli Interview, AD, Dec'72

Individual E_c ? n_{opi} (; Inlayy?:

"In 1927 I began to consider what the little individual could do on behalf of his fellow man that governments and corporations could not do. It became evident that the individual was the only one that could deliberately find the time to think in a cosmically adequate manner. Each human has his lifetime to invest. If he commits to operations in cosmic integrities he will find himself participating in nature's own formulations and will realize the potentials of her various freedoms and choices, to be employed to the advantage of all human beings to come, in order that humans may fulfill their cosmic function ing on board of our planet. . . "

- Citation and context at Boltzmann Sequence (4), Dec'72

RBF DEFINITIONS

4B8DHB Individual Economic Initiative:

"What can the individual do on behalf of his fellow man that great corporations and great states cannot do? All ideologically founded enterprises or political parties require dogmatic compliance to the founder's thoughts. Only local Ingenuity within the game-rule limits are to be tolerated. The individual has an enormous advantage over any great private or public bureaucracy because the individual can simply start to think."

- Cite Museum Keynote Address Denver, p. 2. 2 Jun'7?

"Searching for a conscious means of . . . participation by humanity in its own evolutionary trending, while employing only the unique advantages inherwing exclusively to the individual who takes and maintains the economic initiative in the face of the formidable physical, capital, and credit advantages of the massive corporations and political states, and deliberately avoiding political ties and tactics. .

Fuller: R.B.: What I am Trying To Do

- Citation and context at

2 Mar'68

"Inventions occur when individuals, frustrated by circumstance eschew negative blaming and undertake positive physical environment reforms rather than abstract human reforms. The latter depend precariously only upon moral, ethical, and legal codes which are enforceable only by negative penalties."

- Citation and context at Geosocial Revolution (2), 1965

See Doing What Needs to Be Done Making the World Work

See Airport, 13 Mar*73

Boltzmann Sequence. (4); Dec'72□ Fuller, R.B: Crisis of 1927, (1)
Fuller. R.B: What I Am Trying To Do, 8 Jan'66; 2 Mar'68*

Geosocial Revolution, (2)*

Impossible: Only the Impossible Happens, 2 Jun*74 Industrialization, 1948 Initiative, 16 Sep'67

Inventions as Lifeways of Hunnn Behaviors, 1965

Reform of Environment Rather than Reform of Man, 10 Oct*63

Pollution, Feb'73

Rearrange the Scenery, (1)

Thinking, 2 Jun'71 Invention, (b)(c)

Individual: Enjoyment of Earth without One Individual Being Interfered With:

See Consideration for Others

Expense: Without Any Individual Profiting at the Expense of Another

Trespassing: Not Trespassing

Individual Fraadon ya. Mutual Eaartenev:

See Understanding, 1 Apr'49

Individual & Group Principle:

**See Mutual Survival Principles Human Beings & Complex Universe
Self & Otherness**

See Subjective & Objective, Kay 49 Everybody'a Business, Self-discipline, 28 liar'77 News &. Evolution, (1)

Individual Fan:

"The human-brain-stored questions and answers of each unique individual's life, plus all the individual's heritage of chromosomic-administered, subconsciously operative experience responses, represent, in progressive sum total, the uniquely variant integral known as individual man."

"The integral man will always be far more complex than any systematically organised set of variables conceivable by man and introduce-able into the computer. .

- Citation and context at Computer (D)(E), 10 Dec*64
See Reform of Environment Rather than Reform of Man
See Rearrange the Scenery, (1)
Individual Right,.:
See Law, May¹65
Individual System Formation;

N.Y. Times, 15 May'72, H.M. Schmeck.Jr, "Immunology: a Code Spelling Life or Death": "... The immunologic system... now appears to comprise at least three kinds of living cells and five kinds of antibodies.."

RBF Marginalia: "3+5 <--- Eternal pattern integrity. Three and five are discovered not invented. Three triangles - structure. Five accommodates five triangles concave-convex around one point and permits individual system formation * as twin (?) individual most complex structural system pattern integrity of multi (?) frequency icosahedron."

Kt.Y.i Times: "The main problem is not surgical... but the body's jealous guard over its own individuality."

RBF Marginalia: R.B.F. has inscribed ' <- 3, 5,' after "individuality"
- Cite RBF Marginalia presumably 15 May*72
Individual: Theory of the Individual:

"Even as with the trajectories ... of nuclear components, it is clearly demonstrated that the mathematicians' axiomatic assumption regarding lines are in error, for we cannot get lines going through one another. This nonintersecting of Universe lines could be identified as the theory of the individual. Individuals get very close to each other, but they never go through the same point. This has enormous philosophic import."

- Cite AAUW JOURNAL, p.176, May*65

See Interference as a Social Model, 6 Jul'62

Social Sciences: Analogue to Physical Sciences, (1)

"Humana are as complex as Universe. Each human is one way in which all the potential intertransformabilities, degrees of freedom, and frequency variables could eventuate, provided all the other complementary evolution events of Universe had been concurrently transpiring."

- Citation & context at Human Mind & Physical Evolution. (4), 5 Jun'75

"Within the multioptioned operational field of cosmic formabilities, intertransformabilities, and complementary interaccommodations, each human life--- his life, his world--- is always one way Universe could have turned out."

- Citation and context at Field of Cosmic Formabilities. 28 Jan'73

Individual Life as One Way Universe Could Have Turned Out:

^MTo define man then as one way Universe could have turned out

- Citation & context at Man as One Way Universe Might Have

See Individual Universes

Man as One Way Universe Might Have Come Out

Individual Life as One Way Universe Could Have Turned Out: (2)

See How Little I Know, 1 Feb'75

Human Mind & Physical Evolution, (!)

If, 1947

Resources & Principle, 1947

"My Universe is that portion of the intercommunicated aggregate of all conscious and operationally described experiences of all history's beings, including my own, which is now totally recallable only in fragments as progressively and spontaneously tunable within my own angular orientation and zonal discernment limits of multidirectional and multimagnitude, sensorial- frequency-spectrum inventory

of the frequently accumulating, integrating and accomodatingly rearranging memory album of 11 dlscernibXy unique patternings whatsoever. While in many ways similar, each of humanity's individual's Universes must always seem to differ in some total experience inventory aspects."

- Cite RBF rewrite of SYNERGETICS galley #43, at Sec. 306.02 28 Oct'73

RBF DETINiTlUhb

fMIHHMI Individual Uni versa:

"Individuals are as a miniature Universe, each a consequence of a unique way of playing the game Universe."

(Slightly editid)

- Citation at Humanity, 13 l-ia'y'73

individual-Unlymw (1)

"Nobody can ever prove when they wake up in the morning that they're the same person who went to sleep. You may dream that you had other dreams, but there's now no way to prove that there's not a great many of you and one of them woke up this way while the others went on another way,

"If you were inventing a Universe where there were no things, where there were only events, always changing, continually reaching out or coming in, either gaining or losing, with continual transformation; and you invent all the chemical ¶elements and have all their behaviors and all their isotopes; and you invent all the leverages and the frequencies and start playing the game of Universe... You get things going pretty well, and you have all these stars giving off energies that get picked up in certain ways. So you Invent the planets where they get picked up. And there'll be new stars; and the old stars will be perhaps the beginnings of new planets.

"And then you get so you have more and more problems because this business gets more and more complicated. Quite clearly, experiences must multiply. So you have the Universe multiplying"

- Cite RBF to Barry Farrell; Bear Island; Tape #8. Side A;
, transcript pp. 2-3; 22 Aug'70
uNi.EPte - 311.(1 tjTl
Individual Universes; (2)

"and the problems along with it. And you finally get to the point where you have some problems that are here right now today.

"So it could be that human beings, wherever they occur in Universe may be introduced as how you handle the most complex kind of problems; so that each one of us is really where the problemsolving of Universe is going on. If we think of ourselves as things--- as China dolls, and as China dolls that just get smashed or just get eroded--- then we don't do very good thinking. But if we think of ourselves as absolutely continuous process itself, then you might get some idea of it. We are the most complex problem-solving part of the invention Universe. And in this way each one of us would be a department of the mind of what we might call god.

"There must be an accounting for the a priori principles which we find to be operative and each of us would be a very important part of that totality of integrity. The invention of the game of Universe is really the invention of introducing time; by introducing time, and having lags, and having different frequencies so that events are not simultaneous, there have to" I- Cite RBF to Barry Farrell: Bear Island; Tape #8, Side A, \ transcript. 3; 22 Aug'70

"be some ultimate complexities, and we may be just that.

"And part of the game might be that we just blow ourselves up, but I don't think it could be that. To us that seems like a bad solution; but it might be a very good solution."

- Cite RBF to Barry Farrell; Bear Island; Tape #8, Side A; transcript p. 3; 22 Aug*70

See Individual Life as One Way Universe Could Have Turned Out

(D

Man: Relative Abundance of Chemical Elements in Man And Universe

Man as One Way Universe Might Have Come Out

Miniature Universes

Individual vs. Universe

See Consciousness, Jun*66 Early Man, (1)(2) Humanity, 13 May'73*
Individuality, Jun'66 Inhibit, 9 Hui'62 Omnidirectional: Physical Existence Environment

Surrounds, (1) Universe, 5 Feb'56 Tunability, 24 Apr'76 Fuller, R.B: On Creativity, 23 May*72

RBF D/J¹1 NITIONS

"What is important about the MBM individual and important about Universe is that neither are exempt from any of the rules The Universe is the sum total and the individual is the special case."

- Citation & context at Individuality & Degrees of Freedom. (4) 1 Jul»75

Individuality:

"While everybody will know much of what everybody is thinking, individuality will not cease but increase. What people are thinking spontaneously as a consequence of the interaction of the unique patterns of their inherited genes and their own experiences will make personalities even more interesting one to the other. Intuition will be fostered. Communication will probably be accomplished by thinking alone, ergo more swiftly and more realistically than by sound and words."

2025. If...

- RBF transcript for Philadelphia journalist given to Stewart Brand for Co-Evolution Qtrly., San Francisco, 9 Jan'75

individuality t

"Initial comprehension is holistic. The second stage is detailing differentiation. In the next stage the edges of the tetrahedron converge like petals of a flower through the vector equilibrium stage. The transition stage of the icosahedron alone permits individuality in progression to the omni-intertingulated spherical phase."

- Cite RBF rewrite of SYNERGETICS draft Sec.1005.WB Beverly Hotel, NYC, 10 Jan HI'74.

Individuality:

"A planar system is the first stage of comprehension. The second stage is spherical. In the next stage the edges of the tetrahedron converge like petals of a flower through the vector equilibrium stage. The transition stage of the icosahedron alone permits individuality in progression to the omni-intertriangulated spherical phase."

(EJA Note: RBF had deleted the above para, from SYNERGETICS draft because the first sentence is totally wrong. He rewrote and restored it on 10 Jan'74.B as final Sec. 1005.63)

- Cite SYNERGETICS draft at Sec. 1005.64, 16 Feb'73

Individuality:

"The icosahedron makes it possible to have individuality in Universe. The vector equilibrium never pauses at equilibrium but our consciousness is caught in the icosahedron when mind closes the switch. Our mind, always integrating, opens the switch..."

- Citation and context at Icosahedron As Local Shunting Circuit. 22 Jun'72

Individuality:

"Each individual's environment of the moment is different from the next moment and from that of every other individual, though two or more individuals may think that they are mutually experiencing the same environment. This is because our environment is the consequence of our response to and employment of only a few of the operative factors present. "

- Cite NASA Speech, p. 33, Jun'66

• Citation and context at Environment. Jun'66

Individuality;

"That the individual has inherent unpredictability that cannot be reduced to formula is a mathematical consequence of 'entropy,' the law of increase of the random element. MB While the human's actions are anti-entropic, his reactions are entropic, ergo unpredictable

- Cite AAUW JOURNAL, May 1965, p. 176

Individuality:

"I find man . . . tending to abhor what seems to be any kind of a mass development. He is tremendously apprehensive of losing Individuality. He shouldn't be. When he cooperates and coordinates, he is not losing individuality. In fact, at that point he is beginning to demonstrate individuality to the only degree to which it is important: His very ability to dedicate himself to a cause is manifest of his Individual

freedom to do so."

- Cite AAUW JOURNAL, May 1965, P. 175.

"... The ignorant conformity with the concept that individually is attainable through physical differences and through selfprestige acclaiming superficialities."

- Citation and context at Conformity. 10 Oct '63

Individuality:

"... It is only man's inertial ignorance and its superstition conditioned reflexes that bind him, unrealistically within the nonsensical illusion of conformity. I am also convinced that three eyes and two noses do not make for pleasingly increased individualism. I am impressed that despite the physical and numerical uniformity of healthy biological species' equipment inventories, that science has never found two individuals whose life patterns develop alike. To start off with there are the fundamental differences in finger prints."

- Cite MEXICO, p. 102, 10 Oct '61

Individuality:

"Each life as we know it is definitive, i.e., consists of a plurality of terminable, ergo definite, experiences, beginning with each awakening and terminating with each surrender to sleep (no man can prove upon awakening that he is the man who he thinks went earlier to sleep, or

that ought else which he thinks he recollects is other than a convincing dream). The intermittent beginnings and endings of conscious experience constitute an aggregate of definitive experiences--- and the aggregate is therefore finite."

- Cite INTRO, to OMNIDIRECTIONAL HALO, p. 122, 1959

- Context at Universe {1} (2), 1959
Individuality;

"Inexhaustible faith of man in the validity of himself as an effective factor in the biological equation of the Universe, to which latter the principle of essential priority of common weal is implicit, i.e., that the individual is a product and servant of a plurality.

"In the principle of mass production industry, the significance of the individual as a producer continually diminishes and his importance as a consumer increases proportionally. The productive ability which displaces the individual as a productive slave is cumulative to the whole history of intellect."

- Cite Part II, Earth, Inc. Fuller Research Foundation yellow transcript, p.14, 1947

Individuality & Degrees of Freedom;
(1)

"We may define the individual as one way the game of Universe could have eventuated to date. Universe is the omnidirectional, omnifrequency game of chess in which with each turn of the play there are 12 vectorial degrees of freedom: six positive and six negative. This is a phenomenon of frequencies and periods- if¹! i¹* ir ---cities.

Each individual is a complete game of Universe from beginning to end. This is why each of us individuals are so much alike and yet completely different, a unique and individual way of playing the game with each of the omnidirectional degrees of freedom. With the six positive and the six negative omnidirectional degrees-of-freedom moves to be made at each turn of the play the individual can move to any cosmic point that is not occupied and he can move back over the same points or move on to new ones.

"Intellect as 'god' can play all these incredibly different games in all these different ways and at all the differential rates at the same time."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 537.41, 1 Jul'75

Individuality &. Degrees of Freedom: (2)

"The individual differentiates position in Universe, The six degrees of freedom operate at every turn of the play. Just think of the frequencies-per-second of each of the chemical elements that make up the individual human body and then think of the periodicities of the those frequencies,

"That each individual is a complete integrity is one of the reasons that I don't have to make any effort in loving my fellow man. (In the first person plural of we-even the I even classifies itself with the other. Each individual integrity is like a steering effect and like all steering effects they go from one aberration to another. Certain individuals may be ViJSE® very wide aberrations form all the corruption that's going on in Universe, acting as just one of those infrequent and very wide aberrations so that Universe can hold its center. At that center sphere is the two, and you turn inside-out; and only the tetrahedron turns inside out. The other side of the Universe is not like the other side of a river, but an inside-outing.)

- Cite SYNERGETICS, 2nd. Ed. at Sec. 537.42-.43; 1? Jun'75

"We regard each individual as the special case, but conscious as the generalisation. Like the bumper sticker, "The Real World is a Special C_ase." Reality is special case. You and I are sitting here and no one else can be sitting right where we are. This is the kind of reality that the newspapers miss: they write about reality as if we were all the same realities, as if we were all the same things. If you and I are sitting here we couldn't possibly be anywhere else,

"There are a lot of different realities. That is the difference between reality and generalization. There is only one generalization, The only reason the radio works is because it has no interference. The game of Universe can be played on any one of the fantastically large number of the quadrillions of quadrillions of frequencies; the game can be played any way just so long as there is no other interference on the frequency you are using, so long as there are no two pieces on the same square."

- Cite SYNERGETICS ,2n.d Ed. at Secs. 537.U-.45; 17 Jun»75

"What is important about the individual and important about Universe is that neither are exempt from any of the rules. The universe is the sum total and the individual is the special case. Universe is the aggregate of all the generalised principles."

- Cite SYNERGETICS, 2nd. edd; Sec. 537*46, 1 Jul 75

Individual: Individually: Individuality:

Sea Convex Individualizable Phase

Distinction

Free Will

Human Being

Identity

Industry as Broadcasting of Truth to Individualism

Lifetime: Persql Lifetime Experience for Elective Investment

Little Individual: Little Man

Man

Me

Odd Ball

Outdividual

Personality

Self

Subconsciousness

Single Otherness

See Bureacracy, 2 Jun'71

Conformity, 10 Oct*63*

Democracy, Jun'56

Death, 25 Apr*71; 13 Mar'71

Environment, Jun'66*

Frame of Reference, 4 Oct'72 Imagination: Imaga-ize, 17 Feb'73

Icosahedron, 16 Feb'73 Industrialization, 1928 Icosahedron as Local

Shunting Circuit, 22 Jun*72* Integrity of Universe, Feb'72

Life Is Not Physical, 29 Jun'72 Omnidirectional: Physical Existence
Environment

Surrounds, (1)

Pattern Integrity, 9 Jul'62* Surf Poundings, Spring'66 Trim Tab,
Feb'72 Universe, (f)(2)*

Utopia or Oblivion, 1938 Viral Steerability: Angle-frequency Design
Control,

Apr'72

lateltel ImUxldsAlAaa: 2n<UyM.u.Aim;
(2B)

See Education, 20 Jan'75 Export-import Centers. 20 May'75 SlnT-
NoMf Unlforait Confession, 7 Jan'76

Chess: Game of Universe. 28 Mar*77 New? & Evolution, (1)-(4J In,
Out 4 Around, 17 May*77

See Individual Economic Initiative

Individual: Enjoyment of Earth without One Individual Being Inter-
feded With

Individual Man

Individual: Not Trying to Reform the Individual

Individual Righte

Individual System Formation

Individual: Theory of the Individual

Individual Life as One Way Universe Could Have Turned Out Individ-
ual Universes Individual Freedom vs. Mutual Emergency Individual &
Group Principle Individuality 4 Degrees of Freedoa Individual vs. Uni-
verse

* Cite SYNERGETICS Corollaries, Sec. 240. 1970
Indoors yjt Outdoors;

See Civil War, (2)

Sea Infinity: Bringing Infinity Indoors

See Inhibit “ (unidirectional Indrinking

Induction: Inductive Method: Inductive Heaeonline: (1)

See Experimental Demonstrability Experience-harvested Information

See Mass Attraction, 6 Mar*73

Self de Otherness, 28 Apr'77

See Weapons Technology Sequence, (A)(B)

Disarmament, (1)

See Agrarian Metabolica Agricultural Accounting System Fiscal Year

Industrial vs. Agricultural Accounting:

12)

See Time-energy Economice, 15 Jun'74

"Omniautomated aelf parts replacing sensingly feedback industrial complexes can be comprehensively designed by human mind, the mass reproducibility and service longevity of which will always be fundamental to the design laws, both primary and corollary*"

' *13 Mar'?? ** SsaUfl: Apriorl Design y». Deliberate

See Human Uneettleraent, (3)

Industrial Deaizn:

*'Industrial design' was a term coined in the mid-20's for a superficial stylist of machinery. It is when America started to deceive itself. It is not a nice profession."

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan'75

Industrial Design:

"'Industrial design,' as practised under that tens, has nothing to do with industry--- it is just so much superficial airbrush.^{1'}

- Cite RBF to EJA, UCSC, Phila. PA, 13 Jun'74

See Equation: Philosophical Equations

Industrial Equation;

(2)

See Industrial Lag. (1)

Technology₍₁₎

Industrial Hypocrisy:

"Humanity's serf complex--- survival of phohs' whips and emperors' sadism--- has bead industrial hypocrisy. 'Soldiering,* pretentious hustling, officiousness, abstract posterioral osculations are amplifications of the momentum of the subconsciously sustained, fallacial notion of a necessity of evidenced quasi-justification of existence. Man will suddenly credit that he need not be uneconomic £*_ to justify life. In this realization lies the significance of the industrial emancipation. At present it is popularly incredible that people are not meant to labor and sweat. They would have it otherwise; but they 'dare' not even dream so. The repro- shelter industry will soon accredit the rationality of their age-old yearning."

2 See Uneconomic, 25 Sep'73. *J*

- Cite SHELTER, Vol. 2, No. 4, p.43, May'32

Industrial Lag:

"The regenerations, the gestation periods and the obsoleting periods are relative for the different arts. They overlap each other. You get quite a few electronic generations between any one automobile generation."

- Cite Tape #3, p.15J RBF to W. Wolf, Phila., PA, 15 Jun'74

Industrial Lag:

"The individual intellect paces the individuals;

the individual scientist paces the science; science paces technology;
technology paces industry;
and each one of these paces are a considerable lag. „

Finally industry paces economics. . . economics paces what we call everyday life and we have all the political adjustments of the extraordinary reorientations of man to his environment."

-Cite OR&GOK Lecture #3 - p. 80, 5 Jul 1962

Industrial Lag:

"I have made many studies of what we call the relative lag, the amount of time occurring between when a scientific discovery is made, or a technical invention is made, and the time when that discovery or invention is introduced into society and put into use in the Industrial equation. There are really some very great lags like that lag of chrome-nickel-steel from 1854 to 1914 in its being used.

"In studying these lags I find that they have a certain orderliness. Since the more remote the function, the more intellectual the perspective we have on it, the greater the speed with which we accelerate its adaptability into our economic life.

"One can see a cart going by and therefore can be critical of the wheel as we see it changing its positions. They are standing still and the cart is going by so they can see what broke up the wheel as it landed on a rock. So they began to invent ways of not letting that happen. That is what we call perspective. At any rate I find that the greatest perspective is really the intellectual one, and in the communications arts, radio, and so forth, there is only a lag of about two years"

- Cite Oregon University Lecture //1, p.18, 1 Jul 1962
Industrial Lag:

'between the invention and the actual incorporation in the circuits that are designed.

"In railroading there is about 15 years--- a very long span, in airplanes there is only about a seven-year MB span. In housing the average lag is 45 years. This will give you an idea of how this low-priority art really lags behind."

- Cite Oregon University Lecture #1, 1 Jul'62
industrial Lag:

'Then I said I see where the Individual scientist makes a great breakthrough it is a long time before the « academy accepts in general. Then a long time after the academy accepts in general that engineering begins

to have this as part of their working data. Even a longer time before inventors have an atmosphere of logic that helps them to invent within the new terms. Then there's a long lag before the invention is taken on by industry. But once the invention starts to producing, then it alters the environment in a major way and there are all kinds of political adjustments. So that's why I said, quite clearly, there's such a lag between an Einstein and Krs. Murphy."

- Cite RBF at SIMS, U.Nass., Amherst, 22 July »71, P. 23
TEXT C1TAT1UN&
industrial lag;
Nine Chains to the Moon, p.lb, 1yj8 —
Industrial Lag:

See Building Business, (1) Buildings as Machines. (2) Copper Sequence, (VI)(VIII) Population Sequence, (2)(3)

Industrial Man;

"It took Industrial Man, functioning intellectually with invisible scientific logic, to extract metals from the Stone Age's exclusively superficial use of the raw stones only as dynamic tools or static masonry thus multi-fold increasing the resource effectiveness."

- Cite MEXICO '63, p.1, 10 Oct '63

KBF DEFINITIONS

Industrial Man;

"The thrilling inference of the phantom captaincy conception is that it not only precludes the possibility of the operation of extended machinery without the volition of inner man, but that the unit mechanisms are doing for man what politics has consistently failed to accomplish.

"Industrial man, being unit, can only be effective in the direction of his own best survival interest."

- Cite NINE CHAINS TO THE L-WN, pp.38-29, 1938

Industrial Man:

See Continuous Man Mole: Industrial Man as Universal Mole

Industrial Metabolics:

"Agricultural metabolics differs from industrial metabolics Which deal exclusively with the eternal metaphysical principles Impersonally governing the external, detached processes Of the inherently imperishable, forever regenerative, Physical energy intertransformings of cosmic evolution Whose inexhaustible inventory of unique capabilities Human minds may employ to produce Progressively amplifying human life support With ever less units of time, weight, and effort Per each accomplished function."

- Citation and context at Economic Accounting System (B), July*72
See New York City, (12)

Pattern Sense, 14 Apr*70

Weapons Technology Sequence, (A)(B)

Industrial

Principle:

"The original chaotic disposition of the 92 chemical elements is gradually being converted by the IndiAriar principle to orderly separation and systematic distribution over the face of the earth in structural or mechanical arrangements of active or potential leverage-augmentation."

- Citation & context at Nlnetv-two Elements, 1 Jun'49

Industrial Principle:

"Because the principle of industry improves as the number of people itw serves is increased, it also in terms of the increase of the number of functions of the individual to which it is applied and it also improves in terms of its accelerated use. Product and service production of any one item of industry trends to manipulation

by one man for the many through push-button and dial systems.

>Yhile man trends to increasing specialized function in anticipatory and positive occupations of production, he also trends to comprehensive function as consumer."

- Cite COMPREHENSIVE DESIGNER, p. 4, 1 Jun'49

See Ninety-two Elements,

1 Jun*49

See Industrialization: Curve Of Ninety-two Elements: Chart of Rate of Acquisition

industrial ^RcYQlutloa:

See Dymaxion Airocean World, (I)

The industrial theory is the "integrated, teleologic objectivity of the full gamut of the exact sciences."

- Cite RBF quoted— with context-- by Thomas Kuhn in "Post-Industrial Prophets,"¹¹ (Harper-Colophon), p.235. 1971

See Tools: Craft & Industrial

Word as Industrial Tool

Industrialization: (A)

"Industry has been identified with people trying to make money rather than with people trying to make the world work, Humans are in the middle among nature's creatures; they have no integral equipment but can sense principles. Other biological species... various organisms' behaviors... all systems alter other systems: this is the essence of evolution.

"The organics take on more energy than the nonbiologicals; they alter the environment more and in discrete ways like the spider's web. The mine is part of the mole. The nest is part of the bird.

"Man is unique in his ability to alter the design of the artifacts. Tools are part of the human beings. But the human can only produce what nature permits him to produce. The relative crudity (95 percent) is part of the learning.

"It is very misinformative to refer to industrialization in terms of profits. Profit is just taking the input from the many for the advantage of the few.... I shudder when I hear people say we must give up industrialization and go"

- Cite RBF at Penn bell videotaping session. Philadelphia, 22 Jan'75

Industrialization:

"back to 'the crafts.' Are we going to give up our language

- Cite RBF at Penn Bell videotaping session, Philadelphia. 22 Jan'75

Industrialization:

"Pre-industrial agricultural existence

And its social-economic accounting

Was local and seasonal

And limited exclusively

To biologically impounded celestial energy--

*No crops' and the people perished,

"In complete contradistinction to farming

Industrialization is universal, evolutionarily continuous

And hooked directly

**To the inexhaustible and gravitational chemical energies Of eternally
self-regenerative Universe,"**

- Cite NO RACE— NO CLASS, 1 Aug'72

Industrialization:

**"... Man goes from guarding the local roots of his originally exclusive
agrarian metabolics life support into a world-around imperishable
metals-sustaining impoundment of cosmic energy, and eternally
regenerative energy, labeled industrialization in the world economy."**

,

- Citation and context at Sovereignty: Elimination Of, 29 Jun*72

Industrialization:

"Those not as yet Included,

In the high-living advantage, ever-multiplyingly produced

By power-driven tool networks,

Do not comprehend the swiftly accelerating rate

At which comprehensively increasing human advantage

Will include them and their children.

As well as the children of the already advantaged—

For the find themselves in a cultural environment
Whose customs, logic and law

Were designed uniquely to cope only with the lethal struggling Of the
preindustrial, frequently failing agrarian era,
Which struggle is no longer essential to their omnisuccessful potential

intuiting which, children find themselves brimming
With unanswered questions regarding the significance of life."

__ Cite BRAIN & MIND, p.95 May '72

Industrialization;

"The historical fact referred to under the word Industrialization is a
great change--- a revolution--- in the life of the individual. The process
has not been merely mechanical, but organic and evolutionary. It has created
a new kind of life augmented and hitherto unimagined."

- Cite RBF article In Fortune, quoted by Wm. Marlin in Architectural
Forum, p.77, Feb*72

Industrialization:

"Industrialization is completely organic and interrelated. Industrialization
must be recognized and operated on a total world and total humanity basis
or it is nothing. Industrialization involves all the resources of the earth,
all the knowledge and all the experience of all men everywhere and involves
everybody on earth as the logical clients to be advantaged by the total
integrated capability."

Industrialization:

"Industrialization, through the relayed experience of all men--- permitted
through the individualization of the spoken and written word-- involves
all experiences of all men everywhere in history."

- Cite DOXIADIS, p. 324 20 Jun'66

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RBF DEFINITIONS

m«t_{fl}hn?7dU8trialization 18th® extracorporeal organic
l^bSro?e!51On Of hUMnlty_

- Cite DOIADIS, p. 323. 20 Jun'66

Industrialization:

"When we refer to the computer and automation taking over, we refer really to man's externalization of his internal and organic functions into a total organic system which we call industrialization."

□ Cite THE YEAR 2000, San Jose State College. Mar'66

Industrialization;

"• • □ The extraordinary changes brought about by the economic efficiencies of industrialization and" its "world-embracing, hypersensitive, dynamic tool network."

"Seance paces technology, technology paces industry. industry paces economics, and economics paces politics. Quite clearly then, political leaders are at the tail end of affairs."

~~- RBF quoted by Charles E. Roper 0, Green, Harvard Crimson
story on Charles E. Roper lectures, January 1962.~~

- Citation and context at Politics, Jan'62

"Industrialization . . . permits and Implements man's conscious, though limited, participation in his own evolutionary patterning transformation."

- Cite MARKS, p. 10 (Marks* quotes.) 1960

Industrialization: (1

"Industrial authority... has recently shifted from major preoccupation with exploiting original resource to preoccupation with keeping the 'wheels' which they manage turning--- now that the original inventory of 'wheels,' that is tools in general, has been realized from our original resource. Though original resource exploiters still have great power, that power will diminish as the mines now existing above grade, in highly concentrated use forms, yet in rapidly obsoleting original design, become the preponderant source of the annual need.

"Severe acceleration in the trend to increase of performance per pound of invested material now characterizes all world industry. With no important increase in the rate of annual receipt of original mines, the full array of mechanics and structure requisite to amplifying the industrial complex from its present service to approximately one-third of the world's population to serve all the world's population, may be accomplished by the scrap 'mined' from the progressively obsoleting structures and mechanics. World industrial management will be progressively dependent upon the comprehensive designer to accelerate the turning of his wheels by design"

- Cite COMPREHENSIVE DESIGNER, p.6, 1 Jun'49

lalmUAXimiaii*

(2)

"acceleration. Each time the wheels go round, the infinite energy wealth of cosmos is impounded within the ever greater receptive capacities of the 92 element inventory of Earth; and those who manage the wheels can make original entry on their books of a new and expanding wealth increments even as the farmer gains cosmic energy wealth in his seasoned cycles."

- Cite COMPREHENSIVE DESIGNER, p.6, 1 Jun'49

The last 400 years have witnessed the gradual fadeout of feudalism and the gradual looming of what will eventually be full worldwide industrialisation--- when all people will produce for all people in an infinity of interacting specialized continuities.

"The more people served by Industrialization, the more efficient it becomes.... Industrialization trends to 'accentuate the positive and eliminate the negative,' first by measuring nature and converting the principles discovered in the measurement to mastery and anticipation of the vagaries. Day and night, winter and summer, fair weather or bad, time and distance, are mastered. Productive continuities may be maintained and forwardly scheduled."

- Cite COMPREHENSIVE DESIGNER, p.1, 1 Jun'49

Industrialization:

"... Democracy, and science, and technology /` ` make__7 a complex assembly into industrialization."

(Adapted.)

- Cite HOW TO MAKE DEMOCRACY WORK, p.12 , 28 Apr*48

RBF DEF INTI UNS

Industrialization:

"Science works equally well
under private or public subsidy ..."

while "industry is the pure product of free enterprise, imagination and personal risk of the individual or small groups of individuals."

- Cite Part II, Earth, Inc.

Fuller Research Foundation Yellow typescript, p. b. 1947

"Industry is a cooperative phenomenon which produces items that give constantly improving performance and thus enables man to overcome his own great Inertia of habits."

Cite: Wichita Summary for Christopher Morley, 1946

"Little man's whole world and his practical potentials changed for him in terms of the automobile. Inherent Industrial principles had emancipated him as no political scheme could ever profit him."

Cite: Wichita Summary for Christopher Morley, 1946

"Industry is merely the broadcasting system of truth to individualism ..."

"Industrialism must of necessity imply quantity production."

It is uneconomical without it. It is born of the very truth that: what is truthfully good for one is truthfully good for all."

- Cite 4-0, The Time Lock, Chapters 8 & 10, respectively, 1928

Industrialization: Curve Of: (1)

"It is 45 years from 4-0, 1927, to AD, 1972, and that is the 'gestation period' of 45-50 years that I foresaw in 1927 would be involved in the realization of humanity's highest knowledge and productivity converted from a killingry to a livingry focus and abandonment of the history-long assumption of fundamental, eternal scarcity of life-support; ergo, of a norm of human failure and adoption in its stead of a norm of 'human success.'"

I published my curve of industrialization in 1951 in Harry Holtzmann's 'Transformation' magazine which showed that 1972 would be humanity's crisis year because prior to 1900 AD the ratio of havenots to haves had always been more than 99 to 1. This century has seen this historical ratio abruptly and continually altered--- in 1919 it was 94% havenots and 6% haves, in 1951 it was 70%

havenots and 30% haves. My curve showed that after 1972 the majority of Earthian humans will be haves, with havenots disappearing altogether before 2000--- with my second 'most accelerated' curve showing total success could be attained by 1985.

"It is wonderful that you have committed 'AD' to celebrate this at Hew Year's day, 1973."

Industrialization; Curve of; (2)

- Cite HBF Ltr. to Monica Pidgeon, Editor, »AD: Architectural Design', London, 13 Nov'72

See Imhutirltl. Revolution: Profile Of Ninety-two Elements; Chart of Rate of Acquisition

Industrialization; Successive Halving Time of National Industrialization: (i)

"Three centuries ago industrialization gradually came to Europe, a continent that thought of itself as having a farming economy. It began with windmills and waterwheels, coupled with trains of gears. The inadvertent 'swords into plowshares' industrial trending increased enormously man's ability to control his local environment and to increase the human lifespan. Europe took 200 years to industrialize. The United States, greatly aided by the knowledge already acquired in Europe, industrialized in only 100 years. Russia, after its great revolution of 1917, undertook industrialization with its series of five-year plans. When the great depression occurred in America and Europe, the Russians were able to contract with the great corporations in America to come to Russia and provide the know-how with which to build prototype factories. So Russia started industrialization at the highest level of American development, just as America had

started at Europe's highest level. Russia industrialized in 50 years. Hence we have Europe, 200; the United States, 100; and Russia. 50. This successive halving of time to institute national industrialization made it possible for me to say in 1947 that China would Indus-

- Cite THINKING OUT LOUD (1): DISPROVING THE POPULATION EXPLOSION, World Mag., pp.1b-40, 3 Jul*73

Industrialization: Successive Halving Time of National industrialization: (2)

"industrialize in only 25 years--- which is exactly what China did. And that is why it opened up to the United States and Europe in 1972. Because 99 percent of modern electromagnetic and electrochemical industrialization is invisible to humanity, the world is surprised at how quickly China has become industrialized."

- Cite WINKING OUT LOUD (1): DISPROVING THE POPULATION EXPLOSION, World Mag., p.40, 3 Jul»73

Industrialization: Successive Halving Time of National industrialization: "Industrialization has a very interesting pattern. As a new country begins to industrialize it does not copy what the older country did first. Even after World War II engineers thought that a new industrial country would have to copy every single thing in the United States that we did.

But you will find that is not the way it goes. Japan did not start with the cloth-covered bi-plane of the earlier Americans. They started right in with the aluminum spitfire level. And China comes into industrialization starting right in without even having propeller airplanes. What took England 200 years to do was matched by the United States in 100 years, simply because we started in with the knowledge and the principles and a fresh start, whereas they had to keep adjusting the old machinery to keep it running.

So the new fellow comes in at a great advantage. Russia industrialized in 50 years and it's very probably that China is going to industrialize in the extraordinary period of 25 years. This is what's going to really surprise the whole world. Somewhere around 1975--- as short as that--- China's going to be almost approaching affluence."

- Cite RBF to World Game at NY Studio School 12 Jun-Jul'69, Saturn Film transcript, Sound 2, Part 2, pp.45-47.

See China. esp. Kr'6b Population Sequence (2)(3)

Induatrlall.mi.nili Taka *f-mv* the iiachlnerv of Industrialisation:

See Leaders: Take Away the Leaders

See Overproduction, 1 Feb'75

Industrialization, (A)

RBF DEFINITIONS

Matrn

"My definition of industry is a tool-regenerating complex in which none of the tools could be produced, operated, or used by one man: for example, the Queen Mary, Grand Coulee dam, the Pennsylvania Turnpike, etc."

- Citation and context at Continuous Man (1), 1963

RBF DEFINITIONS

Industry;

"Technology paces industry by progressively increasing the range and velocity inventory of technical capabilities. Industry in turn paces economics by continually altering and accelerating the total complex of environment controlling capabilities of man. Economics in turn paces the everyday evolution acceleration of man's affairs. . . "

- Citation and context at Science-Technology-Industry. Etc. (2)

Industry:

'Industry and biology are metabolic; they grow.'

- baSIGKERS AKD '
- Citation at Netabolics, 1962

Industry:

"In architecture 'fora' is a noun; in industry, 'fora' is a verb. Industry is concerned with doing..."

- Citation and context at Noun. 1938

Industry »B Broadcaatlnz of Truth to Indlvldualia.:

See Industrialisation, 1928

See Adoption of the New Only as Last Resort Age of Cybernetics Buggy
Industry Could Never Invent Automobile China Economic Accounting
System: Human Life-hour

Production

Energy Slave

Halfway-round-the-Worlding Internal Ketabolics vs. Industrialisation
Labor: American Labor Mechanics

Overproduction

Scenery: Rearrange the Scenery

Science-technology-industry-economics-politics

Sequence

Service Industry

Social-industrial Relay

Telefactory

Tools: Craft k Industrial

Total Industry

Weapons Technology World Corporations

See Automation, Dec'69

Biological Design. 13 Mar'73 Continuous Man (1) Design Science, 1970; 6 Feb'74 Female, May'65; 19 Dec'71 Gross World Product Sequence (1) Hands, May'70 Invention Sequence (1)(2) Lever (II) Metabolics, 1962* Noun, 1938* Order. Feb'67 Politics, Jan'62* Population, Feb'72; Sequence (1)-(3) Problem: Statement of the Problem, 1954 Socialism, 1962» Sovereignty: Elimination Of, 29 Jun*72* World-around Language (1) Inventory, 28 Apr'74 Distribution, 25 Jan'75 Wood Techno¹ogy, (1)~(4)

See Disarmament, (1)(2)

Old Man River Project, 20 Sep*76

See Industrial Advantage

Industrial Complex

Industrial Design

Industrial Equation

Industrial Hypocrisy

Industrialization: Curve Of

Industrialization: Successive Halving Time of National Industrialization

Industrialization: Take Away the Machinery of Industrialization

Industrial Lag

Industrial Man

Industrial Metabolics

Industrial Network Functions

Industrial Principle

Industrial Revolution: Profile Of

Industrial Theory

Industrial Tools

Industrial vs. Agricultural Accounting

Industrialization / Money-making

Industrial Commonwealth

Industrial Cycle

Ineffable Point:

See Zone, 11 Feb'73

Ineffable: Ineffability:

See Ineffable Point Nameless Inexpressible Wordless

Ineffable: Ineffability

(2)

See Axiom, Sep'71

Nature Has No Separate Departments, 18 Jan'69

looms loner

See Uneconomical

Inefficiency:

See Cheap, Jul'76

Building Industry, (1)

(2)

Inertia;

"Inertia is dynamic---as sensed in the orbital course integrity of the enormous mass of Earth going around the Sun at 60,000 m.p.h. so that the little man on board it. who is also going around the Sun at 60,000 m.p.h., and is also walking around Earth at four m.p.h. and as he steps around Earth's surface he pushes the Earth in the opposite direction to his walking, but so negligibly that the little man does not conceive of his Earth as movable and so has invented the concept of completely inert, or 'at rest.' Our deceptive fixity of celestial position as a standing still in Universe is forgotten by the absolute silence of travel in vacuo around the Sun."

Cite SYNERGETICS text at Sec. 517.23; galley rewrite, 6 Nov'73

tBF DEFINITIONS

Inertia:

"Inertia ia dynamic as sensed in the orbital course integrity of the enornpus mass of the Earth going around the Sun at 60,000 m.p.h. so.that the little man on board it who is also going at 60,000 m.p.h. steps around its surface pushing the Earth in the opposite direction to hie walking, but so negligibly that the little man does not conceive of his Earth as movable and has invented the concept of completely inert. or 'at rest.* Our deceptive fixity of celestial position as a stand-ing still in Universe is fortified by the absolute silence of travel in vacuo around the Sun."

- Cite RBF marginalia 20 Dec, '71 at SYNERGETICS Draft

Soo. 517.23

Inertia:

"Society has still not gotten over its preoccupation with inertia.... As strong as the rock of Gibraltar. The Maginot line is the last compression wall."

`` CⁱS[®] RBF.at Penn Bell videotaping session, Philadelphia, 23 Jan'75

"Inertia is dynamic, as the Earth going around the Sun at 60,000 m.p.h. An enormous mass, so enormous that the little nan on board it, who is also going at 60,000 m.p.h., steps around the surface pushing the Earth in the opposite direction, but negligibly. So negligibly that the little man has invented the concept of inert, which is celestial position integrity, not a standing-still in universe, but implicit in its mass times velocity acceleration in vacuo around the Sun."

- Cite RBF to EJA, Beverly Hotel, New York, 24 April 1971

Inertia:

"The first structures were strictly fortresses. Big heavy brick building which were very good for fending off bows and arrows. People had guarded houses; had to guard their windows. . . Carrying on in the way of developWing inertia. ponderousness, to such an extent that it is now ingrained in humanity."

RBF address at Univ, of Alaska, Anchorage, *72

- Cite transcript p.1, 20 April

Zngertia of Fgap:

See Reform of Environment, 10 Oct*63

JmrtU al HablM:

See Industrialization, 1946

Inertia **ot** «Lat Well Enough Alone”:

See Laissez-faire Process, 10 Oct*63

See Celestial Position Integrity Diesel Ship at Sea Push-pull Moment
tun

See Compression, 1 Apr'49 Relativity: Special Theory. 15 Jul*73 Survival Sequence; Love, (1) Tensegrity Sphere, 19 Dec'73 World Game as Football Game, 23 Aug'70 Periodic Experience, (4) Flywheel, 11 Dec'75

R8F DEFINITIONS

Inexactitude:

'But aa long aa aelf-conaciouanesa continues

The inherent inexactitude of

Earthian mind's self-and-environment apprehending--- Yclept life---
"

- &iXergVeillTIIJK£Kr72r975UAHU'~SPALfc VEHICLE -E&ffffi

Jan • 72_f

- Citation & context at Life. Jan*72

See Approximateneee Indeterminate Inexactitude

Inexact gclencea;

See Social Sciences: Analogue to Physical Sciences, 1959

Inexhaustible ~ Finite:

See Finite, (p.25) Jun'66

RBF DEFUNITIUKS

Inexorability;

"Historically we have record of great irreversible evolutionary changes of our planet and that irreversible environmental change is absolutely inexorable."

- Cite Museums Keynote Address Denver, p. J. 2 Jun'71

IneyorabUj-ty:

"I think Henry Luce didn't like me at first, but in hie last days he was really very fond of me.... He once said I was his exact opposite.... He said I think man can change anything; whereas you think inexorable things are happening to man. He felt that I was a fatalist and he was opposed to that view.

It wasn't a particularly good analysis of me, but he found it very difficult to understand what I was saying. Eventually, he began to get more understanding...."

- Cite transcript of RBF tape to Barry Farrel, Tape #2, Side A p.3; Bear Island, 11 Aug*70

See Irreversibility Omniinexorable

In«ror»Ua: IntxarabUltr:

(2)

See Computer Asks an Original Question, (4)

Evolution, 1970; 24 Apr'67

Television: Third Parent, Nay¹65

Tranformation, 30 Apr¹74 . .

Custom: Lest One Good Custom Corrupt the world, (A)

Inexplicable:

See Explicable & Inexplicable hystery Unexplained: As-yet Unexplained Unknowable Unknown: All the Unknown Undiscovered Principles Unpredictable Self-inexplicable

Inexpressible:

See Zerophase - Inexpressible

Infant:

See Baby Child

Inferiority Complex:

See Ego, 9 Nov'75

Infinite:

"Infinity occurs in our space sense as an abstraction which could go on filling space forever. In physical Universe we may say 'eternally regenerative' instead of 'ad infinitum.'"

- Cite RBF to EJA, 3200 Idaho; 15 Oct'72

Infinite:

"Inconceivability does not mean infinite anymore than does invisible."

- Citation at Inconceivability. 1960

Infinite;

"•The open end of an angle is infinite, but so is its convergent end, in that the actions cannot pass instantaneously or either simultaneously through the same point.

As with the vector equilibrium, infinite is only increasing degrees of experience--- meaning: more or less tunable."

- Citation and context at Octet Truss, 1955

See Infinite, 15 Oct'72

Infinite Sygmg:

"The arbitrary parameters of be guaranteed to be adequate variables. Infinite systems of variable factors." infinite systems can never statements of all possible engender ant infinite number

- Citation and context at XYZ Coordinate System. Jun*66

Infinite Syatema;

(1)

See Open Systems

Infinite Systems:

(2)

See General Systems Theory, 8 Nov'73

Infinite Only «rs»:

See Hope, 23 Feb*72

Infinity:

The "cosmological concept of an eternally extended planar based Earth sandwiched between heaven and hell below made infinity obvious, ergo axiomatic, to the Greeks."

- Cite SYNERGETICS, "Operational Mathematics, One Spherical Triangle Considered as Four." 1971

Infinity:

"Once you start with whole systems you do not have infinities."

Citation at Whole Systems. 1 May'71

- Cite RBF tape transcript to BOIR, Carbondale Dome, 1 May 1971.

Infinity ;

"Physics has found no infinity. Physics has found

discrete packages. That's all she has ever experienced- discrete packages. ... It is an OHB entirely new system. We don't have to teach infinity in mathematics."

~~- Cite tape transcript RBF to BOIR, Carbondale Dome, 1 May 1971.~~

- Citation and context at Discrete_T 1 May*71

RBF DEFINITIONS

Infinity:

"Infinity is local

And occurs within definite systems,
As for instance
Following a great circle
Around a sphere
Which because of the fact
That lines—
Which occur experimentally
Only as energy vectors—
Cannot go through
The same point
At the same time—
Due to interference,
Which means also that lines
As curves,
Cannot re-enter, or
'Join back on themselves.¹
Therefore, the circling lines
Can only wrap around
And over its earlier part— ”
- Cite HOW LITTLE I KNOW,p,59, Oct'66

Jnanlty: (2)

"As the knot making

Sailor says it,

The circle when followed

Around and around

Results in a coil Which is

An asymmetrical spiral,

Which may be followed experimentally

Only as long as intellect follows,”

- Cite HOW LITTLE I KNOW, pp.59-60, Oct'66

Infinity:

"The concept of infinity, with one end closed by a 'beginning* and the other end open to infinity, is nonsense."

- Cite DOXIADIS p. 312, 20 Jun'66

KBF WliUTluhi

'•The only infinity humanity has discovered experimentally is that of the whole fraction subdivisibility of v/holes into parts as for instance by progressive halvings which divide the finitely close circle into ever smaller central

angle expressed arc increments.”

- Cite SYNERGETICS Draft, Feb '72, Sec. M 1001.05

**The difference between infinity and finity is always exactly two, or 720 degrees, or two times 360 degrees, or two times unity."

- Citation & context at Two, 7 Mar'71

"It was always thought that a sphere and a plane to which the sphere was tangent were for an infinitesimal moment congruent at the point of tangency. A sphere as defined by the Greeks, -and as bUmC always accepted by the calculus mathematicians, -had 360 degrees around every point. But we discover that all systems are polyhedra and there is just one tetrahedron less than all the vertexial points times 360 degrees. This is an important difference. The difference between what we will call infinity and coming back to close upon itself locally as a system to subdivide the universe into insideness and outsideness always require "taking out" one tetrahedron, or 720 degrees from somewhere around flU all the vertexes of the system."

- Cite NASA Speech, p.86, Jun'66
- ~~Call CAROOFFOATE-BnAFT-IV .?5?—~~
- rtBF DiFIUI IONS

'...The difference between the finite physical Universe of energy with which physics deals and the total Universe which also includes all metaphysical phenomena--- which we used to call infinity--- is just one tetrahedron."

- Citation and context at Comprehensive Universe (1), Jun'bb
- MMB infirtty. .& Elnltx: <¹)

"Compressions are always local and they are always tending toward dichotomy, breaking into two radii. We find that whelms in our old way of thinking, Infinity was $N + 1$... We tried to get a static picture of a sphere but we couldn't quite understand one more layer beyond it and what was beyond that--- in order for it to be something. In the nqsimultaneous picture there is no simultaneous 'one frame.' We are not faced with that at all. We find that the very large patterns are quite clearly finite. We get to the finite physical Universe of the physicist; of the finite Universe that I gave you in a description of 'nonsimultaneous' and we get then to the local compressionals and we find that the local is continually subdivisible. We start with a whole which was finite and then begin to subdivide it and the more local it is the more we can subdivide it so there is in a sense an infinity of further dichotomies and subdivisions locally. This is very much like the intellectual pattern goes... so that the only thing you might call infinity here is the further subdivision of finity.

"So it is really never infinite because you are not looking at one part. It is never just Plus One; it is always plus the rest of the Universe when you separate that One out."

- Cite Oregon Lecture #5, p.158, 9 Jul*62. SYNERGETICS 645.11+12

Infinity & Finiteness-

(2)

"You can separate unity up further and further. You can multiply the subdivisions of unity."

- Cite Orgon Lecture #5, p.158, 9 Jul'62 SYNERGETICS 645.11+12

Infinity & Finiteness-

"The difference between infinity and finiteness is governed by the taking out of angular sinuses, like pieces of pie, out of surface areas around a point in an absolute plane."

- For full context and citation see Angular Sinus Take-Out

Dec*61 '

BHfi Infinity & Finite

"If we call 160° unity . . . and if we subtract the sum of the convergent angles around all the vertexes of any system from the numbers of vertexes times 360°, the difference will always be 720°, which is exactly two times unity; this is to say that the difference between infinity and finiteness is always exactly two."

- Cite TENSEGRITY (Portfolio: Art News Annual), p. 120, Dec.

. Circumferential micro- or macro- being finite, and radial being infinite.⁰

- Citation and context at Macro-Micro. 1955

Infinity & Finiteness:

"Faces are finite sections of infinite open-angle divergent tendencies,"

- Citation 1 context at Convergence & Divergence,. 1955

See Minimum Limit vs. Infinite Series Unlimited vs. Limited ./holes
vs. Parts Circumferential Finite vs. Radial Infinite

See Angular Sinus Takeout, Dec*61* Calculus, 1960 Cartography:
Conventional Projections, (1)(2) Comprehensive Universe, (1)* Con-
vergence & Divergence, 1955* Hope, 23 Feb'72 Inflection, 1950
Macro-micro, 1955* Metaphysical & Physical, Jun'67 Two, 7 Mar'71*
Intellect, 21 Jun»77

RBF DEFINITIONS

"Infinity is like frequency; it is a subdividing. Because synergetics has
conceptuality independent of size it permits conceptuality before ynu
start subdividing. There is no a priori size; size commences only with
subdivision."

- Citation & context at Starting. with Divergence_f 19 Feb*76

See Blackboard, 6 Oct'71

lafinitY cawdw

See Inside, 26 Jan*73

See Nothingness of Universe, Dec*70

See Barrel, (1) Cartography: Conventional Projections, (1)

See Allspace Filling

Coil

Endless

Eternally Unlimited

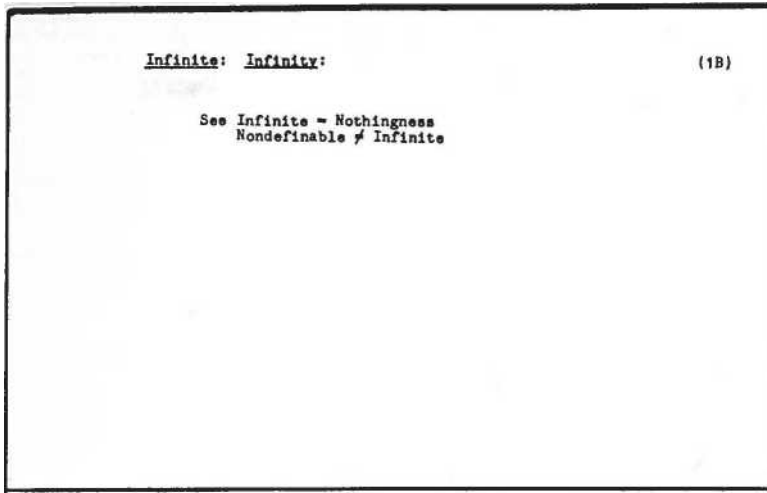
Interminable

Infinity & FinitY Finite Limitless Nonlimit

Nothingness of Universe

Open Systems Pollution: Infinite Room to Pollute Angular Sinus Take-out Universally Extensive

Minimum Limit vs. Infinite Series Universally Extensive / Infinity Endless / Infinite Inconceivable f Infinite Local Infinity



See Biae on One Side of the Line, 4-6 May'67 Coil, 19 Jun'71 Discrete, 1 Kay'71* Inconceivability, 1960* Inside, 26 Jan*71 Insideness &. Outsideness, 1950 Metaphysical & Physical, Jun*66; Jun'67 Octet Truss, 1955* Plurality, 5 Mar'55 Whole Systems, 1 fay* 71* XYZ Coordinate System, Jun'66* Navy: Theory Of, 22 Dec*74 Microsystems, 22 Mar'76 Intellect, 21 Jun'77

See Infinite Systems

Infinite Universe

Infinite - Eternally Regenerative

Infinity Finitude

Infinity vs. Finitude

Infinity Frequency

Infinity: Bringing Infinity Indoors

Infinity Complex

Infinite Nothingness

Inflation:

means more people being supported at highest standards of living by the same amount of resources. The same inventory of physical resources as those of 1900 is now KXB in 1973 supporting many times as many humans at far higher standards of living than that of any 1900 monarch.

^fInflation* is a consequence of completely inadequate economic accounting of evolutionary events. It accounts only the fact that humans are ignorant, and that selfishness and fear prevail.

RBF DEFINITIONS

Inflection;

"Waves consist of frequencies of directional inflections in respect to duration of experience."

- Citation at Wave. Mar'71

Inflection:

In the projective transformation model "when the parallel rods are gathered to a common point opposite either face of the basic articulating steel band triangle the gathered ends will be closer together than their supposedly previous infinitely close parallel positioning had permitted and the opposite ends will be reciprocally thinned out beyond their previous supposedly infinite disposition. Both ends of the rods are in finite condition--- beyond infinite--- and the parallel phase (often thought of as infinite) is seen to be an inflection phase between two phases of gathering of the ends, alternately, to one or the other of the two spherical centers opposite either of the inflection or flat phase of the articulating basic steel band triangle."

- Cite Noah's Ark, p. 5, 1950

See Flat: Almost Flat Locus of Inflection Zero Inflection

.InriMilblS = Inflexibility:

(1)

See Flexible ve. Inflexible Rigidity

See Triangulation, 26 Jan*72

Infoldable;

"The octahedron is infoldable, or innestible— hemi-hedrally.

Tr:^tpT⁷:i^{A1}~h, Boston, 22 April 1971

- Citation at Octahedron. 22 Apr*71

See In-nestible Nestable: Nestability

Info-bita;

See Frequency Islands of Perception, 13 Nov*75

See We-Me Awareness, 31 May'74

information- "Information ia experience. Experience is information,

- Cite R0F rewrite of SYNERGETICS galley at Sec. 801.02 22 Nov'73

InfQrpatlgP-

"Information is part of ths environment. , . . Kuhns seems to have forgotten that."

(K propos William Kuhns, in THE POST-IN DUS TRIAL PROPHETS, p.154:

"The first nujor use of electronics was in the telegraph. Technology contributes to the competitive thrust of media more quickly than to any other needs--- including food or shelter, which would seem to be more vital?)

- Cito RBF to EJA, 3200 Idaho, Wash, DC, 15 Jul*73

Information:

"The organics are the information-proceasing devices. The creatures and the trees adjust to information. But life is none of these things. The organism gets information for life, but it is not life. Man has confused the telephones with the people talking on the telephones,"

HbF DLFINITIUhb

Information:

"Apprehension means Information furnished by those wave frequencies tune-in-able within man's limited sensorial spectrum."

"~~Un~~iverse," Sec. 302. 1971

- Citation at Apprehension, 1971

Information:

"Information is experience."

Cite RBF, Synergetics draft, Sept. 1971, "Conceptuality.

"bensoriality: Sweepout."

Information:

"Each successive child is born in the presence of less misinformation and of ever multiplying reliable information,"

- Cite RBF Ltr. to Prime Minister Indira Gandhi, 4 Jan'70, p. 6.

Information;

"Information is the result of a choice. It is the quantized metaphysical complement to entropy."

— 2. Cite RBF gl»ogsary of terms, SYNERGETICS draft 1967

SYv<RffT«c5, Z-o. ED, - SEC 1_OC dty

Information:

"We may hypothesise that as information increases exponentially---explodes-- conceptuality implodes, becoming increasingly more simplified."

- Citation at Conceptuality, 1967
- ClAadffiSziiSCtilXToc ntaa mnd the -BlospKSxVfn2.

W

Information Control System:

See Computer Feedback Servomechanism Omnirational Control Matrix

"Synergetics shows how we may measure our experiences geometrically and topologically and how we may employ geometry and topology to coordinate all information regarding our experiences, both metaphysical and physical.

"Information can be--- either or both--- conceptually metaphysical and quantitatively special-case physical experiencing.

"The quantized physical cast? is entropic, while the metaphysical generalized conceptioning induced by the generalized content of the information is syntropic. The resulting mind-appreciated syntropy evolves to anticipatorily terminate the entropically accelerated disorder."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 200.06, 15 Nov'74

See Expanding Physical Universe vs. Contracting Metaphysical Universe

Order &. Disorder

Metaphysical &. Physical

See Information, 1967

Information Explosion:

See Generalized Principle, (1)

Information Field:

"Entropy measures the lack of information about a structure in a system,"

- Citation and context at Entropy_r 1967

See Entropy as Lack of Information

Information Transaction &. Valving Models

Message Contents

Tetrahedron: Dissimilar Rate of Change Accommodation

Universe as Energy & Information

Information Harvesting:

(1)

See Experience-harvested Information

Local Information Gatherer

See Man's Degrees of Freedom of Action, 28 Jan'69

Mathematics, 22 Apr'71

Wealth, 28 Jan'75

Sensing, Storing k Intuiting Device, 9 Jun»75

Darwin: Evolution May Be Going the Other Way, 5 Jun*75

RBF DEFINITION

"All the knowledge in the Universe may have been known to various people at other times. However distant or remote any information signal is it has to just go on forever unless it is intercepted."

Citation 4, context at Intuition as Remote Cosmic Transmision 29 Jan'75

MenaMAgn

See Communications Theory Feedback

information Transaction and Valving Models:

"Each of the eight tetrahedra symmetrically surrounding the nucleus of the vector equilibrium can serve as a nuclear domain energy valve, and each can accommodate 15 alternate intercouplings and three types of message contents; wherefore, the vector equilibrium cosmic nucleus system can accommodate $4 \times 45 = 180$ ISO positive; and $4 \times 45 = 180$ negative, uniquely different energy--- or information--- transactions at four frequency levels each.

"We may now identify (a) the four positive-to-negative-to positive, triangular intershuttling transformings within each cube of the eight corner cubes of the two-frequency

cube (see Sec. 462, et seq.): with (b) the 360 nuclear tetrahedral information valvings as being cooperatively concurrent functions within the same prime nuclear domain of the vector equilibrium; they indicate the means by which the electromagnetic, omniradiant wave propagations are initially articulated."

- Cite RBF new Para, in margin of SYNERGETICS galley at Sec. 633.02, 9 Nov '73

Information Transaction & Valving Models:

See Tetrahedron: Dissimilar Rate of Change Accommodation

"The three face-bonded tetrahedra-arc in its initial, neutral, or nontransmitting state, becomes spirally extended positively or negatively, to attain its information-transmitting state, only with the addition of one more face-bonded tetrahedron."

- Citation 4 context at Tetrahelix. (1), 27 May*75

See Radiation vs. Crystal Model

Radiation as Information-carrier

Information Un-
<U)

Bits: Biting

See City aa Center of Abstract Intercourse Credit aa Transfer of Information Communications Theory Entropy as Lack of Information

Harran Sense-ranging and Information Gathering Info-concepts Information Field Irreversible Inventory of Information News Ideologic Conversion of Information Television

Total Information

Universe as Energy 4 InfonMtlon Tactical Information Experience - Information Concept vs. Information Energy tc Information Telephone is Not the Information Instructions Radiation as Information-carrier

(IB)

See Experience-harvested Information

Energetic Information

Invisible News

Everyone in on the Information

Local Information Gatherer

See Apprehension, 1971*

Child, 16 Jun'72

City (1)-(3); (B)

Conceptuality, 1967*

Entropy, 1967*

Learning (1)(2)

Man's Degrees of Freedom of Action, 28 Jan'69

Me the Observer, 19 Feb'73

New Universe, 2? Mar'73

Organism, 12 Feb'72

Problem: Statement Of, Feb'72

Tunability. Dec'69

Wealth as Know-how, 29 Jun'72

Words, 15 Jun'74

Cybernetics, 7 Nov'75

Regenerativity, 17 Jan*75

Life Is Not Physical, (1)

Info-bits

See Info-concepts

Information Explosion

Information Field

Information Theory

Information Transaction & Valving Models

Information vs. Entropy

Information Harvesting

Information Signal

Information Transmitting 1 Hontrangnittlng Modal

Information Control System

Infoscope:

"We need more accurate words for telescope and microscope.

A telescope is really an outward infoscope while a microscope is an inward infoscope. But what we really need is a circum-ferential-around tuning scope, an omnidirectional infoscope."

- Cite RBF to EJA &. Roger Stoller, 3200 Idaho, Wash. DC; 13 Nov*75
Infrastructure;

See Houses & Infrastructure

Infragsensoriality:

See Extraneousoriality

"System corners are infratunable. Euler's 'areas' are 'windows' opening upon the ultratunable and as yet unexperienced."

- Cite RBF to EJA as rewritten 8 Feb'76

See Focal Event *» Infratunable System Non-sensoriality: -Infra & Supra Tunability: Infra & Ultra

See Frequency Islands of Perception_t 13 NOT*75

See Tunability: Infra 4 Ultra Heard & Unheard Resonances Non-sensoriality: Infra ft. Supra

See Thirty Minimum Topological Characteristica, Point, 9 Jun'75

See Intra

Ultra

Ingredient:

See Physical Ingredients

Inherent:

"... Cyclically, ergo inherently_f ergo eternally synchronised,

- Citation and context at Carrier Wave. 9 Mar'73

Inherent:

- Cite RBF rewrite at SYNERGETICS draft Sec 415.13a 22 Jun'72

Inherent:

"Inherent means behavior principles that man discovers to be reliably operative under given conditions always and anywhere in Universe.^{1*}

- Cite SYNERGETICS text at Sec. 600.04; 3 Oct*72

Inherent:

"Inherent means behavior principles which under given conditions man discovers to be reliably operative always and anywhere in Universe."

- Cte RBF correction to SYNERGETICS Draft 14 Mar »71

Inherent:

"By inherent I mean behavior principles discovered by man always to be reliably operative in Universe under a given set of circumstances."

-tffe 1965

- Citation & context at Structure Sequence (1), 1965

STftucTuffe- Sec.

See Axis of Inherent Rotatability

Prime Number Inherency

Spin: Inherent Spin

See A Priori Environment, May*72

Carrier Wave. 9 Kar'/J*

Functions, 26 Hay'72

Limit Reach, 17 Jan'74

Structure Sequence, (1)*

Inheritance:

"Inheritance leads ultimately and ever more intimately back to the ideally designed generalized principles."

(Re: (Eccles:"There was the implication that our sense of purpose and decision was an illusion and that we ware caught up in a rigorous web of determinism that was inexorably governed by . . . inheritance and . . . conditioning."))

- Cite RBF marginalia as re-edited. Eccles, 'Facing Reality',¹ p.3., 14 Feb '72

Inheritance:

"Inheritance leads intimately back to ideal."

- Cite RBF marginalia at Eccles, "Facing Reality, p.3 14 Feb'72

Inhibit:

"Our vector# disappear because they are inhibited inside the balls."

- Cite Oregon Lecture #8, p. 305. 12 Jul¹62

Inhibit:

"I suddenly saw that" man ""matched only one thing and he matched Universe. He matched the Universe beautifully. He has apparently the same relative abundance of the chemical elements. Not only can he inhibit them all but the amount that they could be inhibited and their co-occurrence because you could build up the theoretical man out of this data I am giving you out of all the inhibitability and the amount that he would have of each one of them would correspond and relate 100 per cent with how much he would have of each. There would be only one pattern which would match at all and that would be Universe. . . ."

- Cite Oregon Lecture #5, p. 170. 9 Jul'62

Inhibit:

"The generation coming of age during World War I acquired an unprecedented range of direct information regarding the physical environment, much of which was unpredicted or even contradicted by that generation's pre-1917 formal education. The information was also contradictory to its informally inhibited concepts of reality factors in general concerning mores, politics, history, economics and philosophy!"

- Cite NO MCiRSI SECONDHAND GOD, "Fuller Research Foundation," p. 65.
RBF DEFINITIONS

"Reduction of the physical mechanical advantage into timely and spontaneous inhibitability by our contemporarily evolving society requires patience as well as self-discipline."

Scignc.,T«clinoloirv-In<iustr-EconoaiM-
£al!Ujii£sai!4BSM (D, 9May^r6i

••'Inhibit' and 'distribute*' are complementary opposites, the way I use them. 'Hibit' means to drink, to imbibe. 'Inhibit means omnidirectional indrinking."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 29 Oct'72

Inhibit - Omnidirectional Indrlnkine!

See Inhibit va. Distribute, 2y Oct*72

Inhibit:

Synergetics, Sec. 422.10, 9 Jun'72

Sec. 010.32, 3 uct'72

See Distribute

Energy Inhibited as Zoology or Vegetation

See Continuous Man, (3)

Ecology Sequence, (C)

Energy Capital Sequence,

Heredity, 15 May`72

Industrial lag, (1)

Fan: Relative Abundance of Chemical Elements in t-an & Universe, 9 Jul'62

Metabolic Flow. (1)

Octet Truss, 1959

Science-Technology-Industry-Economics-Politics

Sequence, (1)*

Sorting, May'65

Spinach, 9 Jul'62

Stability, 1960

Water, Fay*65

Icosahedron: Subtriangulation, (2)

See Inhibitability

Inhibit vb. Distribute

Inhibit “ Omnidirectional Indrinking

Initial;

”It waa the initial quality equilibrium . . . , which has aa the equilibrioua model.”
of seemingly invisible vector kept it so long unrecognised

- Context and citation at Vector Equilibrium_t 2? Nov¹72

Initial ConeciouBneaa:

See A Priori Environment, May'72

See Copotentials of Initial Freedoms

Awareness of otherness involves mutually intertuned event frequencies. The 12 othernesses around the initially conceiving self-oneness establish both an inward and outward synchro-resonance. Circuit frequency involves a minimum twoness. This initial frequency*3 Inherent twoness is totally invested as one inward plus one outward wave-- two waves appearing superficially as one, or none.*

- Cite SYNERGETICS draft at Sec. 981.12 6 Nov»72

See Zero Frequency

See Vector Equilibrium, 19 Nov'74

Powering: Fifth & eighth Powering, 11 Dec'75;

25. Jan'7b

Sphere, 8 Aug¹⁷⁷

See Quanta Lose by Congruence, (2)

See Radiation: Speed Or, 22 Jun*72

See Equilibrium Sphere Frequency: Half-frequency Nuclear Sphere

See Constant Relative Abundance, 29 Nov*72

Mite as Model for Quark, 3 lay¹⁷⁷

Initial Unit Cognition:

See Packaged Concept, 3 Jun¹⁷²

Initial Unity:

See Domain, 22 Jun'72

Initiating:

"• • . Initiating and terminating are most often of different duration."

(In the context of: "Experiences- are all finite because each begins and ends.")

• Cite RBF marginalia Universe draft 2d Feb '71

See Beginning Disturbance Initiating Point Event Embryo Outset

Start

Starting Point Copotentials of Initial Freedoms Primitive

Saa Parte, 1V54

Site, 22 Jun'72

Terminating 28 Feb'71

Vector Equilibrium, 27 Nov'72

27TM“?? Transalttl»® * Nontranaaltting Model,

Syatem, 27 May'72

Starting with Divergence, 19 Feb'76

Sc® Initial Consciousness Initial Freedoms Initial Limit Initial Sphere
Initial Unit Cognition Initial Unity Initial Frequency Initial Inventory

RBF DEFINITIONS

XnUIMYg.:

"I was Invited by the government of Cuba to come to the world design congress there as their guest of honor just after Kennedy had come in. I'd gotten to know McGeorge Bundy at Harvard where he'd asked me to take over the Charles Elliot Norton lectureship. So I went to him and said I've got a world initiative here and I want to take it to Cuba.

"And I told him it was my understanding of the philosophical basis of democracy that when the individual takes the initiative the government is supposed to back him, in disttation to the socialist way. where the government takes the initiative and the individual has to follow. And I told him I expected the government to back me and to do so publicly and in a very big way. Bundy was very perplexed and asked me not to do it, and the reason was that the Republicans were planning to use Cuba in the next election...

"And we were told by those who attended that the world architects were very impressed by Castro because he'd said that architects worked transcendently to world politics."

- Cite transcript of RBF tape to Barry Farrel, Tape #1, p.1, Bear Island, 10 Aug'70

Initiative:

"Initiative springs only from within the individual. Initiative can neither be created nor delegated. It can only be vacated. Initiative can only be taken by the individual on his own self-conviction of the necessity to over come his conditioned reflexing which has accustomed him theretofore always to yf&J-ld authority to the wisdom of Cithers. Initiative is only innate and highly perishable."

- Cite GEOSOCIAL REVOLUTION, p. 184

16 Sep'67

IniUqUYg:

(i)

See Consideration Initiative Individual Economic Initiative Social Initiative

(2)

See Democracy, Jun'56

Science, Oct'66

Lian as an Invention, 1 Apr'49 Freedom, 6 Jul'62

Initiator;

See Communications Hierarchy, (4)

In-laye;

See Up h Down Sequence, (4)

Inline:

See Windowing the Nothingness, 25 Mar'76 Out-lining, 22 rtir*7o kbf definitions

Innate:

"Let ue return to the Universe in all our problem consideration. • •
We depend MBB entirely upon < Innate facilities the nost important
of which is <

intuition and teat our progressive intuitions with experiments

-et&s NASA.Speech p..57₅ Jun*66

- Citation at Intuition_f Jun'66

law

(D

See Omniinnate

See Child Sequence (3)

Initiative, 16 Sep*67

Intuition, Jun*66* ; 15 Jun'74

Intuition & Aesthetics, 15 Jun*74

Intuition of the Child (4)

Naivet6. 23 Jan*72

Perfection, 4 Nov*73

Children as Only Pure Scientists, 28 Apr*77

Eternal & Temporal, 4 Sep'77

& Outness

See In: In-ness

In *h.* Out: In-

Inneatable:

"The octahedron is infoldable, or innestible— hemi-hedrally."

~~-hoXaggaph~~casd ..sketches on **Annihilation."

SQn»ryin?=eiirb7-Bnston, 22 April 1971

- Citation at Octahedron. 22 Apr'71

Innocence:

"No tension member is innocent of compression and no compression member innocent of tension,"

- Citation and context at Function, 9 Jul'62

See Eternal Instantaneity, (1)

Iimgsenct!

(D

See No Innocence of Otherneae

Innocence:

See Accommodation, i960

(2)

See Environment Eventts Hierarchy (4)

Precession (2)

Remoteness, 1970

Spherical Barrel: Fail-safe Advantage, 15 Feb*66

Innovation;

See Emergence Invention New

Inorganic Chemistry:

"rthat Linus Pauling found for the inorganic chemistry .
van't Hoff found for the organic chemistry."

- For citation and context see Tetrahedroning, 10 Jul *62

iBausanlE:

See Organic &. Inorganic

See Human Tolerance Limits, (1)

See Differential Inscrutability

Scrutability: Magnitude Of

Sea Tetrascroll, (2)

Hedra, 10 lpr'75

Imect » tvlan Buablnt:

See Bumblebees, 6 Nov*72

Inside;

"It might be argued that inside and outside are the same, but not so. While there are an infinity of insides in Experience Universe there is only one outside comprehensive to all insides. So they are not the same...*

- Citation & context at Soheri. Triangle Sequence.(ill). 26 Jan*73

Inside: "The Greeks' definition of a sphere... making inside self-perpetuating to infinity complex, ergo the first locally perpetual motion machine..."

- Citation and context at Sphere. 26 Jan*7?

laside-Out:

^BNow_f what we call thinkable la always outalde-out.

What we call space Is just exactly aa real, but it is inside-out. There is no such thing aa right and left.!

~~- Cite HBF note, handwritten, 5 May 1971~~

- Citation at 1 May*?!

Parity

Inside Out:

"The tetrahedron is the only system that may be turned inside out-- to be antitetrahedron."

- Cite HBF marginalia dated 5 Sept 1965 in "The Scientific Endeavor," 1963. Page 12

KBF DEFINITIONS

Insideoutable:

"Only the tetrahedron is insideoutable."

"The tetrahedron is the only structural system that can be turned inside out.

"The octahedron is infoldable, or innestible— hemi-hedrally.

"The icosahedron dimples locally."

~~- Cite HBF holograph and sketches on "Antitetrahedron" Bunker's Club, Boston, 22 April 1974~~

- Citation at Tetrahedron: Inside-outing of. 22 Apr'71

Inside-outability Mensuration:

See Vector Equilibrium, (2)

Inside-outing;

"At the center sphere is the two, and you turn inside out; and only the tetrahedron turns Inside out. The other side of the Universe is not like that other side of a river, but an inside-outing."

- Citationcontext at Individuality & Degrees of Freedom. (2)

KbF UcFIUITIUhS

inside-outing:

"At the indispensable center of the sphere the Universe turns itself inside-out."

* For full citation see Vacuum, cite', to ly Feb re-write.

19 Feb'72

RDF DEFINITIONS

Inside-Outing:

"Of all the Platonic polyhedra only the tetrahedra can be turned inside-out and there are three ways it can do so by single- double- and triple-bonded routes.

"In double-borded edge-to-edge inside-outing there are pairs of diametric unfoldment of the congruent edges and the diameter unfoldment of the congruent edges and the diameter becomes the hinge of reverse positive and negative folding."

- Cite SYNERGETICS draft "Antitetrahedron," 8 Oct. '71, p. 9.

"We begin to realize conceptually the finite, yet nonaensorial, out-neas continuum Integrity which can be converted into sensorial in-nesa by the Inside-outin< process, but only at the expense of losing afterimage of the previous sense-experienced conceptual fixation."

" p* 12 ' aa rewritten by RBF for Synegetics

Nov oy Sec. 507.05"Parity"

hBF DEFINITIONS

Inside-Outing:

*'.>e begin to realize conceptually the finite, yet sensorial, out-ness which can be converted into sensorial in-ness by the inside-outing process,"

- Cite NEHRU SPEECH, p. 12, 13 Nov'69

Inalda-outlnz:

See Annihilation

De-structures - Inside-out Energetic Functions

Limit Point

Motion: Six Positive & Negative Motions Parity

Rubber Glove

Nonconceptuality

Self-inside-outable

Terminal Condition

Tetrahedron: Inside-outing Of Thinkability vs. Space

Wave Phenomenon: Inside-of-a-Woman Out Outside Out

Evaginating

InajAtravtint:

(2)A

See Dynamic, 1950

Equation Symbol, 9 May*60

Flat: Almost Flat, 26 Jan'73

Gravity, 31 Fay'71

Indispensable Center, 19 Feb'72

Limit Point, 9 Jun*7?

Parity, 1 May'71*; Nov'71

Point: Nonpolar Points, 29 Nov'72

Probability Model of Three Cars on a Highway, (1) Tetrahedron, 5
Mar'73 Transformations 10 Oct`50 Vacuum, 19 Feb'72*

Vector Equilibrium: Zero Model, 31 Fay*71 Coupler, 27 Jan'75

Performance: Equation Of, 1938

Womb Population, May'65

Omniequilibrium, (1)(2)

In, Out & Around Experiences. (21 , .

Individuality & Degrees of Freedom, (2)* Finite Minus De-finite,
Nov'71

See Three: Number Function of Three in a Four-axial

System, 24 Jan'76

Kissing, 1 May'77

Nuclear Domain & Elementality, (1)(2)

Inside-out Phase?

See Zero, 4 Nov*73

Inside-outing Tetrahedron:

See Negative Tetrahedron Invisible Tetrahedron

See Negative Universe

ftwWa-ait. Untor.M:

(2)

See Black Hole, Jan*73 Indispensable Center, 19 Feb'72 Super-
atomics Sequence, (3) Transuranium Elements, 23 Feb'72

inelde-put-

(D

See Outside-out va. Inalde-out

Inside-out:

(2)

See Transuranium Elements, 23 Feb'72

rtBF DiFI.-iTluKS

Insideness and Outsideness;

"Without insideness there is no outsideness, and without both there
is no point. Any conceptual event in Universe must have indideness
and outsideness. This is a fundamental self-organizing principle."

- , 3 g w- uu __Ly rs 72

- Citation *k* context at Point. 19 Feb'72

Insideness and Outsideness:

"» . . Topological domains are clearly defined in terms of the systems
involved having unique centrally angled insideness and surface angle
defined outsideness."

(N.B. After RBF wrote above marginalia he told EJA that this was the
first time he had made the identification of central angle with inside-
ness.)

- Sac, 356.10, 20 Dec. »?1.

DC.

- Citation at Central Angles t Surface Angles. 20 Dec'71

****It takes a dnum of six interweaving trajectories to isolate inaideness and outsdeness. ergo, to divide all Universe systematically into two parte--- macrocosm and microcosm."**

- Cite sINBhGSTlvs Corollaries, Sec. 240, by RBF 11 Oct. '71 naverford, Penna,

"In a structural system there is only one insideness and only one outsideness."

- Cite SYNERGETICS, "Corollaries," Sec. 240.62 - Oct. *71

Inaideneaa and Outaidenesa:

"If two adjacent ayatema become adjoined by three vertexes they become one ayatem because they have acquired unit inaideneaa and outaideneaa."

- Kir~~Rear*—Islands 2}-Aug. J 71, Synergetlee—draft

SffiTL.406.

- Citation & context at Interconnections of Sv8tems_r 25 Aug'71

Insideneas and Outaideneaa:

"One star doe not have an insideneaa and an outaideness

- Cite HBF to EJA, Carbondale, 2 April 1971.

"Systems have only one insideness and only one outsideness."

- Cite RBF to EJA Beverly Hotel. New York 7 larch 1971

RBF DEFINITIONS

Insideness and Outsideness;

"It might be argued that inside and outside are the same, but not so, whilphere are an infinity of insides in Experience Universe, there is only one outside comprehensive to all insides. So they are not the same;- and the mathematical fact remains that four is the minimum of triangles that may be constructed if any are constructed."

- Cite NOAH'S ARK, p. 3. 1950

See Convex &. Concave

Convex & Concave Localness Outside 4 Inside the

System

Generalization: Second Degree

Halo Concept

Packaged

Structural Functions

System

Unit Insideness & Outsideness

Omnitopological Domains

Outside-out vs. Inside-out

Seven Minimum Topological Aspects

Internal & External i/ithinness 4 Withoutness

See Background Nothingness, 2 Jun'75 BeginnIngness, 15 Aug*70
Central Angles & Surface Angles, 20 Dec*71* Cosmic Limit Point, 3
Nov'73 Crystallography, 17 Aug*70 Environment Events Hierarchy,
(2)(3) Eternity, (2) Integrity of Universe, 23 Sep*73 Interconnec-
tions of Systems, 25 Aug'71* Irreversibility, 4 May*57 Minimum
Awareness, (1j(2) Operational, 3 Jan*73 Point, 19 Feb'72* Positive
& Negative: Four Kinds, 10 Nov'74 Prime Enclosure, 17 Feb'73
Proofs, 7 Oct'75 Quantum: Event-paired Quanta, Jul*66 Space, 20
Oct*72 Sphere, 28 Oct'73; (1) System, 27 May*72 Structural System,
Nov*?1» 9 Nov'73

See Tetrahedron, 5 Mar'73; 24 Sep*73; 26 Apr'77

Thirty Minimum Aspects of a System, (A)(B)

Thirty Minimum Topological Characteristics, (1)(2)

Thought, 20 Jan'7\$

Twoness, Jun'66

Universe, 16 Jun'72

Varaibles: Theory Of, Nov'?1

Visibility &. Invisibility of Systems, (1)

Zerophase, (1)

Fourth Dimension, 19 Feb'76

Child, 1 May*77

Inajda: Insldeneaa;

See Four, 27 Dec'73

Radial Depth, 20 Dec'74

Virgin, 27 Dec'74

Knot, 7 Nov'73

Universal Vefctex Center Model, 29 Apr'43

Insinuatability:

"The instant cosmic Universe insinuatability of the isotropic vector matrix with all its lines and angles identical, all and everywhere equiangularly triangulated, ergo with omnistructural integrity but always everywhere structurally double- or hinge- bonded, ergo everywhere nonredundant and force-fluid--- is obviously the idealized eternal coordinate economy of nature that operates with such a

human-mind-transcending elegance and bounty of omnirational, eternal, operational, freedom-producing resources as to accomplish the eternal regenerative integrity of comprehensively synergetic, nonsimultaneous Universe."

- SYNERGETICS text at Sec. 983.13; as drafted 6 Nov'72

IngpegUPK-

See Ecology, 5 Jul'62

Inspectors of Inspectors:

See Earning A Living, 30 Mar*70

Inspectability:

See Points, 22 Mar*76

Inspiration:

See Artist, 24 Jan*72 Truth, Jan'72 Self-education. 1974 Abstractions, 1964

See Unstable

Installation:

See Service Terminal Installation

Inmniaaelix;

"The only instantaneity is eternity."

- Citation and context at Time-Somethineneffe. 22 Feb'73

Instantaneity;

"Instantaneity wouldw eliminate otherness, time, and self-and-other-awareness. Instantaneity and eternality are both timeless: they are the same. Eternity conQtjins time; time does not contain eternity. The relationship is irreversible. The contained time of eternity provides eternal awareness."

- rvr 1 fin 'Trr^M i „ f | ”rnnrrpr iil i ty—- ftaa

History of the Socratic method at Gluey Boston, April---+9?!

- Citation of Eternal & Temporal, 25 Apr'71

Instantaneity:

"Instantaneity would eliminate otherness, time, and self-and-other-awareness. Instantaneity and eternal are both timeless: they are the same."

—ere

- Citation & context at Life, 13 Mar'71

Instantaneity:

"Potentially straight line relationships require Instantaneity or actions in no-time, therefore straight lines are inoperative."

- Oct'59

- Citation at Straight, Oct'59

"To Einstein's C , which is the symbol of speed of omni-directional growth of the surface of a light wave which is 186,000 miles per second "squared," the speed of sight (our personal eyesight) is normal, for it operates at the speed of light, and not instantly. which is an obsolete word of yesterday's magic? 186,000 miles per second is only relatively fast, compared to the velocities of man's invented vehicles. 186,000 miles per second is relatively slow compared to the man-invented nonsense called instantaneous. that is, infinite- superbillions-«of-miles-in-no-time-at-all.'Instantaneous' is one of those out-of-this-universe concepts which we are now abandoning."

- Cite PREVIEW (UI), p. 201,202

1 Apr'49

"the 186,000 miles-per-second velocity

of the optical spectrum-color-phenomena-apprehendAgg ia an
incredible velocity

and therefore, it is spontaneously and erroneously interpreted

by the tactilely enslaved individual
only as an 'instantaneous' phenomena

wherefore the erroneous concept of 'instantaneity' causes man to dis-
count the billionths of seconds of time required for light frequencies
to bounce from

external objects

thence to travel to his optical-reception-relay

system

and through patterns of interrupted carrier frequencies

of the nervous system
to be scanningly reassembled
and erroneously recorded to himself."

- Cite SECOND HAND GOD P.97, 9 Apr'40

InstantaneitY ~ Eternitvi

See Instantaneity, 22 Feb'73> 25 Apr*71

Physical Tetrahedron vs. Conceptual Tetrahedron, Dec'?1

Instant Universe: (1)

"Newton said that time was a very specific phenomenon, assuming
that there was a specific and finite time that permeated Universe and
that everything observable in Universe was occur- ing at the same
time. It was Einstein who discerned that time might be relative to the

individual observer. A majority of academic people and the vast majority of nonscientists are still thinking in terms of the classical Newtonian scientific conceptioning of 'instant Universe.* While light's speed of approximately 700 million mileV per hour is very fast in relation to automobiles, it is very slow in relation to the 'no time at all' of society's obsolete Instant-Universe thinking. It was part of the classical scientist's concept of instant Universe that Universe is a system in which all parts affect one another simultaneously in varying degrees.

"Contemporary science as yet assumes that all local systems in physical Universe are instantly and simultaneously affecting one another in widely ranging degrees of influence, (And the degrees of influence are governed by relative proximity.)

'Whereas radiation, i.e., entropy, casts shadows and gravity, syntropy, does not; and whereas tne tensional integrity of"

- Cite RBF rewrite of SYNERGETICS galley at Sec. 529.C3, £ Nov'73

Instant Universe:

"Universe and all its substructurings is continuous and omniembracing--- while compression is islanded and discontinuous it may also be that while light and radiation has a velocity, gravity is timeless and eternally Instant."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 529.03, 8 Nov'73

Inatant Universe:

"The majority of academic people are still thinking in terms of Newtonian (classical) science's 'instant universe.' While light's speed of 700 million miles an hour is very fast in relation to automibiles it is very slow in relation to the 'no time at all' of society's (obsolete) instant universe thinking.

"It was part of the classical scientists' concept of instant universe that universe is a system in which all parts affect one another simultaneously, in varying degrees.

- Citation at Time. Jun'66

"Comprehensively the world is going from a Newtonian static norm to an Einsteinian all-motion norm. That is the biggest thing that is happening at this moment in history. We are becoming 'quick*' and the graveyards of the dead become progressively less logical."

- Cite EDUCATION AUTOMATION, p.30, 22 Apr'61

See Newton vs. Einstein

Pendulum Model vs. Scenario Model

Quick & the Dead: Song Of

Instant Unlvaro n. All-motion Universe:

(2)

See Newton¹ a Cosmic Norm of "At Heat**

Rest: At Rest

See Engineering. 13 Nov*69

Experimentally Founded Mathematics, Jun*66 Immobility. 4 May* 57

Insinuatability, 6 Nov*72 Nonsimultaneity, Jun*66

Quick & the Dead: Song Of, Oct*66 Time, Jun*66* Wealth, (C)

Ingtantaneitr: *Instant:

See Eternal Inatantaneity Inatantaneity - Eternity Intellect: Inatan-
taneity Of No-tine: N>time-at-all Simultaneity

Timeless 4 Equilibrinous Instant No Instant Cognition

See Brain'a TV Studio, (2) Eternal k Temporal, 25 Apr*71* Intellect,
27 May'72 Life, 13 Mar'71* Meaningless, Oct'66 Radiation: Speed Of,
(A)(B) Recall lags. 26 May'72 Resultant, 22 Jul'71 Straight, Oct'59*
Tactile Sequence, (4) Time-somethingness 22 Feb'73* Vector, Mar'7*
Synergetics, 11 Oct'73

inaUncv Instincts:

See Naked Girl on the ed

Reflex: Reflexes

(D

Instlnati

(2)

Sea Superstition, 21 Dec*71

See Individual Economic Initiative, 13 Jul'74 News &. Evolution, (1)

InHrM.Uma:

<D

See Cenetic - Instructions

Ticker-tape Instructions

Angle-frequency Design Control

(2)

Instructions;

Seo Feedback, 7 Nov'75

"Through instrumentation man has increased the spectrum ranges of
his modularly tunable scanning of universal structuring. Wherever he
succeeds in tuning in he discovers either orderly arrays or provoking
indications of orderliness only mildly clouded by as-yet-non-tuned
frequency phenomena. All these instrumental explorations into the
infra-ultra sensorial spectrum ranges of nature's universal structuring
discover dynamic or potential evenvts in mathematically regularized,
complex interactions of omni- accommodative principles."

- Cite Ifcl, DOMES, p. 147. 1963

Instruments:

"...The Now House... like an ocean yacht... equipped with hundreds of thousands of dollars worth of low-input, high-output, invisible performance instruments."

- Citation de context at Now House. (3); 20 Sep*76

jrKtrumentally Apprahendibla:

See Physical, 27 Dec'74

Dynamic vs. Static, 12 Nov'75

See Electromagnetic Spectrum. Aug*64

Invisible Architecture, (3)

See Science: Cap Between Science 4 the Hunanltlee

See Modelability, (a) Quantum Sequence, (1)

ingtrumnsa: lag.tnunenWagn:

(D

See Electromagnetic Spectrum Human Instrument Vehicle Sensorial Spectrum Tunability Service vs. Instrument Satellite: Telescopes Mounted on Satellites Infoscope Eyeglasses Microscope

See Dome: Rationale For, (II) Life-support System, May'72 Invisible Architecture, (C) Perception, 24 Apr*67 Principle, (1) Time, (p.»02) Jun*66 Tunability, 19 Oct*72 Truth, 30 Jun*75 Boeing 747 Sequence, 22 Jun*75 Wright, Frank Lloyd, 4 Oct'75 Teleology, (1)-(3) Now House, (3)* Children as Only Pure Scientists, (2) Sensings & Eventings, 28 Apr*77

Insulate:

See Intercept vs. Insulate

Inter-insulator

No Insulation: You Can't Really Insulate Anything

See Unfeetable

See Cipher, 1938

Ephemeralization, (p.256) 1938

Integer?

"There is manifest in the icosahedral fiveness in contradistinction to the vector equilibrium's sixness the seemingly ever annihilatable and ever re-creatable integer eternally propagating the complex of unique frequencies of the 92 inherently regenerative chemical elements as well as all the other unique resonances and frequencies of the electromagnetic protoplasmic, pneumatic-hydraulic, and crystallographic spectrums, whose omnidirectional Yes-No pulsativeness occasions the omni-experienciable exclusively wavelinear, optically or instrumentally tunable, allness of time-accommodated human experience."

Gii.wJ

- Cite Synergetics text at Sec. 971.13., 15 Oct*72

Integer:

"... The electromagnetic frequencies of systems are sometimes complex but always exist in complementation of gravitational forces to constitute the prime rational integer characteristics of physical systems."

- Citation at Electromagnetic Spectrum,. 25 Aug*71

Integers of Topology:

See Unity as Two, 1960

See Integral

Inter-Integer

Odd Ball

Prime Rational Integer Characteristic

Simplex

Single Integer Differential

Pattern vs. Integer

Minimum f Integer

See Electromagnetic Spectrum, 25 Aug¹?!*

Minimum, 1954

Integral:

"Love, like synergetics is nondifferentiable, i.e. is integral... Integration means spherical."

- Citation and context at Truth and Love, 16 Feb'73

Integral:

"Different shapes, ergo different abstractions, are nonsimultaneous; but all shapes are de-finite components of integral though nonsimultaneous, ergo shapeless, Universe."

- Citation & context at Abstraction, 1971

Integral:

"You can't have frequency without two to give it some integral."*

- Citation and context at Axis of Spin (5), ¹¹ Mar*69

Integral Complexity?

See Energy Event, May»71

Fwctlns. of. Han=

(H

Sea Extarnallsatlon of Man's Own Functions

Sense: Sensoriality

XntsKr^al *VnsUgns gf Kan? (2)

See **Berry Picking, (1)-(3)**

**Tactile Sequence, 14) Technology, 4 Mar*69 Dynamic vs. Static, 12
Nov»75**

Integral of All the Integrities;

See Nature, 13 May'73

Integral Negative:

Sec. 636.01, footnote

Integral Negative:

See VE: Integral Negative

See Observer & Observed

(2)

See Tdlninun Awareness, (2)

Self 4 Otherness: Four Minimal Aspects, 9 J«n'75 Thinking, (I)

See Biological Integral

Coordinate Integral

Integer

Synergetic Integral

Uniquely Variant Integral

IBISS-AV (2)

See Abstraction, 1971* Axis of Spin (5)* Human Beings, 10 Dec*73 In
it. Out, 19 Jun*71 Mass Attraction, 6 Mar'73 Nonsimultaneous, i960
Shape, Oct'59 Superficial, 6 Mar'73 Truth it Love, 16 Feb'73* Verb:
I Seem To Be a Verb, 16 Aug'70 A Priori Four-dimensional Reality,
(2) Universe, 17 Jun*75 Metaphysical & Physical, 13 Nov'75 Think-
aboutability. 8 Feb'76 Gravity, 11 Feb'76 Love, 23 Oct'77

See Integral Complexity

Integral Functions of Man

Integral of All the Integrities

Integral Negative

Integral Otherness

Iniagrato^d v^lrtorial ftaaulunt^l

See Acceleration: Angular & Linear, 20 May'75

Integration;

"The number itself has its own integrity and therefore ought to be in-
tegrated."

"Nature does all her associating and disassociating
in whole rational numbers."

- Cite RBI Draft, KUROLCGY, \$.11, 4.18 1970

Integration:

"The other--- diametric--- function of the computer is integration
And the probability is that the computer and its subsidiary automa-
tion will not make man obsolete as an integrator for several million
years--- possibly never. We introduce great complexities into integra-
tion, many variables, and the interrelationships of which we wish to
comprehend, and that is what the human mind is doing all the time. I
can tell you quickly why the computer is never, or not for a long time,

going to displace man as the integrator. The total variables that we deal with integratively all deal with a series of original questions that we have asked ourselves, Furthermore those original questions and their discovered answers are relayed from generation to generation by chromosomic instructions which implement our appropriate, survival-accomplishing, subconscious reflexing to myriad variations of environment stimuli. We have at least two million years and possibly vast aeons of cumulative instructions for relaying our various question-askings and constant answer-relation<hips. . . '»

- Citation and context at Computer (B), 10 Dec'64

Integration:

"Integration ratiocinates comprehensively the coordination rates and magnitudes of complex interactions, developments, or transformations."

- Citation and context at Differentlation_t 29 Aug*64

RBF DEFINITIONS

Integration? » Differentiation:

"Synergy means studying the integrated behaviors of Universe as opposed to those differentiated out."

- Citation at Synergy. 22 Jul*71

"Synergy la to energy as integration ia to differentiation

- Citation and context at Synergy_f 4 Mar*69

Integration/ Dirrerentlai'what, In r.h> Ion ---

"Synergy is to energy integration is to differentiation."

- Add on from PARKS, p. 1J4 Fig, 1,1, caption

- SENATE ..HEAR14X
- Citation at Synergy. 4 Mar*69

RBF DEFINITIONS

Integration Zt Birferentletlon;

"Man's brain and mind are to concentrate on the function of integration. and leave the functions of differentiation to the machine."

- Cite **MERGERS 4. ACQUISTIONS Vol. 1.. No. 3. p. 45 Spring 1966**

IntegrationOirforent-latlon:

"Differentiation and integration-- those are really the two great di-
metric limit functions. Those who are expert in the development of
the computer point out that it is very clear that the computer is al-
ready making man obsolete as a differentiator, that is as a 'specialist.'
The computer and its very sensitive controlling subsidiary organisms
which we call automation can very clearly pick out the green from the
red and pick it out very much faster than the human can pick it out. It
can do it all night long at 2000 degrees, where the human can't oper-
ate at all. So the machine as computer'--- as automation--- is about
to make man extinct as a specialist,"

- Citation and context at Computer (A), 10 Dec'64

"Differentiation identifies, evaluates, selects, and separates the uniquely develop-
ing patterns. Integration ratiocinates comprehensively the coordination rates and
magnitudes of complex interactions, developments, or transformations."

- __ Citation and context at Computer. Asks an Original Question ⁽¹⁾, 29 Aug'64

"energy relates to differentiating-out the separate functions of nature-- studying objects, isolated out of the whole complex of universe; for instance, studying gravity, without consideration of hydraulics or of plant genetics. But synergy represents the integrated behaviors *£ instead of the differentiated behaviors of nature."

- eiyr

- Citation and context at Synergy. 10 Oct'63

RBF DEFINITIONS

Inteeration7\ Differentiation:

"As with the humn brain all pattern processing consists of two main classes: differentiation and integration, i.e., specialization vs. generalization. , , Integration discretely controls the coordination of complex interactions."

- Citation and context at Computer. 10 Oct '63

"Differentiation outdoes integration."

- &jttT TOTAL THUttlNGj Ifcl_t p_tf?26_t May»49-

Context and citation at Everyday. May'49

See Integrative & Disintegrative Proclivities: Differentiated & Synergetic Coming Apart & Holding Together

See Antientropy, 10 Oct'63

Calculus, I960

Computer, (A)*; 10 Oct'63*

Computer Asks an Original Question, (1)*

Everyday, May'49*

Synergy, 10 Oct'63*; 4 Mar'69*; 22 Jul*71*

Odd Ball, 10 Nor*74

Future of Synergetics, 22 Apr'68

Integration of Digits:

See Indigs

Integrative & Disintegrative;

"Radiation is disintegrative; gravity is integrative."

Rad4^aV190-Gray!tatIfld

- Citation at flBOMHMB ^{SeP}*?3

See Heres & Therea

Integration & Differentiation

Universal Integrity: Principle Of Integrity of Universe Omnilibrium

See Radiation-Gravitation, 23 Sep'73* Herea & Therea, 4 Jun'72

Interrelationship Twoness, 27 Dec'74 Vector Equilibrium, 3 Jan`75

Omniequilibrium, Ekistics, 11 Nov'?5

Series vs. Parallel Circuitry, 11 Dec'75 Gravity: Speed Of, 21 Oct'72

See Differentiation

Differentiation / Integration

Disintegration

Omniintegration

Omni-phase-bond-Integration Reintegrative

Resource Integration Sub-subconscious Integration Synergetic Pro-
clivities Universal Integrity

See Atom, 20 Oct'72

Computer, (B)*

Differentiation, 29 Aug'64*

Industrial Theory, 197» Integrity, 11 Aug'70 Kass, 14 Kay*73

Apr'61

: Synergetics 6c. Eulerean, 16 Nov'74

Poet. 22

Topology

De-atructaring, 18 Jul'72 Space, W 20 Oct'72 Poet, 22 Apr'61 Academic Disciplines,
11 Aug'76 Children as Only Pure Scientists, (1)12) Enough to Go Around, (1)
See Integral

Integrated Vectorial Resultant Integration & Differentiation Integra- tion & Disintegration Integrity

Integrity:

**"Construction requires integrity to make the whole thing hold
together."**

- Cite Univ, of Alaska Address, p.11, 20 Apr *?2

Integrity;

"What holds things together is inherently invisible.

**Gravity is inherently invisible. That is why the Universe is so mysteri-
ous: the absolute mystery. The integrity of the Universe is Invisible.**

"But the behaviors of the Integrity are

- apprehendable;
- measurable;
- eternally reliable."

- Cite RBF to EJA, 3200 Idaho, Washington, DC, 25 Jan '72.

"Men were always trying to make the Universe limited because they themselves were limited. Men stop and start, sleep and wake, are born and die. . . So they thought the Universe had to have a beginning and an end. There was no chaos. The proton and neutron always and only coexist. There could not have been a time when an integrity was not an integrity."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 24 Jan'52.

*SrC 32/.o3 * Zw.eoA,*

Integrity:

"The number itself has its own integrity
And therefore ought to be integrated."

- Citation *k* context at Integration. Aug'71

Integrity: "The only thing that has beauty is the truth.... Integrity is more than the truth; it is the integration of the truth, a very comprehensive truth."

- Citation & context at Aesthetics. 11 Aug'70

Integrity:

", □ . The synergetically mysterious, utterly amorphous, comprehensive integrity which we speak of as Universe."

- Cite RBF Ltr. to Prime Minister Indira Gandhi, 4 Jan. '70., p. 1,
RBF DEFINITIONS

Integrity;

"I think Kgf of God not as a superman

but as the great comprehensive a priori integrity of the universe

within which man finds himself to be operative."

- Citation at God, spring'66

Integrity of Childhood:

Seo Artist, Sep'71

RBF DhFIMTIUhS

"./e all agree that the expression 'Throwing a monkey wrench in the works' could destroy the works, so a monkey wrench could be very useful to the same machine that it can be lethal to. It is simply a pattern. If the pattern come is an the wrong place it can strip the gears. If it comes in at the right place it can augment the integrity coherence in the system, that is the regenerative factors."

- fli.F .r5.4k-rnfi4.!T)O95Z,
- Citation 4. context at Monkey Wrench. 9 Jul'62

InfoltY .qX unlY?rar

"The integrity of Universe is implicit in the external finiteness of the entirely embracing circumferential set of integrative vectors of the vector equilibrium that OB always enclose the otherwise divisive, disintegrative, entirely embraced, internal radial set of omnidirectional vectors."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 310.01, 30 Oct»73

of universe

"Gravity is circumferentially omniembracing and is never partial, but always whole. Radiation is always packaged, gravity is the inside-outness of energy-as-matter: the integrity of Universe. It is the sum of all the no-points embracing all the points; and it compounds at the surface-embracing, second-power rate of the linear proximity gains. All the no-points (novents) are always embracing all the

points. All the quanta are local-system, center-of-event activity, focal points--- fractionations of the whole point: what are minimally ergo most economically packaged, and expanded outwardly and omnidiametrically as three-central-angle-defined tetrahedra."

- Cite SYNERGETICS draft at Sec. 541.10, 23 Sep'73.

"I think you are going to have coming out of science some statements as to the integrity of Universe discovered directly by a great many individuals. There are so many of high capability and integrity making such discoveries that they themselves wouldn't even think of trying to persuade you. These people will avoid proselytizing, but more gradually their ranks will be joined by more and more scientists, and we are going to get to the point where a very large number of individuals will begin to recognize an integrity of Universe and an integrity of the total experience of life that will be of the order apparently experienced by the first great men, such as Christ.

"No one will be asked to believe anything. Everybody will make first-hand discoveries, 'what has been thought of as atheism is really just an evasion. It wasn't a declaration of againstness, not something against religion, but there seemed to be nothing else to take its place."

- Cite RBF to Wm. Karlin, Architectural Forum, p.81 , Feb*72
IntftxUxsr MniY*rggt

"The star tetrahedron's entropy may be the basis of irreversible radiation, whereas the syntropic vector equilibrium's reversibility--- inwardly-outwardly is the basis for the gravitationally maintained integrity of Universe.*'

- cw. 't mrjnn.rirj ararr m-un, » fl ri,». '7L
- Citation at Star Tetrahedron. 8 Oct*71
SYutMCncS - «an«r«3e. Jr«.

"I am convinced that creativity is a priori to the integrity of Universe and that life is regenerative and conformity meaningless."

- Citation at A Priori. 10 Oct'6j

Integrity of Unjyerget

"The integrity of universe is implicit in the external finiteness of the circumferential set of vector equilibrium/ which always encloses the otherwise divisive internal radial set of omnidirectional of vectors."

Weener-

sec.

- Cirf *k)ASA SfuGcH* - June '66

~~- Cite-Carbondale-Draft
Return-to-Modelability, Pp. V, 15 & 16.~~

See Integrity

Synergetic Integral

Universal Integrity: Principle Of

See A Priori, 10 Oct*63* Intuition Sequence (2)(3) Star Tetrahedron, 8 Oct*71 Synergetics. 19 Jun*71 Vector Equilibrium (I) Whole Systems. 16 Jun'72 Young World, 9 Jul'o2

AestlifiSlsg & Integrity See Absolute Integrity

Celestial Position Integrity Conceptual Integrity Configuration-integrity Cosmic Integrity Energy Integrity

Experience vs. Integrity Geometrical Integrity Integer Integral

Integral of All the Integrities

Integration

Intellectual Integrity Interval Integrity Local Integrity Metaphysical Integrity Micro-limit Integrities

Comprehensive Integrity

See Objective Integrity Omniintegrity Pattern Integrity Sphere Integrity: There Is No Structural Integrity System Integrity Synergetic Integrity Tensional Integrity Universal Integrity: Principle Of Triangular Topology Integrity Interattractiveness Integrity Subtlest Integrity Equi-integrity

Integrity: "With termination, a system's integrity is brought about by the individually covarying magnitudes and the omnidirectional experience pulls on the system."

- Citation & context at Rate. 2 Nov'73

See Aesthetics, 11 Aug*70*; 1 Feb'75

Cosmogony, 24 Jan'72

Communicating. (2)

Girl, 13 Dec'73

God 26 May'72; 10 Feb'73; Spring'6b*

Individual Universes, (2)

Invisible Architecture, (F)

Life Is Not Physical, 2y Jun'72

Metaphysical Synergy, Jan'72

Order & Disorder, May'72

Prime Otherness, 24 Sep'73

Pure Principle, 10 Feb'73

Reality as Structural interaction of Principles, 1963

Religion,(1)(2)

Orderliness Operative in Nature, (1)

Tenuous, 10 Feb'73

Thinkability, 26 May'72

Trim Tab Sequence, (2)13)

Fuller, R.B: Modus Operand!, 1 Feb'75

Technology, 20 Jan'75

See Individuality & Degrees of Freedom, (2) Mistake. 7 Nov'75 Angle,
7 Nov'75 Rate, 2 Nov'73*

intellect:

"Intellect is the only resource without finite limits."

- Cite RBF to World Game Workshop*77; Phila.; PA; 21 Jun*77

Intellect:

"As the exploring navigator picks his channel between the lookout-detected rocks,
the intellect picks its way between irrelevancies of feedback messages."

- Cite OMNIDIRECTIONAL HALO, p. 137 * 1960

RBF DEFINITIONS

Intellect:

"It is implicit that sustainability of known human life in Universe must
gain a 99~fold reorientation to synchronize its capabilities with the
inexorable irreversible fronttering of evolution. This is the function of
Intellect in Universe. The only significance and justification of human
existence is to support and feed its intellectual functioning."

- Cite A Definition of Evolution, p. 4. 1972

Intellect:

"Definition of Intellect: The metaphysical measures the physical, but
not the reverse, i.e., local irreversibility."

(See redefinition ae: Intellect: Equation of Intellect)

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

Intellect:

"A comprehensive anticipatory orderliness is in a sense the nearest
thing you can come to as a statement of intellect."

- CITJL LLCTUtU #4 - p. 129 , 6 Jul*62

Intellect:

"Intellect may be 'creating* finitely extending and re-fining universe as it asks each next good question.

~~TTfR nwm'ixifrrriiii iuiu, p. ifr.~~

- Citation and context at Future of Synergetics 1960

Intellect:

"Intellect /"apparently guiding universal evolutionary transformation in principle (of which life is a series of compounding degrees of complexity--- of possible into probable interactions separations, and substitutional relaying)-/ is an infinite refinement in proximation to perfection, which perfection is the zero- inflection (convergent point, line, curve, or divergent surface, volume, and event differentiation) phase through which in Syn-en-ergetical principles of logarithmic interaction the transformations oscillatingly pass; and the refinement is then toward a reciprocal identification of means, which are periodic, and constitute the inter- operational patterning structuring mathematicsintellect's most refining degree of communicable means (and we understand meaning to be a dynamic patterning verb."

- Cite RBF holograph in MIT notebook, 16 Aug'50

Intellectual Capability;

"God to me

Is the total abstract

Intellectual capability and conscience."

- Citation and context at God, May*65

Sec Design, 26 Par* 77 J 29

77

"By thermodynamic law energy may neither be created nor lost in Universe. By synergetic postulate intellect is irrevocable and irreversibly comprehensive--- both subjectively and objectively--- in respect to energy,

"Intellect mensurates and modulates relative energy events and event interrelationships. The total quantity of energy operative in Universe is a constant, but a dependent, function of intellect. Universe Is the integral of all metaphysical and physical phenomena.

"In respect to individual humans total energy occurs as a complex of local variables of systematically cooperative, convergent-divergent, complementary-reciprocal, transformation patternings of uniauely differentiable local system aspects, accountable by intellect in locally varying magnitudes of concentration. The modulations are selectable, predictable, and governable by intellect to the extent that superficial acceleration permits."

- Cite SYNERGETICS, 2nd. Ed. at Sec.s 1075.21-.23, 17 Jun»75.

"Modulations through local transformations are arranged or valved by intellect through inherent associative-disociative patterning of local energy-complex environments. Thus the aggregate effective energy behavior sumtotilly accountable as a universal constant is engaged in its local behaviors by individual experience (and apprehended and appraised by consciously operative intellect) in widely differentiated sets of patterns in variable magnitudes of regenerative pattern concentrations.

"Wealth is the measurable degree of established operative advantage locally organized by intellect over the locally occurring differentiable behaviors of universal energy. Wealth is an irreversible advantage: it cannot be expended in preferred reorganization of past events; it can only be expended in organizing forward events in preferential patterns.

"As intellect comprehends local behaviors the wealth gains, as intellect acts in complementary regeneration to oroduce patterns advantageous to human processes. With every "

- Cite SYNERGETICS, 2nd. Ed. at Secs. 1075.24-26, 17 Jun»75

"inventorying of local energy behaviors by intellect and the informed rearrangement of them to provide wider, more frequently and precisely modulatable patterns, the documented know-how in local Universe increases."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1075.26, 17 Jun*75

"Definition, of Intellect: The metaphysical measures the physical, but not the reverse, i.e., local irreversibility.

- Cite RBF to EJA, Somerset Club, Boston, 22 Apr*71

"But of all the biologicals, human beings are the only ones with mind function differentiated from brain. If we took all the different rope experiences this audience has had, I would say each one of you must have experienced at least one hundred kinds of rope, so that the total rope experiences is perhaps ten thousand kinds, and we've gotten that down to only one piece of rope. Then we took all the myriad kinds of experience with concaves and convexes and with protons and neutrons; we got that down into the theory of functions, and then we embraced that even further, getting just the word 'relativity.' And finally we got this word 'Universe.' What we have here is a pyramid of all the special cases working up to generalizations, and generalizations to one word. That's as orderly as you can

"We were looking for a phase of Universe where things are contracting and increasingly orderly. Nothing could be more orderly than those generalizations. We find, then, the metaphysical balancing the physical--- metaphysical apprehending and ordering the physical. We find Einstein's mind taking the*- measure of the physical writing those beautiful, economical equations such as $E = mc^2$, saying that the physical Universe"

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

"is energy and you have to have one differentiation of energy on one side and another on the other side of the equation in order to understand it. And one is energy as associative matter, and the other is energy as disassociative radiation. And the rate of the radiation is to the second power or the rate of growth of a wave of 186,000 miles a second, to the second power. This tells us how much energy there was in that mass.

"Here we have then intellect taking the measure of energy. We have nothing in our experience to suggest that this is reversible. Nothing suggests that energy will ever write the equation of intellect. I simply say to you that we have the metaphysical apprehending, comprehending, and ordering the physical. The physical tending to be disorderly and the metaphysical apprehending, comprehending, and putting together. Man, therefore, represents the very clearly demonstrated function in the Universe that is essential to the regeneration of Universe. Also we discover that the Universe is a perpetual motion machine because its energy is never lost. So the minimum number of transformations is Universe. It is the minimum and only perpetual motion machine, and perpetual conservation requires this metaphysical functioning of order and"

- Cite RBF in Franklin Lecture. Auburn. ALa.. 1970

Intellect: Equation of Intellect:

"collection inherent to man."

- Cite RBF in Franklin Lecture, Auburn, ALA., 1970

Equation of Intellect:

`` And we have Einstein, as intellect, metaphysically taking the measure of the physical and writing the most extraordinarily economical equation that has ever been written, making the most economic statement that has ever been made. I think in 100 years Einstein will be

called a great poet of the 20th century. He said the most important things in the most simple way when he wrote his equation $E = mc^2$. • We have here, then, intellect as metaphysical taking the measure and mastering the physical.

We have nothing in any of our experience to suggest that this is reversible--- that energy will ever write the equations of intellect."

- Citation and context at Man as a Function of Universe (D).

26. Sep'68

Equation of Intellect;

"Despite our confession of how little we know... I am confident, .. that there is manifest in all our special case experiences a complex of coherent and omni-interaccommodating generalised principles so elegant, exquisite, magnificent, inclusive, and inherently interminable, as to require the a priori external existence of a metaphysical universal intellection that is as relatively greater and effective in respect to the metaphysical intellect of man as is the physical Universe bigger than the almost negligible physical man: an intellection which alone amongst all phenomena is infinitely perfect and towards which ever-less-imperfect truth omnidirectionally and refiningly leads.

"Metaphysical intellect took the measure of physical Universe: $E = mc^2$ and naught in experience suggests that the physical E can take the measure and write the experimentally validatable formula explicitly defining metaphysical intellect. The metaphysical alone can comprehend the metaphysical as well as comprehend the physical. And only man's intellect can apprehend the intellections of metaphysical Universe."

- Cite BEAR ISLAND STORY, galley p.36, 1968

rtBF DEFINITION

"Intellect wrote $E = mc^2$.

Energy did not inscribe intellect $E = mc^2$.

Intellect may write every equation of physical behavior, But no physical or abstract equation will ever compass intellect or its self-starter secret."

(Slightly rearranged)

- Cite "Historic Attempt by Man to Convert his Evolution from a Subjective to an Objective Process," in NO MORE SECONDHAND GOD, p.51, dec'45

"As gravity, and light, and heat, and spinning, and orbiting, and expansion, and contraction are special characteristics of the comprehensive principle energy, so are democracy, and science, and technology (and their complex assembly into industrialization) and evolution all special characteristics of the comprehensive principle intellect. And the relative position in the hierarchy of energy and intellect, or omnipotence and omniscience, is demonstrated by the fact that intellect discovered and inscribed that energy equals mass times the speed of light squared. Energy did not (and seemingly cannot) write or discover what the comprehensive faculty intellect, is or equals."

- Cite HOW TO MAKE DEMOCRACY WORK, p. 12 , 28 Apr

See Wealth: Equation Of

Energy & Intellect

Equation: Philosophical Equations

See Definite, Oct'66

Energy, 28 Apr'48

Lincoln: RBF on Abraham Lincoln, 1969

Intellectual Development Game:

See Excluded Answer Resources, Oct'66

IntPltWally ITOFCUIMJ:

See Design, 13 Mar'73; 22 May'73

See Intellect: Speed Of

See Intuition, 27 May*72

Intellectual Integrity:

'And because the complexities of this Universe are only Intellectually comprehensible, recognition of an intellect greater than and anticipatory to our own intellections is inexorably emergent in the integrating totality of scientific exploration. This means the personal, first-hand discovery by increasing numbers of humanity of nonanthropomorphic god, the great intellectual integrity of universal evolution."

- Cite THE PROSPECT FOR HUMANITY, P. 77, WDSO Doc. 3, Aug'64

See Evolution, 1970

Leaders Can Yield to the Computer, 1969

JJJan as an Invention, 1 Apr'49

God, 7 Nov'75

Intellectual Kleptomaniac:

See Coincidental Articulation

Idea Stealing Plagiarism Williams, Robert

intellectual Pattern Integrity:

See Design, 22 May*73

Intellectual PgrspgptlY?:

"Since the more remote the function, the more intellectual the perspective we have on it, the greater the speed with which we accelerate its adaptability into our economic life.

"Men can see a cart going by and therefore can be critical of the wheel as we see it changing its positions. They are standing still and the cart is going by so we can see what broke up the wheel as it landed on a rock. So they began to invent ways of not letting that happen. That is what we call time perspective.

"At any rate I find that the greatest perspective is really the intellectual one, and in the communications arts, radio, and so forth, there is only a lag of about two years between the invention and the actual incorporation in the circuits that are designed."

- Citation i context at Industrial Lag. (1) (2) 1 Jul'62 (On 20 Dec'74 KBF inserted 'time' in the ninth line.) "... A level of technical proficiency adequate to provide high standard physical living for total man . . . was always subjectively implicit and objectively inevitable because of the presence of intellect in physical Universe."

- For Citation and context see Laissez-faire Process. 10 Oct '63

Intellect __lik Physical Uni versa:

<1)

See Intellect: Equation Of Metaphysical & Physical Omniscience & Omnipotence Human Mind & Physical Evolution Equation: Philosophical Eouations

See Man as a Function of Universe, (D)

See Primary Faculties

X SuleKam:

(2)

See Man aa an Invention, 1 Apr'49

Jnttllect vt. Radiation:

See Intellect: Inatantanelty Of Intellect: Speed Of

"Man's intellect masters energy's fastest behaviors. Energy light years are calculated in intellect seconds."

- Citation and context at Intellect: Intellections, i960

Intellect Seconds:

See Light Years - Intellect Secondo

"I am saying that intellect. top-speed radiation, is simply the minimum lag before you get to the eternal."

- Citation and context at Eternal Instantaneity. 22 Jun'72

"I am saying that intellect is top speed, which is instantaneous, being vastly faster than the speed of light and all radiation. Radiation's seven hundred million miles an hour is very slow in comparison to seven hundred million miles a minute, and infinitely slower than seven hundred million miles in No-time- at-all; which is the rate at which intellect operates, being able to Jump instantly to consideration of stars which are operating millions of years ago and thousands of light years away. The top speed of radiation is simply the minimum WB operational lag before making the cosmic leap to the eternal No-speed, where the instantaneity spontaneous to a child's conceptioning is normal and eternal. Not that it is ever lost. None of the differentiation of the generalized principles is lost. Many principles as-yet undiscovered become operative. Understanding is exquisitely total."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May'72 as rewritten — \ by Rbf, TIWE- *SEc* \

Intellect: Speed of Intellect:

"I am saying that intellect is top speed, like that of radiation. It is simply the minimum lag before you get to the eternal.'*

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May'72 "Intellects comprehensive anticipatory objectivities indicates a speed of functioning transcendental to physical events."

- rf-n Dim fill IliilMj y, V'j -TGD
- Citation & context at Future of Synergetics, 1960

Intellect: Speed of Intellect:

Q; Intellect is faster than energy faster than the speed of radiation. Is intellect instantaneous? * res*

rt> £ 14 - IL HA? 'ti

'Energy light years are calculated in intellect seconds."
- Omnidirectional Halo, p. 163

See Absolute Velocity

Intellect: Inetantaneity Of Minimum Lag

See Eternal, 2 Nov¹73

Eternal Iwstantaneity, 22 Jun'72* Future of"Synergetic8, 1960*
Mathematics. 19o0

Metaphysical t Physical, 21 Dec'71 Omnipotence, 21 Dec'71

See Might Makes Hight, 20 Apr'72
Tension Structures, 1 Apr*49

Intellectually Tunable:

See Potential, 1963

See Divide & Conquer Sequence, (?) (4); (E) Culture, 27 Jan'77

See A Priori Intellect Climate & Intellect Conservation of Intellect
Cosmic Integrity Energy & Intellect Greater Intellect Intelligence
Intuition Metaphysical Intellect Mind Objective Intellect Remote -
Intellectual Supreme Intellect

See Anticipatory, 3 Nov'64

Future of Synergetics, 1960* God, May*65* Standard of Living. 10
Oct'63 Universe, 15 Dec¹? Technology, 1947 Individuality &. De-
grees of Freedom, (1) Communications Hierarchy, (4)

See Intellection

Intellectual Capability

Intellect: Equation of Intellect

Intellectual Development Game

Intellect: Instantaneity of Intellect

Intellectual Integrity

Intellectual Pattern Integrity

Intellectual Perspective

Intellect in Physical Universe

Intellect Seconds

Intellect: Speed of Intellect

Intellectual Ability as Tensile Ability

Intellectually Tunable

Intellectuals

Intellect as Tensile

Intellect &. Quickness

Intellectually Immaculate

"It seems to me

That God may be recognizable In man's limited intellection

Only as the weightless passion drive Which inspires our progressive
searching For the--- momentarily only---

And only most-truthful-thus-far-possible--- Comprehension of all the interconnections Of all experiences.

For it is the Integratable interrelationships Of all the generalized laws Which apparently govern

The great verb ` Universe*

Or the vastly greater

--- Because comprehensively anticipatory---

Verb intellecting

'Which verb of optimum understanding

1-iaay be 'God.'*

-Oct'66

- Citation and context at God as Verb of Optimum Understanding

RBF DEFINITIONS

"'Intellections are cumulative pattern apprehensions and are synergistically integrative as wisdom and wisdom initiates new mathematical hypotheses. mathematics implements man's calculations within minutes regarding energy actions requiring eons of time, fan's intellect masters energy's fastest behaviors. Energy light years are calculated in intellect seconds. Omnisciences is evidently of comprehensively transcendental alacrity to the speed of light whose relativejs-low articulations in Universe are readily anticipated by intellectually initiated ana disciplined computation of mind."

-Cite OI'NIDIHECTIONAL HALO, p. 163, i960

See Brain's Automatics Mind's Intellections

See Brain's TV Studio, 1960

Eternity, 27 l'-ay'72

Eternity: Equation of, 27 May¹72

Heisenberg, Oct'66

Intellect: Equation Of, 1968

Thought, 25 Hay'72

Metaphysical Independent of Inbreeding, (1)

Intelligence:

"Intelligence should be recognized as a global resource.*

- Cite I SEEM TO BE A VERB. Bantam, 1970

See Artificial Intelligence No Mechanical Kind

See Feedback Comprehensivity: Computers vs. Humans, 13 Aug'64

IntsUAfence:

See Artificial Intelligence

Cosmic Intelligence

Bright: Brightness

RdF DEFINITIONS

Intensity:

"Size and intensity are sensorial comparing functions of the special case experiences by brain and not by mind, l-.ind is concerned only with principles that hold true independently of size yet govern the relative size relationships,"

- Citation at Size, 1J Nov'69

See Topo-interabundantly

See Topology, 11 Dec'75

Interacceleration: Interaccelerating;

See Mass, 16 Nov'72

Halo Concept, Jun'71

See **Interaffecting**

Local Interaction

JMMiKlASB: Interacting:

(2)

See Economics, 10 Dec*73 Rotate, 6 May¹48 Structure, May*49
Cyclic Experience, 1961

"No generalized principles have ever been discovered which contradict other generalized principles. All the generalized principles are interaccommodative. Some of them are synchronously interaccommodative; that is, some of them accomodate the other by synchronized nonsimultaneity. Many of them are interaccommodative simultaneously. Some interact at mathematically exponential rates of interaugmentation,"

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS text at Sec. 163, 13 Mar*73

"The name synergetic refers specifically to the cosmically rational most omni-economic coordinate system with which nature interaccommodates the whole family of eternal generalized principles which are forever operative."

- Cite SYNERGETICS draft at Sec. 1004.11, JO Jan'73

"None of the Inventory of generalised cosmic principles is contradictory to one another. They are all interaccommodative. Some of them interaccommodate others synergetically with exponential rates of relative vantage gain."

- Citation and context at Man as Local Problem Solver (1), Dec'72
rtBF JbFhliuh

"But the fact is that none of the generalized principles we discover to be operative in the Universe ever contradict one another. They're all interaccommodative. A complex of interaccommodative principles is what I call a design. What man discovers with his mind is this a priori great design."

- Cite RBF to students international Meditation Seminar, U. Mass, Amherst, 22 July '71, p. 11

Interaccommodating:

"The beautiful thing about a generalized principle is that no one generalization ever contradicts any other generalization in any respect.

Generalizations are all interaccommodating.¹¹

* Cite Lecture "The Function of i-an in Universe

Town, Hall, New York, 26 Feb 1971

"Interaccommodation is design."^t

- Cite RBF to Arthur Clarke at Norman Cousins' World party on SS FRANCE, 21 Jun '72

Interact: ownodation: Interaccommodation:

tn

See Online interaccommodative Interoperativeness a Nonintercontradictory

See Chess A Priori Intellect Invents a Game Called

"Life", (1)

Design 1} Dec '73; 13 Mar '73; 13 May '73 ; 29 Mar '77

Generalization Sequence, (3)

Human, 22 May '73

Man as Local Problem Solver. (1)*

Scheme of Reference, 24 Sep'73

Synergetic Surprise, 9 Apr'71

Truth, 30 Jun'75

Energetic Functions, 8 Aug'77

Interaccounting:

See Error: Pullout From, 1? Jul'73 Intertransformability, 15 Feb*73

Interaction: Interactions:

See Local Interaction

See Life, 16 Aug'50

Sensing, Storing & Intuiting Device, 9 Jun¹75

See Interexchange Advantage

See Arti8t-8scientietB, 13 Mar'73

Inepaffefrtftpg:

"When the end of one energy action comes over the middle of another energy vector there is a processional effect, a tensional effect. One energy event gets angularly precessed and the next energy event goes by the center of another mass and each of them are interaffecting the other. . . "

- Cite Oregon Lecture #5 - pp, 164-165. 9 Jul*62

Interafftctlaz:

See Intereffecte

REF DEFINITIONS

"...Speaking externally, tetrahedra and octahedra may inter-agglomerate to fill allspace while icosahedra may not

- Cite SYNERGETICS draft at Sec.
1011.±3, 31 Jan'73

See Allspace Filling, 17 Feb'73

Ingrained,:

See Radome Sequence, (4) Structure, 29 Dec*58

See Chemical Bonds, (1)

Interaneular Proportionality:

See Process Relationships, 28 Jan'69

Jnfr<?rarray:

See Tetrahedron: Inside-outing Of, 28 Oct'73

Intermixing:

See Gear Train: Locking h. Blocking

Jntgrflgg9ciat.n:

See Mite <fc Coupler, 13 May'73

XnfrmractiQn Axis:

See Precession (A)

intera.t

See Vector Equilibrium, 3 Jan'75

Interattraction / Pressure:

See Hammering Sheet Eetal, (2)

See Newton Newton vs. Einstein Mass Attraction

See Hammering Sheet Ketal. (1)(2) Radial Line. 29 Dec'71 Intuition,
26 Dec'74

Interaugmentation:

'Synergy manifests itself in the generalized principles and their exponential rate of interaugmentation,"

- Cite RBI¹ in Baccalaureate Address, University of Virginia, Charlottesville, 3 Jun'72

See Generalized Principle. (8)

Interaccommodative, 13 Nar'73 Greater Intellect, (2)

Interawareness:

'All minimum otherness or all minimum-observer self are both plural unity with mutual interawareness. Interawareness means one system aware of another system or the outsideness of a system aware of its system's insideness.

- Citation 4 Context at Minimum Awareness. (2), 9 Jun*75

In t enhance; Interbalancing:

See Atom, 20 Oct*72

See Self & Otherness Interbehaving

See Generalised Principle. May*72 Octet Truss, 24 Sep*73 Synergy,
Sep'73

Interbetwew:

See Omni-inter-between

See Inter-triple-bonded

See Gravity, (h)

Topological Aspects: Inventory Of 9 Feb»73 Fourteen Axes of Truncated Tetrahedron, (2) Topology, 11 Dec*75

Quanta Loss by Congruence, (2)

Hites & Quarks as Basic Notes, (1){2}

See Environment Controls (1)

Environment, 12 May*77

Intercept the Random Event:

See Fielding, Dec'72

Interchangeable Intertransformativeness:

"The spheres and spaces are disequilibrium, i.e., asymmetrical phases of the vector equilibrium's complex of both alternate and coincident transformabilities. They are involutorially-evolutionally, inward-outward, twist-around, fold-up and unfold, multi-frequenced, pulsations of the vector equilibria. By virtue of these transformations, and their accommodating volumetric involvement, the spheres and spaces are interchangeably intertransformative. For instance each one can be either a convex or a concave asymmetry of the vector equilibrium, as the 'Jitterbug' has demonstrated.

The vector equilibrium contracts from its maximum isotropic vector matrix radius in order to become a sphere. That is how it can be accommodated within the total isotropic vector matrix field of reference."

/C32. 1/

- Cite SYNERGETICS draft at Sec. 22 Feb'73

See Cofunction

Proton 6c Neutron

Spheres & Spaces

Vector Equilibrium: Spheres & Spaces

.Intarchanxeabl: In.tershajy-jg.blkY:

(2)

See Artificial. (2)

Coupling, (2)

Gohansen Guagea, 16 Jun*72 Prime Otherness, 23 Sep*73 Sphere,
31 May*71 World-around Language, (2)

See Omnitriangulation, 20 Jan'75

See Gravity (J)

Universal Integrity: VE & Icoaa (2)

VE &, Icosa, 9 Jan* 74

Triangle, fa)(b)

See Resolvability Limits, 30 Apr'77

See Individual Universe, 28 Oct*73

Universe, 5 Feb*56

Word as Industrial Tool, 10 Dec*73

See Vector equilibrium, 10 Nov'74

/~Not in oed. - Ed. _/

KBF D*F IhlTIU.b

"Local perpetual motion systems are impossible since Universe is the minimum regenerative set of perpetually intercomplementary transformative functioning."

- Citation & context at Universe. 1960

See Omnlintercomplementation

InterSQnPlqnmarY ? Intrcomplementarity :
(2)

See Design Science, 13 Mar*73

Fail-safe, 5 Jun¹73

Generalisation Sequence, (3)

Partiality, 1 Apr'72

Side Effects, 9 Dec'73

Synergy: Degrees Of, (5)

Temperature of the Human Body, (A.)

Timeless, 1 Apr'72

Universe, 1960

XYZ Quadrant at Center of Octahedron. 14 May'75

Darwin: Evolution May Be Going the Other Way, 5 Jun'75

Cube & VE as Wave Propagation Modal, 23 Feb'72 Interrelatedness
vs. Dames, (2) Energetic Functions, 8 Aug*77

See Chemistry, 16 Feb'73

Octahedron: Nuclear Asymmetric Octahedra, 1 Apr'73

See Precession of Tetra Edges, Apr'72

Bubble Bursting, 20 Jan'78

See Point, 16 Nov'72

Third-power Rate of Variation Model, 16 Nov'72

Nonsimultaneity, 30 May*75

Bubble Bursting, 20 Jan'78

See Third-power Rate of Variation Model, 16 Nov*72

Nonsimultaneity, 30 May'75

'If two adjacent Systems become joined by one vertex they still constitute two systems, but universally interjoined. If two adjacent system# are interconnected by two vertexes they remain two systems, but they are interlocked by a hinge. If two adjacent systems become adjoined by three vertexes they become one system because they have

acquired unit insideness and outsideness."

- RBF to EJA, Bear Island, 25 Aug. »71, Synergetics Draft Sec. 406.

'sfs-re n-

See Connections k Relatedness

Coupler Interlink: Interlinkable Coupling: Couplee Joint

Relationship Analysis Absolute Interconnectedness

See Isotropic Vector Matrix, 28 Feb*71 Nonsimultaneous, Jun*66

Sphere, (p.150 I960 Tetrahedron. 10 Dec*73 Mind, Jun'60

Precession of Tetra Edges, Apr*72

Domains of Polyhedra, 7 Nov*73

Structural System Nov*71

Dome House Grand Strategy: 1927-1977, (2) Vector Equilibrium: Potential & Primitive

Tetravolumes, 12 May*77

See Design. 8 Sep'75

Words & Coping, 7 Nov'75

InforcpntrlbwrrY:

See Boltzmann Sequence, (6)

IntwcoertiDfl&a • XnurcQQrdipatflblff: ID

Seo Omniintorcoordinating

(2)

jM.W.tg.9rdlnm: Intercoordlna tabla:

See Isotropic Vector Matrix, 29 Nov'72

IrflerCQMpllnK:

See Information Transaction i Valving Model, 9 Nov'7J

Intercovarying: Intercovariant; Intercovariable:

See Newton's Second Law of Motion: RBF Restatement Of

10 Sep'74

Thirty Minimum Topological Characteristics, (1)

Spherical Quadrant Phases, 9 Jul»75

Intcrdgcpcnflfinsfi:

See Doing What Needs to be Done, 22 Jan'73

Inteniet,»rlor«tion:

See Self-interdeterioration

Interdeterioration:

See Self-interdeterioration

laterdlspogod;

See Vector Equilibrium, (1)

See Newton's Second law of Motion: RBF Restatement Of 30 Dec'73

Omniorientat ion, 29 Dec'58

law-ssaltslsaA:

See Rose, 3 Jun'72

Intereffecta;

"All the intereffects of the prime otherneea are both import and export. Radiation ia export and gravity ia import. It ia a push-pull function. . . . and precession is the pull, which brings about the 90-degree orbiting of one by the otherness, unless one gets into critical proximity with another and one just falls into and adheres: as in the chemical compounds.

"Until the discovery of complementarity, physics did not recognize the prime otherness of Universe; and not until 1956 did physics learn experimentally the inherently unique difference of orie complemener from the other."

- Cite RBF to EJA, 3200 Idaho, NW, As re-rewritten, 25 Sep*73

Intoreffecta:

"All the intereffecte of the prime otherness are both import and export. Radiation is export and gravity i8 import. It is a push-pull function.... And precession is the pull, which brings about the 90-degree orbiting, unless it gets into critical proximity and just falls in and adheres: as in the chemical compounds.

"Until complementarity, physics did otherness that brings this about."

not recognize the prime

- Cite RBF to EJA, 3200 Idaho, Wash DC, 25 Sep*73

"Newton's first law: A body persists in a straight line except as affected by other bodies. But the 1973 era of physics' discoveries of 'prime otherness' must add to Newton that: All bodies are always being affected by other bodies and the intereffects are always processional. The intereffects are angular-momentum aberrating. The angular momentum alterations are all determined by the angle and frequency modulating."

- Cite SYNERGETICS draft at Sec. 539.08, 23 Sep'73

See All-motion Universe, 1965

Instant Universe. Jun'66

Precession, Oct*66; 11 Nov'66; (b)

Truth i Love, 16 Feb»73

Radiation-gravitation, 15 Nov'74

See Interaffecting Intersystem Effects No Local Change Omni1nt eref
fe c ti ve Precession Precession `` Tension

Interentity:

See Inward Explosion, 8 Anr*75

See Normnl to Universe, 10 Sep'74

Interequatable:

See Spherical Quadrant Phases, 9 Jul¹75

See Mortgaglxation

Interexchange Advantage:

See Design Science i World Game (A)

See Amplitude & Frequency Interexchanging Interexchange Advantage Interadvantage

See Tetrahedron: Dissimilar Rate of Change Accommodation, y Nov'73

Interferes Enjoyment, of All the Earth without One Individual Being Interfered With:

See Consideration for Others Trespassing: Not Trespassing

-Interference:

"Gravity is uninterferable; radiation is Interferable.

- Citation and context at Gravity. 5 Jun¹⁷³

Interference;

"Two linearly concentrated energy events cannot passage simultaneously through the same point. Ergo lines, having no girth dimension cannot passage into or swallow another line like a snake swallows its own tail.

- Cite RBF rewrite of Caption to Synergetics Illustration #14, Feb'72

Interference:

"Two different energy events articulated as invisibly modulated spiraled, vectorial lines each represent their respective masses multiplied by their velocities, and each has a unique angular direction in respect to the observer's axis. They cannot pass through the same point at the same time. When one energy event is passing through a given point and another impinges upon it, there is an interference."

- Cite SYNERGETICS text at Sec. 517.01,

Nov'71

Interference:

"There are six fundamentally unique patterns of the resultants of interferences. The first is a tangential avoidance, like knitting needles slipping by one another. The second is modulated noninterference, as in frequency modulation. The third is reflection, which results from a relatively direct impact and a rebound at an acute angle. The fourth, which is refraction, results from a glancing impact and an obtuse angle of deflection. The fifth is a smash-up, which results in several parts of one or the other interfering bodies going away from one another in a plurality of angular directions (as in an explosion). The sixth is a going-the-same-way, 'critical proximity.' attraction link-up such as that established between the coordinated orbiting of Barth and Moon around the Sun."

- Cite SYNERGETICS draft at Sec. 517.10, Nov'71

Interference:

"In distinction from all other mathematics synergatics provides domains of interferences and domains of crossings.'*

- Citation at Domain. 2\$ Apr*71

~~Cite RUP Narratives on SYNERGETICS Draft, "Interference Domains," Boston, Somerset Club, 2\$ April 1971.~~

Interference:

"No two actions can go through the same point at the same time. The consequences . . can be pictured as the

jAtiyT interference phenomena:

- a. Modulated non-interference
- b. Reflection
- c. Refraction
- d. Smash-up (Compression ?)

e. The minimum knot or critical proximity.

(See Illustration #H«)

- Cite SYNERGETICS ILLUSTRATIONS caption #U_t May'6?

Interference:

"Two different energy events cannot pass through the same point at the same time. When one energy event is passing through a given point and another impinges upon it there is an interference.

"There is a unique and limited set of angle and magnitude consequences of Interfering events. These resultants may always be depicted as vectors.

"When there is an interference of two similar magnitude energy events, there is a co-equal pattern of interference resultants, as when two knitting needles slide tangentially by one another. When one converging body of an interfering pair is much larger than the other, the little one 'seems' to do all the resultant moving as viewed by an observer small enough to see the small converger's motion---as for instance human beings see a tennis ball hit the big ball Earth and see only the tennis ball bounce away, The Earth being too big to be seen as a ball by the viewer and the relative bounce-off deflection of the Earth's orbit from the tennis ball point of impact, being too small for detection."

- Cite NASA. Speech, Pp. 50-51, Jun'66

"As the magnitudes of energy vectors are products of the mass multiplied by the velocity, the velocity may be high and the mass small, or vice versa, and the vector remains the same length or magnitude.

"A little body moving at sufficient velocity could have the same effect upon another body with which it interferes as could a big body moving at a slower rate. With these vectorial variables in mind, we see that there are three fundamental preconditions of the interference vectors where one is either larger, the same, or smaller in energy magnitude than the other.

"There are also four fundamentally unique patterns of the resultants of interferences. The first, which is reflection, results from a relatively direct impact and a rebound at an acute angle. The second, which is refraction, results from a glancing impact and an obtuse angle of deflection. The third is a smash-up which results in several parts of one or the other interfering bodies going away from one another in a plurality of angular directions. The fourth is a critical proximity, an attractive link-up such as that between Earth and moon."

- Cite NASA Speech, pp.50-51, Jun'66

Interference:

"It is found in cybernetics that original questions, asked either by humans or by computers, are always produced by unexpected interferences."

- Cite AAUW JOURNAL, May 1965, p. 176

RBF DEFINITIONS

Interference:

"Another reason you can't put lines through the same point or have a line return into itself like a circle, ie how can you figure which end of a line gets into which? How do you make the joints? If it doesn't have any dimension how do you make a joint?"

(Adapted.)

- Cite LEDGEkONT LAB Address, 15 Oct '64> p. 12

Interference:

"...Interferences are products of time and sequences.

- Cite SlwaUPa: Original Question, 29 Aug'64

Interference:

"You are able to have interferences in tension without interferences.
. . There are times when I am quite confident that we do get energy interferences which are similar to that in the actual energy bombardments in the nucleus in these rare cases where we do get interference. It is very difficult to get an interference and you get some further angular behaviors. I think it very probable then we will be able in the light to have synchronization of the corpuscles as not touching one another and yet have two beams going what had seemed continuous away, but really tensionally, and therefore not really have any problem of interference." (This is all very sic; see citation.) - Cite Oregon Lecture tf5, p. 160. 9 Jul*62

Interference:

"Two energy event trajectories, or 'lines,* cannot go through the same point at the same time*"

- Cite SYNERGETICS Corollaries, Sec. 240.

-----X Collier's Ltr, Oct*59 K(7 ft 1 ')

Interference:

"Physical interferences of our sensibilities are alike true and real, or realisable, only in principle."

- Citation and context at Principle. May'49

See Articulated cc Unarticulated

Cosmic Discontinuity a. Local Continuity

Soinethingness nothingness

Tuning-in & Tuning-out

Frequency tz Interval

See Einstein Equation: $2 \ll l'.c^2$, 1959

See Octahedron as Photosynthesis Model. 11 Dec'75

Radiation-Gravitation Sequence, (1J

"We discover operationally that we cannot run two lines through the same point at the same time aid you can't have two actions through the same point at the same time. . . It seems this could apply directly to life, that we all have been assuming that everyone is going to interfere with everybody else, that everyone is trying to occupy the same points and the lives are these vectors. We thought of ourselves in opposition to everyone else and we really do discover that it is fundamental. If it is absolutely fundamental mathematically. then we have the basis for developing a very powerful philosophic contentment that we are not going to be in interference .with one another. People must have known that they don't go through the same point. They get into the critical proximities of the individuals and that is fascinating, but you don't go through the same point. You are not interference. There-are larfee numbers of the pragmatists who are convinced that you or me are both trying to monopolize the same point, and so people have been lethal towards one another. . . "

- Cite Oregon Lecture *ffk*, pp. 115-116. 6 Jul'62

See Individual: Theory Of Social Sciences: Analogue to Physical Sciences

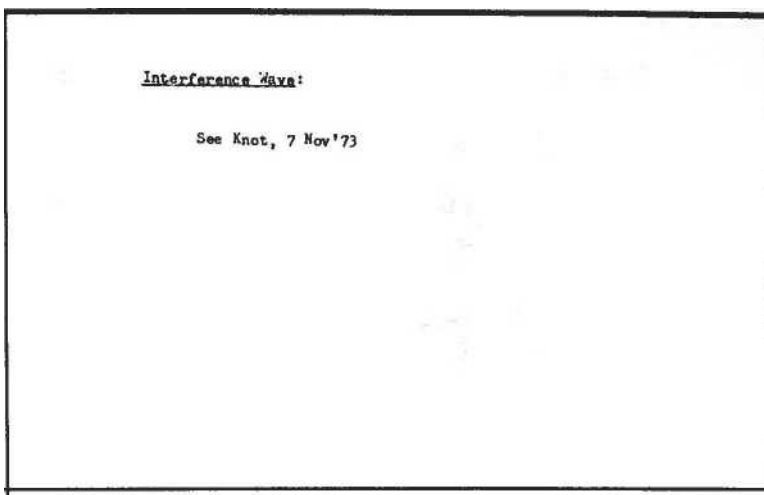
Inurfwgncg: You Really Can't Get There From Here:

"Omnitopology recognizes the experimentally demonstrable fact that two energy-event tracteries (lines) cannot pass through the same point at the same time. It follows that no event vectors of Universe ever pass through any of the same points at the same time. Wherefore, it is also operationally evidenced that the conceptual-system geometries of omnitopology are defined only by the system withinness and withoutness differentiating a plurality of loci occurring approximately midway between the most intimate proximity moments of the respectively convergent-divergent wavilinear vectors, orbits, and spin equators of the system.

'•The best you can do is to get almost there: this is evidenced by physical discontinuity. Zeno's paradox thus loses its paradoxical aspects.

"In omnitopology, a vertex (point) is the only-approximate, amorphous, omnidirectional region occurring mid-spatially between the most intimate proximity attained between two almost-but-never-quite, yet critically intertransformatively, interfering vectors."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 1009.10+11, 19 Dec'73



See Coalescing Adherence
Critical Convergence & Flying Huddle
Critical Proximity
Critical Proximity Co-orbiting
Crossing Tangency
Densification
Frequency Modulation
Minimum Knot
Precession
Reflection
Refraction
Smash-up
Swallow the Otherness
Synchronization
Tangential Avoidance

Torque at the Center of Convergence Twisting

See Interference, Nov'71; bay'67

Precession, (2) Subconscious, 14 Feb'72

See Computer Asks an Original Question as a Consequence of Interferences
Energy Event: Energy-interference-event
Energetic Functions
Interfriction
Local Interference
Noninterference
Self-interference
Uninterferable
Lines Cannot Go Through the Same Point at the Same Time
Avoidance vs. Interference

InterInterfere
Cloud Chamber
Tetrahedron of Interferences
Vector Model of Interference
Domains of Interferences
See Abstraction. 24 Feb*72

Computer. (C)ID)

City, (1)

Domain, 25 Apr'71□

Corpuscular, 9 Jul'62

Gravity, 5 Jun'73*

Halo Concept, 22 Feb*72

Individual: Theory of The, Kay*6\$ Infinite, 1955 tatter, 9 Jul'62

Normal to Universe, 10 Sep'74
Principle, My'49*
Question: Original Question, 29 Aug'64
Radiation, Pay'72
Subconscious, 14 Feb'72
Syntropy, 13 lay'73
Space Technology, (7)
Touch, 29 Dec'58
Trinity: Equation Of, 1938
Unique Frequencies, 9 Jul'62
See Ball at the Center, 9 bar'73

**Step-up, Step-down Transformation, 22 Jan'75 Periodic Experience,
(3)(9)(10)(11) Personality, Iiay'49 Progressions, l.ay'49**

**Cyclic Bundling of Experiences, v'ay` 49 Octahedron as Photosynthe-
sis Model,(D) In, Out &. Around, Nov'71 Triangle, Nov'71**

See Interfere: Enjoyment of all the Earth Without One Individual
being Interfered With Interference & noninterference Interference-
noninterference Relaying Interference as a Social Model Interfer-
ence: You Really Can't Get There from Here Interference Wave
Interferences: Inventory Of

InWfxAfiUyn-

"The sphere has the least interfriction surface with other spheres and
the greatest mass to restrain interfrictionally; while the tetrahedra
have the most interfriction, interference surface with the least mass
to restrain."

- Cite RBF rewrite of SINERGETICS galley at Sec.626.0), 9 Nov*73

See Necklace, (A)

MMMMI Ionin*;

"The meaning of a function is that it is part of a complementary pat-
tern and there is no function existing by itself: X only in respect to
Y. so your tension and compresssion are interfunctioning with weight
variables of relative importance in the local pattern inspected."

- LWSLBIL $I! < J$, aiPfrdifMh

Citation at Function. 9 Jul*62

.IntwrypcUcninK!

See Motion, 27 May'72

Sorting, Kay*6\$

Comprehensibility, 26 fay'72

Intergeared Mobility freedoms?

See Four Intendeared Mobility Freedoms

See Precession, Oct'b6

Radiation-gravitation, 15 Nov'74

Interidentifiability;

See Fourteen Axes of Truncated Tetrahedron,(2)

Eimr-insulator

See Eightness: "Begeted" Eightness, 28 May'72

Inter-integer Synermlfijr

See Eightness: "Begeted" Eightness, 18 May'72

Interinterfere:

See Conatellar, May'71

Interior Relevant:

See Variables: Theory Of, Nov'71

It;Vrlor Vertax:

See Omniconvertex

See Interconnection of Systems, 2\$ Aug'?1 Quanta Loss by Congruence, (2)

Interlink All of Humanity;

See Invention, May'70

See Orbltally Interlinkable Interconnect

See Ninety-two Elements. 9 Jul*62

Pattern Integrity. (A) Pauling, Linus, 1965 ; 1960 Triangle, (a)

Stabilized Vector Equilibrium, 2J Feb'72

See Chemical Bonds

Gear Train

Interconnection of Systems Locking It Blocking Ke shing

See Frequency 4 Wave. Jun'66 Synergetics, {p.101) Jun'66 Frequency 4 Magnitude, Jun'66 Synergetics, Nov*71

JjiMralnable:

See Endless

See Intellect: Equation Of ly68

Scenario Universe, Jan'72

Intermultiplicative; Intermultiplying:

See tightness: "Begeted" Eightness, 27 May'72

Eternal Designing Capability Sequence (1)

Acceleration of Change (1)

Prime Number Inherency & Constant Relative

Abundance, 27 Dec'74

XYZ Quadrant at Center of Octahedron, 14 lay*75

KBF DEFINITIONS

. ./hat we call a great circle arc or 'edge' is

indeed an internal angle.¹¹

- Cite Synergetics draft, Sec. 860, August 1971.

See Central Angle "It is also this method of uniformly progressive concentric correction by subsidence from spherical segment to plane geometry which provides the unique characteristic of this method of projection which distinguishes it from all other methods. This unique characteristic referred to is that the projected diagram retains true measurement, shape, direction, and distance throughout all of the enclosing boundaries of the segments with mathematically controlled distortion •massaged' to the center of the projection areas. All other projections are true in measure, shaping, and direction only at an interior point or along one side or along one or several separated lines or arcs crossing the projection with progreee- ive distortion articulated outwards toward one or more of the enclosing edges of the projected diagram. In other words, my new projection is uniformly corrected

by internalization while all other projections are corrected by some systematic externalization of error. This allows of true external association of my projection units, which is impossible in all other methods demonstrated to date."

- Citation 4. context at Dymaxion Airocean World Lap, (e)(f); 29 Apr'43

See Concentric Correction from Spherical to Plane Geometry Symmetrical Local Subsidence

Internal &, External Limita;

See Synergetics, 11 Oct*73

See Chemistry as External Affairs of the Atom h.etalobics: Internal & External

Physic® as Internal Affairs of the Atom

Insideness & Outsideness

/ithinaess & Withoutness

See Comprehensive, 1944

Dynamic Frame of Reference, (7)

Isotropic Vector Matrix, 9 Mar*73

Limit, 9 Jun'72

Noninterfering Zero Pointe, 9 Far'73

Synergetics, 1944

Tidal (p.86) Kay'72

Wave System Propagations, May'72

Vector Equilibrium, 3 Jan'75

Bundle of Experiences, Nay'49

Atom, 8 Sep'75

General Systems Theory, (1)

Internal Control of Distortion, 29 Apr'43

Fourfold Twoness, 10 Nov'74

Environment, 29 I ar'77

See Life Alters Environment i. Environment Alters Life 16 Aug'70

See balance-of-Power Poker Game Detente Diplomats Foreign Economic Aid Invented National Hates Nation Politicians &. Defense budgets Transnational Desovereignisation Sovereignty: Elimination Of

International Mfalrr.:

(2)

See Politico, 10 Jun'71

International Cooperation Year: 1965:

See Geoeocial Revolution (1)-(3)

Style: Architecture:

See Bauhaus School

IuS.ioall2I«l_SsxLK: Architecture:

<2)

See Form Cannot Follow Function, (1)

See Gravity, (g) Interpreceslng, 29 May'72

BBBI Internuclear Vector Modulus

"Every vector (line) leads from one nuclear center to another, and therefore represents the operational effect of a merging of two force centers upon each other. Each vector (line) is composed of two halves, each half belonging respectively to the two nuclear centers and each half of the line representing those unique radii of each tangent spheres which alone are perpendicular to the identical point of tangency and therefore constitute a continuous straight line:--- wherefore it is setetermined that unity (represented by the internuclear vector modulus) is of necessity always of the value of two, i.e., unity is inherently two, for it represents union of a minimum of two energy centers."

Cite EARTH, p. 18

"... the nuclear biological unity:2"

Cite EARTH, p. 17, 1947

IntemMlar-Vet.tor i-offlua:

(1)

See Axis of Intertangency

Control Line of Nature

Isotropic Vector Matrix: Internuclear Vector Modulus

Line Between Two Sphere Centers

Prime Vector

Unity As Two

Vector: Half-vectors

See Pauling, Linus, 7 Oct*71

See Interstitial: Interstitial Spaces Sphens &. Spaces

InterQPerativeness: Interoperate: Interoperational :

See Technology, 20 Jan'75

Co-orbiting of Earth i Moon around Sun, Apr'71

Environmental Inventory, 28 Apr'77

See Orbital Escape from Critical Proximity, (1)

JnUrorimcdt

See Cosmic, 3 Oct'72

Cosmic 4 Local, 3 Oct¹72

Interoscillate:

See Vector Equilibrium: Field of Energy, (A) Powering: Fourth Powering, 9 Sep*75

InterparallU:

See Fourth Dimension, 17 Nov¹72

Isotropic Vector Matrix, 16 Nov'72 Time-size, 20 Dec*73

See Least Effort InterpatternlnR

(D

See Complementary, May'72

Design, (1) Interpositioning, 4 Oct'72

Question: Original Question, 10 Dec*64

Regenerative, 15 Mar'71

Senses, 1971

Twelve Universal Degrees of Freedom, 19 Nov'74

Matrix, 13 Nov*69

Domain i Quantum, (1)

9U' Interpenetration:

See Frequency Modulation, y Nov'72

Wave, y Nov'72

Thought, May'49

Interpermutations: Interpermutative:

See Scheherazade Number, 18 Jul*72

Spherical Quadrant Phases, 9 Jul'75

flHMMHMBHl Inter perpendicular: -----

"The interperpendicular coordinate axes are always dimensionally identifiable, but they are not the rational bases of nature's arithmetical powering. The XTZ perpendicularity precludes modelly demonstrable fourth, fifth, or sixth powering."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. '71.
F&WEtf'UG - tec-. 77/,05-)

Interoeroendlcular:

See Perpendicular

XYZ Coordinate System

See Bow Ties, 6 Oct*72

See Phase & Interphase

KBF DrJINITxuNS

Interpointal Domain Volumes;

"Fouh powering is identified with interpointal domain volumes ..."

Cite 1NTHUDUCT1UN TO uMilJIXECTluNAL HALO and SYNh.kGt.TlCS

"Corollaries," Sec. 240.44. and "Powering" Sec. 770. 197«

Interpolation:

See Teleology, (1)-(J)

InterDOlvhedral Tranaformatlona:

See Jitterbug, 11 Oct'71

See Astro A. Nucleic Interpositioning

Interposition: Interpoeltionlng:

See Awareness, 10 Feb'73

Constellar. 3 Oct'72

Crystal: Crystalline, Aug'71

Minimum System: Minimum Structural System, 25 Feb*69

Co-orbiting of Earth &. Moon around Sun; Apr'71

Interpotential:

See Atom, Kay*49

"... We now have six spheres in symmetrical closest packing and they form the six vertexes of the octahedron. This twisting of one set to register it close packedly with the other, in the first instance of two pairs internested to form the tetrahedron, and in the next case of the two triangles twisted to internestability as an octahedron, is called interprocessing of one set by □□□□ its complementary set."

See Synergetics Illustration #47)

- Cite SYNERSTICS draft at Sec. 416.02, 29 May'72

Interprocess:

"Systems can orbit. Systems can contract and expand.

They can torque; they can turn inside out and they can interprocess their parts.

- Cite RBF insert at Synergetics draft Sec 404.2, Bear Island, Me.

25 August 1971

KBF DEFINITIONS

Interprecession;

██████

"The compressively interprecessional cooperative and accommodative functionings of all structural systems are locally persistent constellations of resultant force-vectors which are always angularly shunted, add regeneratively reshunted, inwards of the system's tangential lines, i.e., at resultant angles less than 180 degrees in respect to the direction of origin of the geipative force."

- ttg-TK»HEGhlTY, Art Newy Annual, p. 120. Dec'61

* Citation at Shunting & Reshunting. Dec*61

See Comprehending. 16 Feb'73

DNA-RNA, 16 Feb*73

Inventory of Push-pulling Alternations, May*49

Radiation, 1959

Radiation-gravitation Sequence (2)

Relative Asymmetry Sequence (1)

S Curve, Jun'66

Shunting & Reshunting, Dec'61*

Seven Axes of Symmetry, ¹3 May*73

Interproportional:

See Gravity, 5 Jun'73

Int.erprfxlmlty:

See Gravity, 5 Jun'73 VE & Icoea, 9 Jan'74

Interpulsating: Interpulsative:

(D

See Galaxies: Interpulsation of Galaxies

ittiaXHIjailns: Internulsatlva: _{|2|}

See Binary Stare, 26 Jan¹73

Black Holes, (2) Isotropic Vector latrix, 6 iiar'73

Interradiation;

See Hadiation-gravitation, Oct'66; 15 Nov*74

IatSC£gB4asa4i.Sa.: Interrezeneraclon:

See Ecology Sequence, (D)

Kind (3)

Two Kinds of Twoness, (B)

"Consciousness: I really very clearly differentiate today what I call reality and what most people call reality.

Their reality is that you have got to make money and you have got to pay your bills. I consider that really a game. So it is part of my reality that man is hooked with a game, which makes it very inconvenient for me where they are not dealing with reality. The game includes social standings, reputation... that there is a place called Chicago... because in my reality there are probably no names.

"We don't know what the names are. There's a phenomenon... I can see by the way that you smile that you understand me quite clearly, because my consciousness is of an extraordinary Interrelatedness of all phenomena. We are on a tiny little planet of a very limited chemical inventory in our biosphere--- yet it is adequate to cope with and adequately support human organisms on board our planet. My reality is: life is not the organism which employs it. It is part of my reality to say that there is a powerful game being played by human beings using geographical names, human names, all kinds of power structures. I don't know how many people would give"

- Cite transcript p.6 RBF taping of interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 2nd Feb'77

"you that kind of differentiation, but it is very important in trying to understand why these human beings are here on board this planet and I assume that they have an extraordinary function in the great intercomplementarity of Universe so that a priori they must have an Important function."

- Cite transcript p.8 , RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

"Whereas one has no relations; two have only one interrelationship; three have three interrelationships; but four have a minimum of relationships synergetics."

- Cite HBF rewrite of SYNERGETICS galley at Sec. 1024.25, 19 Dec'73 ''**All the interrelationships of system foci are conceptually represented by vectors.**''

- Citation and context at Polvhedroal Systems, 25/B May'72

RUF DEFINITIONS

"All 'lines,* trajectories, are the most economical vectorial interrelationships of nonsimultaneous local event foci."

- Cite SYNERGETICS Corollaries, Sec. 240. 1971

"Vectorial lines, or 'trajectories'

are always most economical event interrelationships, ergo, geodesic."

- Cite SYNERGETICS Corollaries, Sec. 240. '971

See Central Angles & Surface Angles, 9 Jan'74

Comprehension, 29 Sep*76

Intuition, 26 Dec'74

Line, 7 Nov'72

Minimum Set, 18 Nov*72

Minimum System, 26 May* 72; Oct'69

Nature Permits it Sequence, (3)

Precession of Tetra Edges, Aor` 72

Pronouns: I - We - Us, (2)

Pulsation, 9 Nov'72

Size, 31 Kay'71

Spherical Octahedron, 11 Jul*62

Star Events, Oct'65; 1960; Mar'71

System, 27 May'72; 16 Feb'78

System Enclosure. (1)

Tetrahedron, (1)(2); 1960; 11 Oct'71; 20 Jun'66;

5 Jul'62; Nov'71; 26 Sep'73; 8 Aug'77 Tetrahedron: Coordinate Symmetry. (A); 15 Oct'64 Tetrahedron: Inside-outing Of, (1)(2) Tetrahedroning, 30 May'75

See Thirty Minimum Topological Characteristics, (1) Visibility & Invisibility of Systems, (1)(2) Minimum Tetrahedron, 22 Feb'77 Cosmic Hierarchy, 23 Jan'77

Interrelationships: Fourness. Fourness & Sixness:

See General Systems Theory, f1B

See Nuclear Set. 13 May'73 Thinking, 1960

See Teahedron, 12 Jul'62; 20 Jun'66; 22 Mar'76

Tetrahedron as Microsystem, 12 May'77

Interrelate on ship Twgg: Third Kind of Twoness:

"All systems have a neutral axis of splnability with two external polar vertexes and two interior center axis vertexes which are congruent: ergo visible only as one vertex located at the convergence-divergence, integrative-disintegrative, inbound-outbound turnaround, neutral, center of gravitycenter of radiation of the system.

"The exterior and separate set of two polar vertexes are the additive twoness of systems and the congruent exterior-interior set are the multiplicative twoness of all systems and the interior-exterior differentiating fourness has an interrelated sixness, which differentiates as a unique third kind of twoness of unique interrelatedness of all systems."

- Cite SYNERGETICS, 2nd. Ed., at Sec.s 1073.21 & .22, 27 Dec*74

Jutsrrtla.ilonahlp Twona **sa**>

See Cosmic Inherency, (2)

Conception-birth, 27 Dec'74

Human Beings & Complex Universe, (5)

Answer `` Interrelationship

See Connections t Relatedness

Geometrical Interrelatability of Evenats

Omniinterrelationships

Prime Interrelationships

Constant Interrelationships

Between and Not Of

Events Novents be. Event Interrelatabilities

Line of Interrelationship

Newton's First Law of Lotion: RBF Restatement Of.

Dec'77 '

See Eternal Designing Capability Sequence (1) Geometry of Thinking 16 Dec'73 Overlapping 5 Jul»62 Polyhedral Systems. 25 May'72* Prime Otherness. 24 Sep'73 System, 25 May*72 Transformation, 12 Jul'62 Understanding, Jun'66 Kost Economical, 15 Jun*74 Brain as Library, 15 Nov'74 Model vs. Form, 8 Apr` 75 Self-education, 1974 Vector Equilibrium as Starting Point, (1) General Systems Theory, (1) Structure, 1965 Topology, 11 Dec'75

Apprehension + Comprehension □ Awareness, 26 Jan'76 Relationships, 24 A.pr'76 Event, 23 Jan'77 Creation, 29 -"iar*77

See Interrelatedness vs. Names

Interrelationships: Fourness & Sixness

Interrelationships: Fourness, Fourness k Sixness

Interrelationship Patterns

Interrelationships: Threeness, Fourness « Sixness

Interrelationship Twoness: Third Kind Of Twoness

See Omni 1 nteirrelevant

See Stable 4 Unstable Systems, 2 Nov'73

interruption;

See Periodic Experience, (30

Intersect:

**"... All curved lines must eventually intersect no matter how re-
motely."**

- Citation ft context at Line. 193\$

See Crossing

See Spiral, 193*

See Self-interstabilizing

Inter-seir-stablllzing:

(2)

See Tetrahedron, 24 Sep'73

InSer-self-trlangulatlng:

See Great Circles, 8 Mar'73

XntqrghMfcUq s ZntorahMtllw

See Information Transaction <fc Valviag Models, y Nov*73

Intarmcg;

See Omniintertangency, 17 Feb'73

See Self-Interetabillizing Tensegrity: Interstabilization Three-way
Grid: Three-way Great Circling Trues

(D

See Spherical Octahedron, Aug'72 Triangle, Aug'72; Nov'71 Lost En-
ergies, Nov'71

InmmlXar, franwiealaa. af_E»ai

See Cosmic Transmission Kan: Interstellar Transmission Of

See Between

Concave-in-betweenness Donaina Internuclear Voids Shell Growth
Rates Spherical Interstices Spheres & Spaces Spherics

Interstitial: Interstitial Spacea-

(2)

See Scheherazade Numbers: Declining Powers Qf, 22 Jun'72

Interaubatltutable;

See Noninteraubatitutable

Intersupport:

"I saw that the Universe operated regeneratively on an indirect, com-
plex circuitry of intersupport."

- Citation and context at Fuller, H.B: Crisis of 1927 (a), 12 Jun*73

See Regenerative Intersupport

ipwguppm •

(2)

See Ecology, 1\$ Feb'73

Intorsynehronltabla:

Sse Uloys, 30 May'75

See Intereffecte

Intertangency;

In synergetics a 'line' is "the axis of Intertangency of unity as plural and minimum two. . . The 'line' becomes the axis of spin. Even two balls can exhibit both axial and circumferential degrees of freedom."

JiafcfcLj New York, 19 June WK

- 6±tgfl~CT~TnM-

- Citation and context at 19 Jun*71

Line

See Omniintertangency

See Omnidirectional Typewriter (3)

Rhombic Dodecahedron, 30 Nov'72

Line Between Two Sphere Centers, 22 Jun*75

Intertenaion:

See Gravity, 11 Feb'76

.fittertTRlnalt

"The most economical interterminal relationship is always that with the least angular aberration."

- Citation and context at Gravity, 2J Sep'73

Inter-trajectory:

See Octet Truss, 24 Sep'73

Intertranpactlon;

See Entropy, (p.85) May'72

Intei-transformablllty:

"Critical proximity is inherent to all intertransformability and intercounting. . , **

- Citation and context at Critical Proximity. 15 Feb*73

RSF DEFINITIONS

Intertransformable:

` ` The finite physical universe consists entirely of energy--- energy associative as matter, and energy dis- associative as radiation, and both intertransformable.*

- Citation and context at Energy. Jun'66

' 'Every news reporter tries to talk about physics in terms of 'finding the building blocks of universe.' But the physicists keep trying to tell society,'It takes fundamental complementarity, that is to say two different and complementary 'building blocks.' They are the proton and the neutron. The two are intertransformable. But if one transforms to the other, the other does likewise.'

- Pa^rhdalr Prafr

frw to ilodolabUaty- p. jj.a

- C±tErd£±2d_-Speech, pp 67,6&_

jmx±66-

- Citation and context at Building Blocks, Jun'66

"Things ` ` events " natterns - somersaults • intertransformability systems."

- Cite SYNERGETICS 2 draft at Sec. 100.018; 28 Apr'77

Intertransformability System Seta:

See Children as Only Pure Scientists, 28 Apr'77

See Association & Disassociation
Hierarchy Of

Atomic triangulated Substructuring: Energy

Field of Cosmic Formabilities Intertransformable Extremes Preces-
sional Intertransfonnability Transformable

Terminal Intertransformabilities Vari-intertransformabilities Topo-
logical Aspects: Inventory Of Spheres & Spaces

See Critical Proximity, 15 Feb'73*

Coupler (2)

Building Blocks, Jun*66*

Energy, Jun'66*

Entropy, May'72

Horseshit, y Feb'73

Stardust (2)

Synergetics. 12 Jun'74

Individual Life as One Way Universe Could Have

Turned Out, 5 Jun'75

Vector Equilibrium Involvement Domain, 12 Dec*75

Topology, 11 Dec*75

Primitive Dimensionality, 1 Mar'76

Tunability, 24 Apr*76

Cosmic Hierarchy, 23 Jan'77

Quanta Loss by Congruence, (2)

Intertransforms:

"The vector equilibrium is the most abstract of all the always-and-only abstract scientific generalisation, for it is the heart of all interrelationships existing between and not in or of any of all the empirically apprehended intertransforms of the ever-and-everywhere intertransforming scenario Universe."

(Synergetics: 440.10, 2nd.Ed.)

- Citation t context at Vector Equilibrium as Starting Point, (1) 11 Sep'75

~~H. Laas, Anherst, 22 July 1971.~~ RBf

"Universe is the minimum of intertransformations necessary for re-generation*"

- Citation at Universe. 22 Jul*71

Intertransformative:

^{rt}The Einsteinian Era scientists' experiments

Showed that entropic energies

Accomplished their disassociations here

Only through associations there—

Thatis, by regroupings elsewhere.

Thus early twentieth century scientists

Found the intertransformative

Energy quanta transactions

To be eventually—

But not al/;ays immediately—

One hundred percent accountable.”

- Cite How LITTLE, p. 33 B. Oct'66

"... The hierarchy of geometrical intertransformings which are the subject of this book..."

- Citation and context at Synergetic Strategy of Commencing With Totality, 28 to 72

"... The obviously inanimate Physical phenomena

Are all, always, giving off energies In ever more diffuse, expansive And disorderly ways

Which impose complex intertransaction Upon all the transforming systems."

- Cite RBF Draft, BRAIN & MIND, p, 5 1971

. All systems are continually transforming Internally as well as externally, And because the periodicity of Importing and exporting are Both non-simultaneous and unequal All the systems are tidally pulsative At a variety of frequencies."

- Cite RBF Draft BRAIN & MIND, p. 6 1971

"The physical is subdivisible Into two different phenomena Energy associative as matter--- substance And energy disassociative as radiation, Each of which behavioral phenomena May be transformed into one another

And the total intertransformative behaviors Of physical universe

Are terminally eccentric In respect to a universal equilibrium."

- Cite RBF Draft, Brain & Mind, pencil 1971

. There will always be positive and negative sets which are ever interchangeably intertransformative with uniquely differentiable characteristics.¹

- Cite NASA Speech, p.83, Jun'66

See Geometry 4 Number

InterUAngfonnatlye Number-value Accounting*

See Modela, 9 Jan'74

See Hierarchy of Geometrical Intertransformings Interchange-
able Intertransformativenessa Intertranaformable Omniintertrans-
fonnative Spheres t Spaces Transformable Behavioral Phases
Annihilation Model Proton & Neutron Quantum Model Jitterbug
Self-intertransformability Phase

See Astrophysics, 13 iay'73

Hammering Sheet ketal, (1)

Jitterbug, 4 Oct`72

Machines, 1970

Models, 9 Jan'74

Point, 15 Feb'73

Synergetics Calculation. 30 Oct'72

Synergetic Strategy of Commencing with Totality, 28 Lay'72*

Temperature of the Human Body, (A)

Universal Integrity, 22 Kay'73

Universal Integrity: lanifest Ratios &. Potential,

1 Apr'72

Universe, 22 Jul'71*

Spherical Quadrant Phases, 9 Jul'75

kacro-kicro. 12 Nov'75

Metaphysical & Physical, 13 Nov'75

Dynamic vs. Static, 12 Nov'75

Modules: A tc B Quanta Modules, 20 Dec'73

Scan-transmission of Pattern Integritys, 22 Jun'77 Energetic Functions, 8 Aug'77

See Intertruss- Intertriangulate

Omniintertriangulate

Omnitriangulation

Triangulate: Triangulation

See Normal to Universe, 10 Sep*74

Tensegrity Model of Self-interference of Energy, 25 Mar'75

Inter-triple-bonded:

See Prime Nuclear Structural Systems, 27 Dec*74 Four Color Theorem, 23 Sep*73

interims

"Intertrussed and intertriangulated are the same words

- Citation and context at Truss. 25 Jan*73

Intertmaa - Intertrlanaulate:

See IntertrusB, 25 Jan'73

Intart unable;

See Conceptual Syateraa, 27 May'75

Interval:

' • Interval and differentiation are introduced with two.

- Citation and context at Prime. 17 Feb'73

Intervals:

"Lags are intervals— nothing."

~~File:GIMMICKS Draft - "Conceptuality:life" - REF
Marginalia, Somerset Club, Boston, 25 April - 1921.~~

- Citation t context at Eternal & Temporal. 25 Apr'71

Interval:

2, 3, 4, 5. and 1,2, J, 4, 5 again in

"When I count 1, sequence you aay Interval Between

I am counting to rive, but not so: there is notations and the repetition means an interval between 5 and 1, therefore there are six different spaces in the cycle."

- Cite HBF holography, 6 May'48

Intejxal. integrity

"Interval Integrity; i.e._M the integrity of absolute generalized discontinuity accommodating all special-case 'space' of space-time reality,'*

- Citation and context at

Ndcleuo M - Nine

See Equi-interval Rulee of Interval Harmonic Interval Conservation of Interval Relative Volumetric Frequency & Interval Frequency a Interval noninterference

See Chemistry, 16 Feb'73

Distance. 20 Feb*73

Eternal & Temporal, 25 Apr*71*

Isotropic Vector Matrix, y Mar*73 Nine: Nucleus as Nine, 18 Feb'73*

Noninterfering Zero Point, y Mar*73 Prime, 17 Feb'73*

Tepee: Half-spin Tepee Twist, 20 Feb'73

Constellar, May'71

Critical Proximity, Jun'71

Invisibility of Macro and Micro Resolutions, (1) Life & Death, 26 Jan'76

Intervaluation:

See Volumetric Intervaluatione

Intervectorlal:

See Octet Truee. 24 Sep*73

Structure, 2y Dec*58

Intervariable Sequences;

See DNA-RNA, 9 Jun'75

See Involvement

"... Four dimensionality accommodates and imposes the four positive, four negative, and neutral (nineness) of the operational interwave behavior of number."

- Citation and context at Fourth Dimension. 29 Nov'72

Xnterwave Behavior of Number:

See Indig

Number System Octantation

Octave Wave

Tetrahedral Octave Phase Model

RBF DEFINITIONS

Interweaving:

"A six-trajectory isolation of insideness and outsideaess has four interweaving vertexes or prime convergences of the trajectories, and four areal subdivisions of its isolation system and constitute tetrahedra

- Cite SYNERGETICS Corollaries, Sec. 240 by HBF 11 Oct. '71 Haverford, Penna.

Iptsmavt: IsUrsaaxlBs:

(i)

See Feedback Comprehensivity

Overlapping

Tapestry

Basketry Interweaving

Convergence & Divergence

Three-way Weaving vs. Two-way Crisscrose

= lasa£»»axlM: (2 j

See Fourth Dimension, 17 Nov'72

Dywaxion Airocean World Map, (h)

See Dwelling Service Industry, (2)

North Face Domes, 20 Sep'76

Intimacy: Intimate:

**See Critical Proximity, 15 Feb'73 Dwelling Service Industry, (2) Omni-
topology, 19 Dec'73 Point, 15 Feb'73; 19 Dec'73 World Fan, 6 Jul'62**

Intra & Ultra;

See Infra k Ultra

See Education, Fay* 49

Atom, 30 May*75

Jjatrgap?ctXgn»

See Aiken, Conrad, 11» Feb»72

TEXT CITATIONS

Introvert-extrovert: Introversion & Extraversion:

Table 81033.192

Introversion vs. Extraversion;

(1)

See Privacy vs. Community

Introversion va. Extraversion:

(2)

See Dome, 3 Jan'71

Rhombic Dodecahedron, 30 Nov'72 Geometry of Vectors, Aug'71

latrajarsiwy Introversion:

See Stardust, (2)

RBF DEFINITIONS

Intuition:

"Intuition operates in the twilight zone between conscious and sub-conscious. Like the heartbeat vs. What's that man's name? We have so many rhythms we are counting internally anyway.

The line of distinction is not sharp. Intuition is a pulsative, tidal phenomenon.

"The metaphysical may tell me to turn 90 degrees and look over my shoulder. There can be a metaphysical 90-degreeness. All of our charts have their base line at 90 degrees, but now our acceleration factors are becoming so high that the curves are approaching verticality--- the Einsteinian normal of radiation, tying things up in local knots; constant motion and intertransformation; change is normal. Newton said that rest is the norm because they weren't thinking bigger than the world, which was standing still at the time. They were thinking of the world, not the Universe. Death was the norm: standing still. Turn all the charts in a metaphysical 90-degree reorientation and the vertical becomes the norm."

- Cite RdF at dell studios videotaping, Philadelphia Pa.

1 Feb'75

Intuition:

"Intuition is the dawning awareness of the experienced but at first unconsidered, newly occurring, unique, system-defining fourfoldedness apprehending and the epistemological system search for the six-folded system interrelationships.

"Comprehension occurs when the six prehending interattractive relationships of the fourfoldedness are identified."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1071.27, 26 Dec»74

IqVUiVApn:

"You do not teach Intuition. You let it work. It is an Innate property, an innate faculty. I am sure that my thinking is continually triggered off*intuition, my intuition of what I should be thinking about, intuition is some complex of our senses, a feedback of senses. Intuition is practically physical, the kind of supersensitivity that a child has."

"I look in various directions and big patterns is one reason for my

because I am interested in intuition."

Tape transcript #4, p.5 J HBF to W. Wolf, Phila, PA, 15 Jun'74 p.8

Intuition Sequence: (1)

"Several years ago when I was asked to speak at the Maharishi Maheshi Yogi's big session that they had at Kennerly, I pointed out that I felt that meditation had been somewhat reifenant to me in the 1920's due to the concept that it was being used for personal attainment. I felt that we were given the youngest kind of capability only so that we could be useful to others.

only

"I had taken meditation in/on that basis in 1927. I had not cited anybody but I involved my own disciplines which turned out to be, strangely enough and coincidentally, about what the great Hindus had found, and so forth. But it came to me in a trial-and-error way. Eventually it seemed to be a hierarchy; it identifies why I did what I did. And then I go on and show how you would use this thinking and how you would really go about doing things for others.

"I think it would be useful to you to think a great deal about hierarchies. I always decide what comes first; I always think in terms of critical paths, what overlaps what. There is a very powerful way of my thinking.

- Cite Tape //3, p.1; RBF to rf. Wolf, Phila. PA, 1\$ Jun'74

Intuition Sequence: (2)

•'I'm really involved in very tight mathematics. I will point out to you that in my structures there is discontinuous compression and continuous tension: that's exactly what pneumatics are. But pneumatics has compressibility and I got into noncompressibles such as you have in the liquids and the hydraulics, What I was in effect find I could do was a kind of hollowing out. At any rate, I had a very discrete mathematics about how the loads were distributed. They could be more vectorially fundamental. Synergetic geometry is vectorial geometry. That's exactly how forces are translated and to what magnitudes.

"And I always must do it nonredundantly. Plurality: there must be always two discrete configurations. When you get to two you have wanderability (vulnerability ?); when you have three you are absolutely fixed.

"So, talking about intuition in the first place, I certainly start off by a priori recognition of the utter mystery of our Universe. While we know how gravity behaves, we haven't the slightest idea of what gravity is. Tis has extraordinary mathematical reliability. The whole integrity of Universe is"

- Cite Tape p.2; RBF to W. Wolf, Phila. PA, 1\$ Jun*74

Intuition Sequence: (3)

'that way. Why we are here., we couldn't be more overwhelmed by this mystery, and yet we have this fantastic kind of vanity which seems to me to want to know what it's all about and yet reject the thought of mystery as something for the birds. The attitude is so prevalent that it comes out in your tone of voice in speaking about intuition. I can define intuition for you in a sentence: 'All that I can really give you I must always identify by experience.*

"I get audiences to put two fingers out in front of them and then I ask them to please move your arms sideways, but keep looking at your fingers while looking ahead. I'm looking ahead but I can still see my fingers. We have what I call a twilight zone of operating between our subconscious (99.99 percent) behaviors and our conscious behaviors. You say to yourself: I'm going to wake up at a certain time, and you do. There is then a conscious and a subconscious and there has to be a twilight zone between the two.

"What I call aesthetics and intuition is my cultivated innate sensitivity that everybody has to that twilight zone set of events. There is something going on over here, but most"

- Cite Tape //3, p.3: RBF to W. Wolf, Phila. PA, 15 Jun'74

"people are still looking ahead and missing it. They have a sensitivity, but they're not using it. In other words they have the competence that I began to develop. But there is always a significance when Nature 's trying to tell you something. And I must still find out what she is trying to tell you: is that something clear?

"I also cited in regard to intuition that in the '20's, by 1928, by the time of the great crash, as people were very dubious about things, there was really an elation on the part of the academic scientist and engineer in which he said--- there really is no mystery. He spoke about his very atheism itself; essentially a sort of rationalization of the political viewpoint in Russia where they were trying to get rid of all the religions. Therefore people were quite deliberately taking this negative position and the word intuition was a dirty word. But I kept holding to my intuition despite the fact that it was considered a dirty word. Let's put it this way: I lost quite a lot of people whom we would say were pretty hot people, who just couldn't go along with that kind of thought."

- Cite Tape jp'J, p.j: RBF to VI. Wolf, Phila. PA, 15 Jun*74

Intuition Sequence: (5)

"I was thrilled when two very competent professors-- Northrop at Yale and the other one I mentioned in the book, 'Intuition' both did independent research (one took five cases, the other six) on scientists who had made very great contributions like a Galileo; and they then undertook in a good scientific way to look at the literature, the diaries, the personal letters, written by these men or by their wives to them or their intimate friends, of what happened to these individuals just before and at the time of, and for a little while after, their great discoveries. When did they know they were going to make it? They were looking for something common in all these discoveries. How would they happen to make the discovery? What they found common to every one of them were in their diaries: each one said nothing was quite so important to them in their discoveries as their intuition-- to look in the right direction, this sensitivity that you're looking to try to do something. Time and again they were really doing an important experiment in another direction and the information they really got was relevant to other scientific phenomena and where they were digging was really subordinate. The point was, they then said, the second most important factor in every one of their discoveries, was the"

- Cite Tape #3, p.4; HBF to W. Wolf, Phila., PA, 15 Jun'74

Intuition Sequence: (6)

"second intuition that came very quickly after the first one, about what you ought to do about what you have just discovered. Then, if you light a cigarette and say: I've got to go to lunch now, you'll find you've forgotten it all of a sudden.

What was that all about? In other words, I call it like fishing. You get a little nibble here and what do you do next about how you really bring that fish in? Very few people have those nibbles.

'The documentation of intuition, then, occurred in the early 50's. I was really thrilled when that came along. Since that time, Einstein and many others have made beautiful statements saying that intuition is it.

"I've just said intuition is an innate capability we have, a sensitivity that operates in the twilight zone. We are all born with this sensitivity and all grown-ups used to say to me: Get over that sensitivity, get over that nonsense."

- Cite Tape , p.4; RBF to W. Wolf, Phila.,
PA, 15 Jun'74
Intuition;

"Understanding includes a large increment of intuition to account for the as-yet-undiscovered but nonetheless operative generalized principles,"

- Citation and context at Understanding. 7 Nov*73
Intuition:

"Intuition derives from the instantaneity of intellect, which is much faster than any physical phenomenon, such as the brain lags. Intuition is the insistence of the intellect.

"Intuition is intellect coming instantly in at highest speed into dominance over lower-speed lagging brain- reflexing."

- Citation and context at Eternal Instantaneity. 22 Jun*?2
Intuition:

"Intuition derives from the instantaneity of intellect which is much faster than any physical phenomenon, such as the brain lags. Intuition is the absolute velocity insistence of the intellect upon the laggingly reflexed brain to call its attention to significance of various special-case brain registered experience relationships."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May'72 as rewritten

"Intuition derives from the instantaneity of intellect which is much faster than any physical phenomenon, such as the brain lags. Intuition is the insistence of the intellect."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May'72

Intuition;

"Intuition is intellect coming instantly on at highest speed into dominance over lower speed lagging of brain reflexing."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 27 May'72

Intuition:

"Again and again,

Step by step,

Intuition opens the doors

That lead to man's designing

Of more advantageous rearrangements

Of the physical complex of events Which we speak of as the environment, 'Those evolutionary transition ever leads Toward the physical and metaphysical success Of all humanity."

- Cite INTUITION, p.58 Fay >72

Intuition:

"Teleology is where you go through a subconscious awareness as a wave formula from experience to intuition."

Intuition:

1 spend every waking moment "in a world of absolute mystery."

2~In the context of describing the role of intuition in life.-/

- Cite KBF to Joyce Z. Applewhite, 3200 Idaho Avenue, Washington, DC, 2 Oct. 1971.

Intuition:

"A half a century, even a quarter of a century ago, intuition was almost a naughty word<in the world of academic science, in fact in the whole world of philosophers. Pragmatism of the highest kind came in with the great Depression. Some of the validity of the out-and-out Marxian pqAdfmatism was very convincing to many thinkers in the depths of the Depression. Many of these thinkers thought of intuition as pure romanticism and the antithesis of pragmatism. Therefore the idea that one could get any value out of intuitions was considered as nonsensical as the idea of getting anything of value out of superstitions."

- Cite RBF Foreword to Harold Cohen, "A New Learning Ennironment.
1971

Intuition;

"Intuition alerts brain

To first anprehend

And then recognize

Each special case experience

Within some minimum number

Of special case recognitions.

Intuition alerts mind

To comprehend and

Formulate conceptually

The abstract generalization

Of a principle recognized

As operative in all the special cases.

Intuition alerts brain to

The objectively employable generalized principle

In hitherto unexperienced special case

Circumstances inexplicably remote

From the earlier set of

Special case experiences within which

The generalized MMBNMI principles were first experienced Before
their generalization Occurred in the mind,¹

- Cite HOW LITTLE, p. 31. Oct'66

Intuition:

'*Fundamental wisdom

Can readily identify any and all

Special case aspects within

The generalized whole ./hen listening Sensitive to one's intuitions By
which alone

The generalized sub-subconscious integration Of pattern cognition
feedbacks Are articulated."

- Cite HOJMI LIIU.I hKua, Oct. '66, p. 62.

Intuition:

"Let us return to the Universe as our starting point in all problem con-
sideration. We assiduously avoid all the imposed disciplines of pro-
gression specialization. We depend entirely upon our innate facilities
/faculties 27 the most important of which is our intuition and test our
progressive intuitions with experiments."

- Cite NASA Speech, p. 97, Jun'66

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"../hat I call aesthetics and intuition is my cultivated innate sensitivity
that everybody has to that twilight zone set of events. There is some-
thing going on over here... but most people are still looking ahead and
missing it. They have a sensitivity, but they're not using it. In other

words they have the competence that I began to develop. But there is always a significance when Nature's trying to tell you something. And I must still find out what she is trying to tell you: is that something clear?"

- Citation t context at Intuition Sequence (3)(4), 15 Jun'74

Intuition & Aesthetics:

"I find both intuition and aesthetics have something to do with the interrelationships between the clearly conscious and the clearly subconscious--- something that goes on without you or I having any consciousness whatsoever."

- Citation context at Conscious /c. Subconscious. 19 Oct'70

rtBF JhFINITIOKS

"By intuition and aesthetic, I refer to the unpre- meditatedly emergent human awareness, cognition and spontaneous evaluation occurring in the twilight zone between our only subconsciously monitored and our consciously initiated behaviors, intuition and aesthetics automatically trigger us into consciousness of the existence of opportunities to consider and selectively initiate alternative acts or position takings in respect to oncoming events or potential realizations."

-Cite UWIBCS FORWARD, pp. 2,3 ,

See Conscious & Subconscious. 19 Oct*70*

Intuition of the Child (3)

Intuition Sequence (3)(4)*

Intuition of the Child: (1)

"One place the scientists and artists and inventors all come together is certainly in the intuition. And I speak of intuition as the phenomenon that occurs in the twilight zone between the clearly conscious and the clearly subconscious. There is a twilight where there are drives and

capabilities, where the genius that is in us makes us look in a direction intuitively. But it's often being diverted by something else. There is the grownup who says, 'Darling, don't look in that direction, look this way.' And the child misses something extremely important that is there.

` ` The scientist... is really subjective, trying to find order, looking for order; recognizing there is a whole lot of experience--- which is the biggest? which is the hottest?--- putting them in order. Suddenly you understand: some significance may occur.

Then the artist goes on beyond having found out principles and goes on to apply the principles. This is where I find the scientist and the artist really come together and I think that both were spontaneous in the child.

“Then the little child is told, 'Now which do you want to be?

If you want to be able to prosper you're going to have to have”

- Cite HBF in Ed Newman TV Interview, Feb'73

inMUon of xta-Child; (2)

"your specialty. You have to have your little private tollgate that society will have to go through. I remember when I was young, specialization was not quite as prevalent as it is today; but older people kept asking you, 'What do you want to be when you grow up? Do you want to be a policeman or a fireman?' and so forth.... At one time I was asked that and I don't actually recall it very clearly but I was reminded by the family telling it over and over again. 'When I was asked what I wanted to be when I grew up, I said I would like to be a cow. I recall then, the people asking me why I wanted to be a cow. And I said, 'All this beautiful green grass...' the idea of being allowed to be

out in that green grass with the flowers and so forth, and go around eating. I loved the grass. It seemed to me a beautiful preoccupation. However, this is the sort of answer that children give that is so powerful.

"A friend of mine has a nephew--- he's very young--- and the nephew was being taken to his grandmother's, and on the way he kept talking about his grandfather, and they said to him, 'Darling, you forgot your grandfather died.' He said, 'What, again?' And to this little child grandfather* is immortal."

- Cite RBF in Ed Newman TV Interview, Feb'73

Intuition of the Child: (3)

"That dying thing was just a game being played. Grandfather can't die. And I think that the child is right and the grownups are wrong. But this would be part of that genius, of really seeing grandfather as immortal.

Q. —"Where does the inventor come in?"

"The scientist discovers those principles that are operative in Universe; he discovers the principle of the lever. But the inventor is the one who finds ways of employing the lever. • • • You'll find quite a complex of generalized principles. The inventor brings them together, then, and employs them, and reduces to practice. Now there's also quite a lot of difference between a man who just invents an idea, and one who actually reduces to practice. When I talk about the inventor, I am really speaking about reducing to practice. So the artist, scientist, inventor--- the artist is an articulator; he reduces to practice. And I feel that Leonardo was just exactly all three of those. And that is exactly what I think every child is born to be. But he gets very quickly pushed into corners because of his family being interested in this or that, or some friend of the family getting to him and saying, 'Well, I think you ought to be a lawyer,' and"

- Cite RBF in Edward Newman TV Interview, Feb'73

Intuition of the Child:

"so forth. And the child of course was never born a lawyer; he was interested in the whole Universe. All children demonstrate this interest in the total Universe. They ask the most magnificent questions about totality: questions that very often embarrass their parents because they are so comprehensive. But I see, then, the inventor as one who has not lost any of those innate pristine qualities."

- Cite RBF in Edward Newman TV Interview, Feb'73

"How do they catch a metaphysical fish? When your subconscious hook-and-line jerks the twilight zone bobble of intuition you consciously formulate the quickest words of announcing its conceptual recognition no matter how mis-syntaxed,

"Next comes the swiftly sequitur second tug at the intuition bobble, which bobbling of the line Tells you to securely hook and bring in the metaphysical fish--- Right NOW, This is done by comprehensive and discrete conceptual system definition by words, drawings, and models.

"Get a loving friend to clean your fish and pack it in the freezer,"

__ Cite RBF to EJA, ?200 Idaho, 14 Oct'72

KBF DEFINITIONS

"How do they catch a metaphysical fish? When your subconscious hook-and-line jerks the twilight zone bobble of intuition you consciously formulate the quickest words of announcing its conceptual recognition no matter how mis-syntaxed.

"Next comes the intuition bobble, which bobbling of the line tells you how to securely hook and bring in the metaphysical fish. This is done by comprehensive and discrete definition by words, drawings, and models.

"Get a loving friend to clean your fish and pack it in the freezer."

- Cite RBF to EJA, 3200 Idaho, Wash DC, U Oct*72

"Key to humanity's scientific discoveries, Technical inventions, Design conceptionin And production realizations Has been a phenomenon Transcendental to humanity's Self-disciplined Objective concentra-tions of thought And deliberate acts---

A phenomenon transcendental to humanity's Consciously disciplined inventive capabilities. That key is the first And utterly unpremedi-tated event In all discovery, invention and art. It is humanity's intu-itive awareness Of having come unwittingly upon An heretofore un-known truth, A lucidly conceptual, Sublimely harmonic, Hegenerative relationship Of a priori Universe--- An eternal principle--- "

- Cite INTUITION, pp.57-58 May '72

Intuition: Second Intuition:

"And then moments later

A second intuitive awareness

Regarding what the conceiving individual human Must do at once

To capture the awareness of
And secure the usefulness of
That eternally reliable generalized principle
For all humanity
For now and henceforth."

- Cite INTUITION, p.58 toy *72

Intuition: Second Intuition: (1)

"A little over a decade ago John Howard Northrop /~sic_7 at Yale made a contribution of high order when he studied carefully the writings of a half dozen great scientists. He picked scientists who have made magnificent contributions, and he studied their writings, diaries, personal accounts, and personal letters. He read letters and diaries of families, all the records produced at the time the scientists were about to make their great discoveries but before they made those discoveries or knew they were going to make them. . . • Northrop was interested in finding some commonality about what brought about the great discoveries of those individuals. . . and he found that the number one item leading to their success was their intuition. . w this extraordinary realization of the relationship operating in the universe. . . "

"The second most important item in relation to their discovery and its conversion to the advantage of humanity was their second intuition. The second intuition--- what they ought to do about the discovery--- came within seconds after the first.

Time and time again scientists find retrospectively that they had the □ very same vision and awareness as another scientist who was accredited with the discovery, but they did not do any thing about it. '*

Intuition : Second Intuition: (2)

"They thought they were going to do something about it some time, but instead they just lit their pipes or went off and forgot about it.

"So we have them two important points in the life of the individuals who made the greatest scientific contributions to society-- the first intuition, which was the discovery, and the second intuition, which was what to do about the discovery

- Cite RBF Foreword to Harold Cohen's "A New Learning Environment." 1971

"Seeking some commonality of subjective experiences and -objective initiatives in respect to historically important scientific events, Professor Northrup of Yale University carefully perused the letters and diaries of five geeat scientists as well as the letters and d iaries of those same scientists' families as written just before, during and shortly after they made their epochal discoveries. Commonalities were found. All of them indicated that factor number one in their historical success was their intuition which suddenly disclosed the unique principle of their discovery. Second most important factor in their successful capture of the new knowledge was their second intuition which--- 45 seconds after the first disclosure intuition--- told them what to do about their realization of the discovery. After that any methodical procedure was adequate.'"

- Cite UNESCO TIFLIS 1968, p. 7

TUT CITrtTlul.b

Intuition: Second Intuition:

UNESCO Address at Tiflis, p,7 19&8

Harold Cohen Foreword, p. xii

See Calculus: Second Derivative

See Fishermen Theme, 19 Oct'70

Cosmic Fish Sequence (2)

Intuition Sequence (5)(6)

Lags (1)

Intuition as Remote Cosmic Transmission, 29 Jan'75

Cosmic Fishing, (B)

intuition aa Hemote Cosmic Transmission'

^wIn lecturing I became very much aware of feedback by eyes; I came to the conclusion that our eyes are transceivers. It's like the second intuition. I have made several hundred mathematical discoveries and each time I get the feeling that my discovery has been known since the distant past, but not necessarily on Earth. It could be that I have received the information from elsewhere. I may have seen it in the sky last night and then it took some time to process. All the knowledge in the Universe may have been known to various people at other times. However distant or remote any information signal is it has to just go on forever unless it is intercepted.

"I look upon myself as an agent. All of us are. I try to be a very responsible agent. I think that things can happen a little more quickly by our being on the alert for what nature is telling us. Nature is really trying very hard to make man a success."

- Cite RdF at Penn Bell videotaping, Philadelphia, 29 Jan'75

Intuition As Remote Cosmic Transmissions:

"There is nothing in the data to suggest that the phenomenon we speak of as intuitive thought may not be such remote cosmic transmissions. Intuitions come to us often with surprising lucidity and abruptness. Such intuitions often spotlight significant coincidences in a myriad of special-case experiences which lead to discovery of generalized scientific principles heretofore eluding humanity's thought. These intuitions could be messages to the Earthian brain receiving it to ¹ Look into so-and-so and so-and-so and you will find something significant.* Intuitions could be thoughts dispatched from unbelievably long ago and from unbelievably far away."

Citation and context at Eye-Beamed Thoughts (2) Oct'70

Intuition; RBF Sailing Yacht "Intuition": (1)

"With my grandson, I have been grooming her for the New York Yacht Club races and have ordered several new sails, including a star-cut reaching spinnaker. I am installing one of the new streamlined rod headstay foils. This entails having all her headsails retailed to eliminate the snap hooks and receive instead the corded lead (luff)edge which feeds into the foil's bottom slot. This makes possible a sail-changing process much swifter than with snap hooks. The boats that have tried the new rotatable foil in the On-ton Internationals in Australia and in last winter's Southern Ocean Racing Circuit found the streamlined foil providing both sharper windward pointing and increased windward speed.

"This year's grooming of 'Intuition' also includes having all halyards rigged inside the mast. I have, as usual, incorporated all newly discovered ways for producing front-rank contender performance.

"I would not sell her to anyone who did not appreciate her. And I would only sell her in the pink of condition. ..."

- Cite RBF Ltr. To Mrs. Peggy Rockefeller, 1f> May*73

Intuition RPF S*liiM Taoht "Intuition": (2)

"I came to name her 'Intuition' in the following way. The great yacht designer Starling Burgess was my partner in the early 30's. We frequently thought and spoke to each other about what we called the 'intuitive kinetic sense/ and sometimes 'intuitive dynamic sense/ particularly in relation to developing hull forms. Starling told me that old blind John Herreshoff could feel the lines of a towing tank model with his hands and could sense in advance the tank test performance within five percent accuracy.

"I saw 'Intuition's* hull form when she was being developed in Florida. A lifelong experience with boats--- my intuition--- flashed that she would be not only swift but a fine sea boat--- the finest I had ever seen thus far. This intuition has proven to be correct. She

surfs with the best but has much better rudder control off wind than have those with skeg and spade rudders separated from their keels. She was a stock hull, yet only a few were molded to her class. I have consistently walked away from her sister craft in the annual New York Yacht Club cruise races though these other M-41's had done well in the Southern Racing Circuit."

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May'73

Intuition; RBF Sailing Yachts "Intuition" : <3)

"All stock boats need some reworking to tune them into the 'one-off' ranks. ...

"She has an excellent resource of sails. In addition to the new star-cut North spinnaker, she has a very special strong wind Hood spinnaker and a lighter weather Hild spinnaker.

Her (jiffy reefing) racing mainsail and most of her full range of head-sails were specially tailored for her by North Sails. She has a larger non-racing main and a number of other sails in her kit, including a self-furling Genoa.

"She is absolutely tight both above and below the waterline. Being a center-boarder, she has shoal water navigability without any loss of racing effectiveness. Her Mercedes-Bens diesel engine is very satisfactory. Have done much work below as well, such as the developing of the remote-from-danger accessibility of her safety cut-off devices on the alcohol stove, etc. ...

"The book 'Intuition,* like the sailboat 'Intuition ' elucidates the fact that wind power permits humanity to participate in cosmic economics and evolutionary accommodation without in any"

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 1? May'73

"way depleting or offending the great ecological regeneration of life on Earth."

- CiCe RBF Ltr, to Mrs. Peggy Rickefeller, 15 May'73

See Cosmic Synergy

Cui de Sac: intuitively Inadvertent Eye-beamed Thoughts Hot Line of Intuition

Science: Left Hand & Right Hand Sub-subconscious Integration Sensing, Storing & Intuiting Devices

XniulUan: (2)

See Athletics, 6 Jun*74

Conscious &. Subconscious, 19 Oct'70* Discovery, 11 Jul'62 Eternal Instantaneity, 22 Jun'72 Human Events. Feb'71 Irreversibility, Feb'71* Irreversible, 6 Nov*73 Modelability, 12) (3) Subconscious, 19 Oct'70 Technocracy. 1938 Teleology, 26 Jan'72 Understanding, 7 Nov*73 Epistemology, 26 Dec*74 Thinking, 6 Nov'73 Communications Hierarchy, (4) Apprehension + Comprehension • Awareness, 26 Jan'76 Children as Only Pure Scientist, (2) Cosmic Fishing, (A)-(C) Fuller, R.B: On Christopher Morley, 22 Jun'77

See Angular Invariability Constant Coordinate Invariant

invariably • Invariant •

(2)

See Limit, 26 Sep'73 Vectorial &. Vertexial Geometry, (2)

Inventability Sequence:

(1)

*, . • Hana as my trusted intimate has been privy to all my latest soliloquizing, inventing, and developmental experimenting, both at Bear Island, Little Spruce Head Island, Sunset, Maine, and in my successive headquarters in Illinois, Pennsylvania, Hukwanago, California, et. al.,--- such as:--- my inprocess-of-patenting inventions, not only in wind power harnessing equipment and semi-autonomous dwelling facilities, but also in the new generation of tensegrity geodesic domes, breakwaters, rowing needles, new sailing craft developments, both in hulls, keels, masts, rigging, wind foils, and sails, floating and submerged cities, sky-island cities, moon-crater conformed domed-over cities on Earth (such as the Old Jin River project), new geodesic dome strategies in general and many mathematical discoveries all of which latter come under the co-relevant umbrella of 'Synergetics' and Energetic Geometry together with insights aroused thereby into the inventability of atomic- proclivity-computers in a new order of microtude.

"On quite a number of occasions Hans has to my surprise informed me of work he has undertaken in the hardware implementation of my inventions in those directions, the hardware developments'*

- Cite RBF Ltr. to Geo. Waldsteln, Esq. about Hans Meyer, 9 Jul'73
Inventability Sequence: (2)

"themselves being reductions to practice of Intimate claim points in the filing of my patents on those inventions. Universe has always operative 12 uniquely alternate degrees of freedom of realization of physical events. Patent law and precedence requires specific choices of technical ways and means for each patent claim. A number of claims can be filed covering alternate realizations of the same invention. Overall legal costs per patent are so high that usually but few of the alternate realizations are covered, the most economical under the contemporary economic conditions being hopefully selected by

the inventor. For instance, there are so many alternate Joint solutions in geodesic dome realizations that my original 'basic' patent claims in the field could not prevent others from finding the alternates and, stimulated by my prime invention (of omnitriangulated compound-curvature, great-circle-arc chording and its synergistically surprising structural advantages in pounds, kilowatts, and minutes required per each unit of measurable performance) filing and being granted other geodesic dome patents. All of this Hans is now aware of, as are his associates. I talk very freely with all of them. It will therefore be necessary that all proprietorship and patents taken by them be assignable to me and revert to me should they fail in any way to be able to"

- Cite RBF Ltr to Geo. Walastein, Esq. re Hans i-leyer, 9 Jul'73

Inventability Sequence: "sustain their economic initiative."

(3)

- Cite RBF Ltr. to Geo. Waldetein, Esq. re Hans Meyer, 9 Jul*73

Invented Jobs:

"People can have incomes only through employment. Seventy percent of all the jobs in the U.S.A, are invented and produce no life-support whatever. The last quarter century's vast transformation of cities all around the world to skyscraper clusters has produced space within which no life-support is produced and only to accommodate jobmaking and money-making. We have all around the world the typewriters sleeping with the good plumbing and the people sleeping in the slums---fancy and otherwise. All the money-making drives toward omni-automation and complete unemployment. Politics keeps inventing the jobs by law."

- Citation *k* context at Building Industry. (1)(2) ; 20 Sep*76

See Earning A Living

Inspectors of Inspectors Make-work

Uneconomic

See Humane City, (3)

Building Industry, (f)(2)*

Invented National Hatea;

See Law, May»65

RBF DEFINITIONS

"So marked la our proclivity for auch anticipation that we aet ouraelves as though we ware alarm clocks to waken at specific blocks of intervals of familiar periodicities of experience. We relate our own heartbeat to minutes of hours of days, and our meals--- or chemical fueling--- to the days of the postman's coming and going, and even to periodicities such as invented Father's Days and other soon-familiar invented conventions, of the persistent, complex periodic continuities of our days into years. The Invented periodic! ties may become only monotonous."

- Citation t context at Periodic Experience, (2), May*49

See 'Imaginary' as an Invented Word Inventions: Inventory Of 'Pollution* as an Invented Word •Pure' as an Invented Word 'Straight* as an Invented Word

See Good &. Evil Sequence,(2) Dymaxion, (1)(2) Evolution, 22 Jun'75 Austraneaia, 10 Aug'75 Inertia, 6 Nov'73 Democritue, 5 Jul'62 Events t Noventa, Nov'71 Tensegrity, 14 Oct'72 Words, May'44

Invention:

"Physicists invent nothing

Chemists invent nothing.

... They find out what nature does from time to time and learn something of what her laws of rearrangement may be, and fortunate humans employ those rules to cooperate consciously with nature's evolution."

- Citation & context at Nature's Subvisible Qrder (1), 27 Dec*73
lay-*n\$AgP AWWi: (1)

"The \$3 billion national capital-worth estimate of 1810 occurred before we knew anything about our present technology. Electromagnetics, about which there was only theoretical knowledge, had not been put into usable operation. We didn't have a telegraph. There were no steel mills. There was nothing like present-day industry. Public works consisted exclusively of tollways, canals, and wooden ships,

"Let us suppose that after the people of the United States of 1810 had learned of the total capital-wealth potential, they said to one another. 'All right, let's get together a committee of the most responsible leaders in our society, whose economic judgment we trust, and ask them to determine the most logical and safe way in which to invest our \$3 billion national wealth so that our total capital wealth is multiplied and ever more people are taken care of at ever higher living standards.'

"If anyone on the committee had said, 'All right, I'm going to invent a machine to replace those human slaves,' the others would have said, 'All right, but how do you do that.' No answer. 'Throw him off the committee. He obviously doesn't know what he is talking about.' If some other committeeman"

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES. World. Far. 11 Sen'73

Invention Sequence: (2)

"defended the would-be slave-eliminating-machine inventor and said, 'I think he has a pretty good idea, and I'm going to dream that we can develop invisible power and send it over solid wire,' again, the committee would have said, 'Throw them both off the committee. Obviously we can't send energy from here to there through a solid wire.'

"Soon after that time, all these inventions, and thousands of others considered equally preposterous in 1810, came to be. All the really fundamental technological changes of our world have happened since that 1810 pre-dawn of world industrialization.

I have lived through the major portion of this historical development and can state incontrovertibly that not one stage of it was ever popularly anticipated until the invention had occurred and was demonstrated."

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag., 11 Sep'3

Invention: (a)

"In the competitive world of money-making, discoveries are looked upon as exploitable and monopolizable claims to be operated as private properties of big business. As a consequence, the world has come to think of both discoveries and patents as monopolized property.

"This popular viewpoint developed during the last century, when both corporations and government supported by courts have required individuals working for them to assign to them the patent rights on any discoveries or inventions made while in their employ. Employees were to assign these rights during, and for two years after termination of their employment, whether or not the invention had been developed at home or at work.

"The drafting of expert patent claims is an ever more specialized and complex art, involving expensive legal services usually beyond the reach of private individuals. When nations were remote from one another, internal country patents were effective protection. With today's omniproximities of the world's countries, only world-around patents costing hundreds*

- Cite SYNERGETICS text at Sec. 250.401, Jan'72

Invention: (b)

"of thousands of dollars are now effective, with the results that patent properties are available only to rich corporations.

"So now the major portions of extant inventions belong to corporations and governments. However, invention and discovery are inherently individual functions of the minds of Individual humans. Corporations are legal fabrications; they cannot invent and discover. Patents were originally conceived of as grants to inventors to help them recover the expenses of the long development of their discoveries; and they gave the inventor only a very short time to recover the expense.

"Because I am concerned with finding new technical ways of doing more with less, by which increasing numbers of humanity can emerge from abject poverty into states of physical advantage in respect to their environment, I have taken out many patent claims-* first, to hold the credit of initiative for the Inspiration received by humanity's needs and the theory of their best solution being that of the design revolution and not political revolution, and second, to try to recover the expense of development. But most importantly, I have taken the patents to avoid being stopped by others--- in particular,

- Cite SYih.RGt.TICS text at Secs. 250.401 ic.0 , Jan'72

Invention:

"corporations and governments--- from doing what I felt needed doing."

- Cite SYNERGETICS text at Sec. 250.41, Jan'72
invention Sequence;

'•Man does not create. Fan cannot create.

Creation is a priori; Creation is the gamut Of generalised principles
Which scientists can and do discover.

"I-lan can invent.

Which means 'bring in* The special-case use Of generalized principles
And of combinations of them. But man cannot design Or invent
A generalized anything.

"There cannot be A generalized boat. It must be a canoe. Or a ferry
boat, Or a battleship."

- Cite BRAIN & MIND draft, 1.25 AtB, 1971

(I)

"There ia the generalised Principle of Displacement Whose mathematical elegance Was discovered by Archimedes."

- Cite BMIN & MIND draft, i.15 AiB, 1971

Invention Sequence; (A)

"I began the search for what I called energetic geometry in 1917 and
the octet truss, or vector equilibrium, was first assumed as probable
and then glimpse-discovered as possible some time in the 20's and
proven in the 30's, . . .

"My own discovery of the octet truss was synergetic, intuitively avoiding special-case tactics. 'Synergey' is defined as follows: behavior of wholes unpredicted by behavior of parts. I was seeking in the whole of experience and knowledge for a comprehensive mathematical scheme of patterning. The octet truss was incidental to larger discovery.

"Energetic and synergetic geometry prove octet truss to be a coordinate and comprehensive vectorial system rational to all chemical, biological, and electrophysical behaviors of nature. Ergo, energetic and synergetic geometry's isotropic vector matrix is nature's comprehensive coordinate system.

"Any invention within this major coordination of principles must center on demonstration of unique means of gaining advantage through employment of this geometry. The behavior of wholes unpredicted by the behavior of parts is inherently surprising."

- Cite RBF Ltr. to Donald W. Robertson, pp.1~2, 8 Jan'55

Invention Sequence: (B)

"Such surprise advantage can only accrue to some treatment of the following minimum and irreducible system aspects of Euler's topological formula. . . $F + V - E + 2$

"My Ford dome solution was through emphasis of edges, and economical employment of surprise advantages to be derived by use of low-cost aluminum roll sheet and high-speed stampings of same, and surprise {approximately double} strength accruing to micro-tolerance of end fixity riveting specifications, practically obtained by pre-punching of rivet holes, through machine guidance, at tolerances of hole diameters and relative positioning, infra-visible and ergo impossible to previous on-the-job, craftsman-layout techniques.

"I have a large portfolio of photographs of true models demonstrating surprise techniques in joint, edge, and face solutions, and combinations thereof, developed throughout recent years.

All of these were inventions in that I then knew, and still know of no precedent for them. Most of these solutions I reduced to practice in full-scale components employable in man-usable structures.

- Cite RBF Ltr. to Donald W. Robertson, pp.2-3, 8 Jan'55

"As the technical world now accelerates to awareness -of important new degrees of structural advantages accruing to the octet truss, I see published or emerging in the school shops replicas or outcroppings of those technical inventions of component morphation which I had developed at an earlier date. The successive inventions' original disclosures tend inherently to excite a whole new synergetic wave of evolutionary inventions. Some individuals become so stimulated and engrossed by it as to become convinced that it was always obvious in their own a, priori environment and that they are now inventing its existence stimulating evolution rather than running along its already technically biased trails. . . .

"This has made me feel right along that despite the octet truss's metaphysical and unscientific identification--- as conformingly coincident only with generalized principles as earlier mentioned--- my comprehension of its intimate, logical working principles, understood by its occurrence within the total complementarity of energetic and synergetic geometry's permitted displacement, accommodation of all transformative aspect phenomena, and my reduction of it to first practice, and my underwriting of its"

- Cite RBF Ltr. to Donald W. Robertson, pp,3,7, 8 Jan*55
to-sntlon SasHaics- (D)

"expensive development and testing . . . puts me in a position of inventor and prime contractor because I can predict my results and have shown surprise economy in the unique employment of component assembly techniques.

"The tests may eventually disclose in full workable formula the rates of distributive changes in integrating variables, and quantitate the synergetically induced wave behavior, and thus bring the new advantage into broad economic usefulness. Wherefore, whatever I have been able to discover and invent as a unique means of the employment of the principle should be doubly fortified by responsibility and risk in the eyes of jurisprudence in regard to my present attempt to obtain original patents covering the techniques and to defend the same in subsequent court actions,

"I am sorry that my whole family of inventions tends, by rational acceleration, to sneak up on you and press you for attention. But isn't this the nature of inventions and surprise, with which you deal so expertly?"

- Cite RBF Ltr. to Donald W, Roberston, pp. 7-8, 8 Jan'73

Invention:

"One cannot patent geometry per se nor any separately differentiated-out, pure principle of nature's operative processes. One can patent, however, the surprise complex behaviors of associated principles where the behavior of the whole is unpredicted by the behavior of the parts, i.e., synergetic phenomena. This is known as invention. a complex arrangement not found in, but permitted by, nature though sometimes superficially akin to a priori natural systems, formulations, and processes. Though superficially similar in patternings

to radiolaria and flies' eyes, geodesic structuring is true invention. Radiolaria collapse when taken out of water. Flies' eyes do not provide human dwelling precedent or man-occupiable environment valving structures."

- Cite 'H'ensegrity," Portfolio, Art News, p.116. Bec'61 rewrittten by RBF at SYNERGETICS See. 640.01, 3 Oct'72

Invention:

' 'The word 'invention'

Uses the prefix 'in'

To identify this specifically.

It means a 'coming in,'

A coming into our thought of a unique conception, Which we in turn

Realize in a special physical case demonstration Thus in-troducing

The in-vention to society."

- Cite BRAIN &. KIND, pp.102-103 Fay »72

Inyentlpg:

"I do not invent my thoughts."

- Citation and context at Order. 1971

Invention:

**' Invention* means

To bring into novel special-case use

An eternal and universal principle

Which scientific experiment and comprehension

May attest to be generalised principles."

Cite STNEREGTICS draft, Numerology, p. 4, Aug'71

Invention;

"I'd experienced in going from original conceptions, i.e., inventions--- , ergo, unknown to others--- to altering the environment in a complex of ways which are omni-considerate of all side effects on the altered environment. I am accustomed to starting from primitive conditions, where as far as one can see no other man has explored. I have learned how to rearrange the environment in such a way that it does various things for our society that we could not do before, such as building a dam which in turn produces a pond..."

- Cite RBF Introduction to Victor Papanek's "Design for the * Real World," 9 Apr'71

Invention:

"Invention needs no license. The Wright brothers did not need one to get their idea off the ground. Edison, Bell, and Marconi did not need any to light the night, to shrink the Earth, to interlink all of humanity. Come to think of it, it's amazing what you can do if you put your mind to it."

- Cite I SEEK TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Invention:

"'Every invention is an externalization of originally integral functions of humanity."

- Cite NASA Speech, p, 17, June *66

Inventions:

", . . The abstract political inventions known as nations and their internal, legal inventions known as corporations are inanimate and incapable of invention. . . Invention is exclusively articulated by live, individual human beings. . . . Invention is . . . the prime source of man's swift wealth augmentation."

- Cite DISSONANT CHORDS. 9 Feb `64

Inventions:

"Aesthetes, educated on antiquity, are notoriously offended by 'inventions,' while pure scientists use the term 'pure invention' as a polite way of identifying what is to them so lacking in scientific elegance and orthodoxy as to be quite possibly 'outright charlatanry.'* They rarely give further thought to inventions.*"

- Cite DISSONANT CHORDS , 9 Feb'64

Invention:

"I myself am legally classified as an inventor. Inventions as legally defined cannot be professed. As legally defined, inventions must be 'surprising.' If they are predictable, they are not surprising. Invention just happens. A device, a structural or mechanical pattern, is not invention if it has precedent."

- CITE DISSONANT CHORDS, 9 Feb»64

Invention:

"In my viewpoint there is no meaning to the word 'artificial.' Man can only do what nature permits him to do. Man does not invent anything. He makes discoveries of principles operative in nature and often finds ways of generalizing those principles and reapplying them in surprising directions. That is called invention. But he does not do anything artificial. Nature has to permit it, and if nature permits it, it is natural. There is naught which is unnatural."

- Citation at Artificial. 1962

Invention:

"One cannot patent geometry per se nor any separate, differentiated-out, pure principle of nature's operative processes. One can patent, however, the surprise complex behaviors of associated principles, where the behavior of the whole is unpredicted by the behavior of the parts, that is, synergetic phenomena. The latter is what is known as an invention, a complex arrangement not found in nature, though sometimes superficially similar to nature.

"Though superficially similar in patterns to radiolaria and flies' eyes, geodesic structuring is true invention. The radiolaria collapse when taken out of water. Flies eyes will not provide structural precedent or man-occupiable structures."

- Cite TENSEGRITY, "Portfolio + Art News," p.116, Dec'61

Inventions:

"Inventions are extemporaneous. They represent trial balances of immediate resource and principle drawn off in the light of shifting needs. Inventions are always imperfect and always become obsolete or may never be realized. Unlike inventions, pure science events are absolute and irrevocable,"

- Cite EARTH, Inc., Part II, p. 13; 1947

In-vention:

"The inventor--- alive or dead --- is extraneous and unimportant; it is the 'pencil*' that carries over. Abstract thought dies with the thinker, but the mechanism was building for a long time before the moment of recognized in-vention,"*

- Citation and context at Pencil. 1938

Inventions Which Decrease the Degrees of Freedoms:

"There are two main classes of inventions: those which increase and those which decrease the degrees of freedoms. Because men are born immobilized there are few invention opportunities for his immobilization. These are prisons, traps, straightJackets, handcuffs, and caskets."

- Citation and context at Geosocial Revolution (2), 1965

Inventions which Decrease the Degree? of Freedom»

See Teleology, 20 Jun'66

Inventions Which Increase the Degrees of Freedoms:

"There are two main classes of inventions: those which increase and those which decrease the degrees of freedoms. . . . There are an infinity of opportunities to invent man's increased mobilization--- all of the way up to the speed of light, 186,000 mps., and in all directions. Means-of- increased-freedom inventing is irreversible."

- Citation and context at Geosocial Revolution (2), 1965

"We can only invent physical;

We can only discover metaphysical,"

- Citation & context at Design. May*67

See Design vs. Generalisation

See Euler. Sep'58

Metaphysical, 1967

Cosmic vs. Terrestrial Accounting, (1) Artist, 6 Jul'62

Octet Trues as an Invention, Jan'72 "The unheralded human ecology transformations have developed only as inadvertent, unanticipated interactions of individually undertaken uncoordinated inventions.

"The independent physical environment reforming inventions have integrated, figuratively speaking, as streamllningly divided, double-decked, banked, and cloverleafed lifeways of human behaviors. These lifeways permit ever increasing numbers of humans to survive logically and sense-satisfyingly without mutually frustrating interferences."

- Citation and context at Geosocial Revolution (1), 1965

See Corporations as Inventions Failure as an Invention Invented Words I<an as an Invention Nations as Inventions Octet Truss as an Invention Scarcity as an Invention Time as an Invention Tree as an Invention Universe as an Invention You a he as an Invention

See Capability, 27 Dec'73

Inventions VB. Pure Science Events:

See Inventions, 1947

See Automobile as Only Half the Invention Design: A Priori vs. Deliberate Discovery Industrial Lag Patent Prime Invention Prototype Research & Development Objective Employment of Principlee

See Design. May'67*

Artificial, 1962*

Geosocial Revolution (2)*

Individual Economic Initiative, 1965

Generalized Principle (4)

Order, 1971

Pencil, 1938

Supreme Intellect, May'72

Surprise: The Nonpolitical Surprise, 1965

Nature's Subvisible Order (1)□

Capability, 27 Dec'73

Research, (1)(2)

Artifacts, 17 Sep'74

Large Patterns, (1)

Everybody's Business, (1)

Dymaxion Airocean World Map, (1)

Promote: Promotion: 7 Oct'76

No Energy Crisis, (A)(C)

See Inventability

Invented National Hates

Invented Periodicities

Invented Words: Inventory Of

In-vention

Inventions Which Decrease the Degrees of Freedom

Invention vs. Discovery

Inventions as Lifeways of Hunnn Behaviors

Inventions: Inventory Of

Inventions vs. Pure Science Events Invented Jobs

See Artist-scientieto

See Design Science, 1 Jun*49

Intuition of the Child, (1)-(4) Survival Recourse, 22 May'73

INVENTORIES

"Henry Ford invented the idea of having inventory in motion... and only just as much as he knew was scheduled to be used.

He literally painted an around-the-world motion picture and he kept track of how those ships were moving. This is the way we will play our World Game: Where are all your ships? And where are all your cars?"

__ Cite tape transcript, p.27a; RBF to W. Wolf, 28 Apr*74

"... The ricocheting succession of randomly willed impulses and unpredictable repulsions of maximum and minimum experience, by the push-pulling alternations of

Scarcity & plenty,

witness its dryness joy & sorrow loving & hating longir & fear

sum totally operating on cyclic frequencies so transcendental to man's limited experience as almost to preclude attempts to analyze and predict the intercessional recurrences."

See Tensegrity, 20 Oct*72

Inventory of Chemical Behaviors:

See Entropy, 28 Feb*71

Inventory of Complementary:

See Complementarities

See Inventory of Complementarities

Equals: Checklist

Nonequals: Checklist

Paired Concepts: Checklist

Versus: Checklist

See Complementarity, 12 Sop¹71

"The 92 regenerative chemical elements are the basic inventory of cosmic absolutes."

- Citation & context at Ninetv-two Elements_f 10 Dec'64
Inventory of Designs:

See Design (1)(2)_t 1938

See Charting Alternating Experiences of Man & Nature (4)
(1)

See Science-Technology-Industry-Economice-Politics Sequence

See Intellect: Equation of Intellect, 28 Apr'48 Hierarchy of Patterns,
1954 Indeterminisoi, Oct'69 Inhibit, 9 Apr'40 Nature Permits It Se-
quence (2) Mathematics, 18 Apr'63 Quanta Loss by Congruence, (3)

Inventory of Experiences:

See Common Sense, May*72

Tapestry, 14 May*72

Individual Life as One Way Universe Could Have

Metaphysical Environment, 13 Nov'by

Irreversible, 6 Nov'73

Irreversibility, Feb'71 Experience, 1960 (p.132) Evolution, 1960 In-
dividual Universes, 28 Oct'73

See Synergetic Hierarchy (1)(2)

Constants (cross references)

See Energetic Functions

Structural Functions

See Functions, 26 May'72

Isotropic Vector Matrix, Jul'61

Inventory of Human Events:

See Human Events, Feb'71

Irreversible. 6 Nov*73

Life, 22 Apr'68; 16 Aug'50

Morality, Oct*66

Universe, Spring*71; 1971; Oct*70; 20 Jun*66; Dec*69;
1954;

Feedback: Self-accelerating Feedback, May*72

Inrentorv of Incertranaformablilitlea;

See Cosmic Discortinuity & Local Continuity, 15 Jan ` 74

See Mensurablilty cross references (1)

See Synergetics, Jun*66; 20 Jun»66

Inventory of Motions:

(1)

See Motions: Six Positive & Negative Motions

~~Ttnt-tii.rjnlT-Xuna.~~

O'

(2)

See Intellect: Equation of Intellect, 28 Apr*48

Isotropic Vector Matrix, Jul*61

Tensegrity, 20 Oct*72 Radiation: Speed Of (D)

inventory of Phag»;

See Phase (primary references)

See Generalized Principles (A) Synergetic Integral, May'72

2agmgcr..af__Sharaj;t;arlatlea or Princploa:

See Dia-logue, 14 Feb*72

Generalised Principle (A); May'68 Ideals, 14 Feb'?2 Intellect: Equation of Intellect, 1968 Inters cconwodative, Dec *72 Integrity, 25 Jan'72 Principle, 5 Jun'73

Inventory vf 3<>rtgaU9ng:

See Sense: Sensorial!ty (primary references)

(1)

Inventory of Senaations;

See Thermal, 6 Mar'73

Time, Aug'71

Senses, 9 Apr'40

Brain, 5 Jun*75

Inventory of Spectrums:

See Spectrum cross references

Spectrum, 15 Oct'72

Sensorial-frequency-spectrum Inventory

Inventory of Unoredicted:

See Hierarchies, 16 Jun*72

Unpredicted, 22 Jul'71

See Bibliography, 2 Jul'62

Capability, 20 Apr'72

Consciousness, 15 Sep'71

Einstein: RBF Draft Letter To, (3)

Generalized Principle, 1971
 Individual Universes, 28 Oct'73
 Lecturing, 27 Apr'71
 Neutral Axis, 1 Jan'75
 Order, 1971
 Rearrange th* Scenery, May'72
 Scientists, 2 Jul'62
 Tapestry, 14 May'72
 Topology: Synergetics & Eulerian, (3)
 Universe, 5 Feb'56
 Repetition, (1)(2)
 Words, 2 Jun'74
 Reality as Structural Interaction of Principles, 1963
 Intellect: Equation Of, (C)
 Cosmic Fish Sequence, (1)(3)
 Building Industry, (11)

**See Behavioral Relationships: Inventory Of Catalog of Alternate
 Transformative Options Environmental Events Hierarchy Equals:
 Checklist Excluded Answer Resources Hierarchies Inventions: In-
 vention Of Irreversible Inventory of Information Local Inventory of
 Physical Resources Meaningless: Inventory of Meaningless Concepts
 Metaphysical Characteristics: Inventory Of Minimum Inventorying
 Obsolete: Inventory of Obsolete Concepts Political Mandates: In-
 vention Of Resource Inventorying Strategic Questions: Inventory
 Of Synergetics Characteristics: Inventory Of Biosphere Inventory
 Planetary Inventory**

See Trial Balance Inventory

**Universal Requirements of a Dwelling Advantage Verbs: Inventory Of
 Versus: Checklist**

Interferences: Inventory Of
No Absolutes

Topological Aspects: Inventory Of Sensorial-frequency-spectrum In-
ventory Measurabilities: Inventory Of Proclivities: Differentiated &
Synergetic Nonequals: Checklist Paired Concepts: Checklist Trends:
Checklist

Unpredicted: Sequence of Unpredicted Events Life: Inventory of
Characteristics of Life Disapproved Words: Inventory Of Understand-
ings: Inventory Of Phases: Inventory Of

See Urban Processes: Inventory Of
Lags: Inventory Of
Proclivities: Inventory Of
Proclivities, Phases & Disciplines: Inventory Of
Invented Words: Inventory Of
Minimum Topological Characteristics
Environmental Inventory
Initial Inventory
Primitive Inventory
Four Intergearred Mobility Freedoms

Motions: Six Positive & Negative Cosmic Inventory

-^I.HYfintfly' inventoried (2 A-N)
See Artifacts, 15 Jun'74
Culture, 1 Feb'75
Dictionary, May*71

Dwelling Service Industry. (5); (A) Electronic Referendum, 9 Jan'75
Four Intergearred Mobility Freedoms, 2 N_ov'?3 General Systems The-
ory, (2) Gravity, 23 Sep*73

House, 193S
Inhibit, 9 Apr'40
Life & Death, 17 May'77
Metaphysical, Way'72
Models. 9 Jan*74

Nature's Subvisible Order, (2) Ninety-two Elements, 15 Jun'74

Inventory: Inventories:
(2 0-Z)
See Radiation, 20 Jun'66

Sweepout: Spherical Sweepout, (2)

Technologu. i960

Tetrahedral Number (2)

Unknowable. 8 Mar'73

Unknown: A Priori Unknown, 13 May*73

Universe, 26 Kay'72

Inventory:
(3A) M

**See Inventory of Push-pulling Alternations Inventory of Designs In-
ventory of Devices Inventory of Disciplines Inventory of Experiences
Inventory of Functions Itt¥^Qr>t?,y _q£Proclivities Inventory-taking as
a Strategy Inventory of Motions Inventory of Chemical Behaviors In-
ventory of Ilensurabilities**

Inventory of Human Events
Inventory of Complementarities
Inventory of Paired Concepts

Inventory of Principles

Inventory of Characteristics of Principles

Inventory of Phases

Inventory of Intertransfonnabilities

iprwWry-

~~Inventory of Formulations & Constants~~

~~Inventory of Spectrums~~

~~Inventory of Interferences~~

See

Inventory of Cosmic Absolutes Inventory of Unpredicted Inventory of Sensations

TEXT CITATIOL'S

Inventory: Inventories:

S986.711

S986.721

Inverse:

"Regarding gravity, Newton discovered a certain relationship of masses but unfortunately his relationship is stated in a negative way. He talks about an inverse ratio. The word

Inverse ratio makes it very difficult conceptually."

- /Ci-te Garbendabe- Draft-

-Na-tur e * s C oord-i-na-t-i o n o V I. /«9-

- Cite Oregon Lecture #7, p. 241. 11 Jul>62

Invertible: Inversion:

See Self-invertible

Synchronous Inverter

Invisibility:

"The ottni-inbound gravity works collectively toward the invisibility of the central zero-six point."

- Citation at Point: Inbound Point 23 Sep'73

Invisibility:

"What holds things together is inherently invisible.

Gravity is inherently invisible. That is why the Universe is so mysterious: the absolute mystery. The integrity of the Universe is Invisible.

"But the behaviors of the integrity are

- apprehendable;
- measurable;
- eternally reliable."

- fl*-* 11| T~Tii 1~wv"*TTrFx_j brL r TL ~u "

- Citation at Integrity, 25 Jan'72

Invisibility:

"Conceptuality is something independent of visibility or invisibility. You can have conceptuality, or understanding of the principles, independent of site, which makes it possible to conceive of events as they occur at magnitudes which would be subdivisible."

- Citation at Conceptuality, 9 Jul'62
- CTEP-Oi geui'i , pp. Uy-lyu

Invisibility:

"We have gone into so much activity outside the sensorial range of frequencies that we really might say as of present times in the total economic generation of increasing capability of man on Earth, that certainly 99.9 per cent of all that is going on now and has any significance is non- sensorial and is in the non-sensorial ranges. We could

say then that my talk about transinvisibility is not a trending a trending of the industrializations already invisible. That is what it is but I am talking about the world society and the way we think. I would say that we all still think almost entirely in the sensorial range so we are impressed with what we can see. In the great scheme of the use of our tools men have employed the theoretical, that is the most recently discovered behaviors of nature that they haven't found any practical use for up to this moment, in the great emergencies such as war they will take the theoretical and try to find ways of applying it to a new trans. enadental cfpbaility that will overcome the enemy. We find that in the great history of technology the materials that can be turned into tools are relatively scarce--- men had to seek them. The number of minds which knew how to deal with them were few."

- Cite Oregon Lecture //1 , p. 14. 1 Jul'62

H0F DEFINITIONS

Invisible:

"As a consequence of its uniquely unopposed diametric vertexing--- ergo permitted--- diametric exit, only the tetrahedron among all the symmetric polyhedra can turn itself inside-out pulsatingly and can do so in eight different ways (see section 624); and in each instance, as it does so, one-half of its combined concave- convex unity 'twoness*' is always inherently invisible."

IH]

- V6-Dee'?3-
- Citation & context at Octahedron as Model of Doubleness

of Unity. (2), 16 Dec'73

Inviaible:

"Invisible does not mean nonconceptual--- though it had come to really mean that. Scientists were saying that you could not model the invisible."

- Cite Oregon Lecture #4, p. 138. 6 Jul'62

"More than 99.9 percent of all the physical and metaphysical events which are evolutionarily scheduled to effect the further regeneration of life aboard our spaceship Earth transpire within the vast non-sensorial reaches of the electromagnetic spectrum. The main difference between all our yesterdays and today is that man is now intellectually apprehending and usefully employing a large number of those 99.9 percent invisible energetic events. Humanity has therefore created for itself a new set of responsibilities requiring a 99.9-fold step-up in its vision and comprehension. This calls for an intuitive revision of humanity's aesthetical criteria, philosophical orientation, conscious action, cooperation, and Initiative in accommodating evolution's Inexorable drive to have mind comprehend and surmount every physical eventuality. Intuition and aesthetics automatically trigger us into consciousness of the existence of opportunities to consider and selectively Initiate alternate acts or position-taking rounding oncoming events, potential realizations or unprecedented breakthroughs in art, technology, and other human productivity.

"Today's epochal aesthetic is concerned almost exclusively

- Cite KBF FUKUOKA to La Jolla Museum Catalog, 10 Apr'70 **"with the invisible intellectual integrity manifest by the explorers and formulators operating within the sensorially unreachable, yet vast, ranges of the electro, chemical, and mathematical realms of the physical and metaphysical realities. Their invisible discoveries and developments will eventuate as sensible instruments, tools, machines, and automation in general."**

- Cite RBF FOREJAORD, La Jolla Museum Catalog, 10 Apr'70

Invisible Aesthetics:

' 'With the return of science to conceptual modelling through vectorial topology and the discovery of nature's 60-degree atomic and crystallographic coordination, there will come about the abandonment of sculptural architecture and the emergence of completely invisible aesthetics in architecture and art as« enjoyed previously almost exclusively by music up to mid-20th century.'

- Cite UNESCO TIFLIS M 1966, p. 5

See Invisible Architecture

Invisible Aesthetics;

(2)

See Tooling of Domes, (3)

"I think that concepts of architecture have gone through and are as yet to go through great transformation. What humans a century hence will identify retrospectively as what they consider to be the architecture of the late twentieth century may not as yet have been so recognized in 1972.

"Architecture in the past often has been spoken of as 'frozen music,' Now the architectural music is being unfrozen and is ultimately to be freed from its embodiment exclusively within the physical structure. The music of the emerging architecture is to be entirely weightless, abstract. It will be the sense of gratification and inspiration of living freedom and potential initiatives of the human occupants disembarassed of their slavery to the production and maintenance of the buildings and emancipated from exploitation of land, buildings, and occupants as money makers. The architectural music will be the metaphysical regeneration of the spirit to be experienced by the buildings' users.

"Commissioned by a powerfully dominant armed land baron, an architect of yesterday designed the master's palace primarily as*

- Cite SET X, pp.1-2, Aug'72

"a fortress. He then designed integral psychological additions to the surface of the fortress in order, for instance, to dismay any potential enemies traveling near the castle. The architect designed emblazements which indicated the master of the castle to be so ferocious a fighter as to be best represented by a red and gold tiger, or a dragon on a black foreboding field. This psychology worked two ways for it also bolstered the master's courage and confidence to act, indeed, as a tiger. This architect had to overwhelm all strangers as well as the overlord's subjects with the power and the glory of his client. Additionally the architect often had to accomplish the impression that the powerful master of the castle was also a man of intellectual and aesthetic distinction. The architect accomplished these psychological effects by skilfull coordination of mass, height, line, and integral symbology. In a like manner architects designed temples, cathedrals, and other buildings as permanent symbolic communication devices. With the advent of the music box, and later the automatic piano playing 'pianola,' and the record and tape players, music was produced which like symbolic architecture could not be altered by the audience. In effect, the form and rendering of the music was as frozen or as 'canned' as architecture has been."

- Cite SET X, p.2, Aug'72

"In contradistinction to 'frozen' we have 'live' music produced by the singing or playing of individual artists where the instruments and the music are separate phenomena and many individuals can play separately or together and thus communicate directly through

the instruments. Even though they play the same notes written by others they have the freedom and controls to reveal their individual depth and sensitivity of conceptioning as well as ability to articulate competently and to do so in infinitely unique ways. When the individual composes his own music and his own instruments and plays the music himself he is a complete artist, but this same complete artists can produce instruments or compositions for others to play. A great artist can also play the instruments or compositions invented entirely by others. Here the music is completely unfrozen and it is the freedom of live conceptioning of the individual who uses the instruments which resonances and regenerates the sensitivity and innate compositional competence of the listener. And the artist whose music is recorded can communicate through the electronic circuitry to inspire audiences remote in time and space. Here the art is that of the live artist. The radio set is not the music."

- Cite SET X, pp.2-3, Aug'72

"Musical instrument and electronic circuitry making are arts themselves but they are not music. Neither the lion's feet on the piano legs of yesterday nor the angels head on the harp have naught to do with music. Any overall sculptural shaping of buildings by self-professed and legally established modern •architects' is 'frozen styling' but it is not architecture.

"I feel that the new architectural era is one in which world society is to be furnished with dwelling, working, and other environment-controlling instruments invented by other artists, produced by tools and processes invented and composed by other anonymous artists and that the 'aesthetics' will no longer be commodities to be purchased, vicariously commanded or lured forth, from captive artists. Ancient Pharaohs, kings or nobles, as patrons of the frozen music's

architectural era, were often ruthless, gross, selfish individuals who with lethal authority could command the artist to design buildings which deceived the public by suggesting that the overlord was what he was not. What inspires the emerging architect

of today is the task of producing invisible-as-Dossible environment-controlling instruments for all humanity, conceived"

- Cite SET X, pp.J-4, Aug'72

'and realized with such integrity and competence as to make possible the unselfconscious enjoyment not only of the environment controlled by the devices but also of all the Earth and all the Universe by all its people in an economically and happily sustainable manner. But just as music is not the musical instrument, the architecture of tomorrow (which can and is now only invisibly emerging) also will not be the architectural instruments or gadgets, but will be the abstract harmony of living which its individual users may articulate.

"When you bite your tongue or cut your finger or get a cinder in your eye you become acutely aware of these otherwise only subconsciously operating organic parts. When people say 'I feel great,' it is because they don't feel anything at all. Life is fully potential and the entfely sublimated human organism coordinates omnisubconsciously. The new era architecture will operate- in the same way making itself ever less obtrusive. Architecture will not only be life itself but that life will be strictly live-it-yourself. It cannot be lived vicariously through others.

"When a fleet of one-of-a-kind racing sailboats is performing"

- Cite ^SCT * pp.4-5, Aug'72

"they usually are beautiful to watch unless one is being incompetently sailed. The winner often appears the most beautiful because it is most inspiredly and capably sailed. The winning boat of yesterday's race may be sailed today by an incompetent, careless helmsman and appear ugly though it is the same boat which yesterday appeared to be so beautiful. So too will the architecture of the new era be the inadvertent qualities and attitudes manifest directly or indirectly by its occupants. While one of two identically designed dwellings may appear beautiful because of its dweller's competence and consideration for others the identical dwelling may appear ugly because selfishly and incompetently occupied. Architecture, like music, will be a verb and not a noun. The new architecture will not be for sale. The aesthetic of architecture henceforth will be integrity."

- Cite SET X. p.5, Aug'72
- This set appeared in World Mag., 21 Nov'72, as

"The New Architecture."

Invisible Architecture;

"Architecture... will be an unobtrusive part of a vastly larger preoccupation of world society with life in Universe, .when successful, tomorrow's architecture will be Approximately invisible, not just figuratively speaking, but literally as well. That will count with world man is how well the architecture serves all humanity while sublimating itself spontaneously. Architecture may be accomplished tomorrow with electric fields and other utterly invisible environment controls."

- Cite FOREWORD TO LA JOLLA MUSEUM CATALOG, 10 Apr'70

"Beginning with World War I, science, technology, and industry began the epochal and ever-accelerating shift from track to trackless, from wire to wireless, from visible to Invisible, and from Newton's norm of changelessness to Einstein's norm of constant, dissynchronous

evolutionary transformation. Man entered into the vast ranges of the electromagnetic spectrum. Within the electromagnetic spectrum visible light is exquisitely minute. At the present moment in history 99.9 percent of humanity's important physical evolution--- scientific, technical, industrial, and biological--- is taking place in that major portion of the Universe of which man has no direct apprehension, but with which he does have exquisite instrumental hook-up.

"This brings us to the historical era of invisible architecture. In invisible architecture the harmonics are apprehensible only by our intuitions and subconscious aesthetics, and operative only in the twilight zone between conscious and subconscious awareness. This is the area of intuitive and aesthetic formulation. Just as we may instruct ourselves to wake up in three hours and 37 minutes, and do so with reasonable accuracy, so also does the subconscious measuring capability of man's eye"

- Cite THE PROSPECT FOR IWI'ANITY, WDSO Doc. 3, p.74, Aug'64 "judge, at considerable distances, to a 64th of an inch accuracy, the diameter of the female leg.

"One of the last trends of humanity that we take up is this ephemeral aesthetic, its intuitive apprehending and conceiving capability, and its now looming major importance in the guidance of human affairs. I will discuss this trend from the viewpoint of my own experience with geodesic domes, which are so relatively ephemeral as to weigh an average of only three percent of the weight of the best alternate clear-span solutions of structural engineering... strong enough to handle nature's fiercest winds, snow loads, and temperature extremes.

"My kind of work deals with how to find the ecological problems involved and how to solve them, hoping thereby to bring about the occupant's satisfaction at the earliest possible moment. That is, I deal with the hows of mathematics and economics, the hows of industrial

production and distribution, assembly, and service. I don't even consider how any structure is going to look until after it is finished. If, when finished, the structure seems beautiful, I know it is all right. To me, 'beautiful* apparently emerges as an ejaculation, spontaneously released by my total set of subconscious control coordinates."

- Cite THE PitOUPECT FOR HUMANITY, V/DSD Doc. 3, p. 75, Aug'64
"Beautiful' is probably ejaculated when my entire chromo- somic neuron bank is momentarily in 'happy' correspondence with my entire experience neurons memory bank. I speak of my brain as if it were a computer. It is.

"The great evolutionary engagement of man with the non-sensori- ally apprehensible yet physical Universe, achieved only through instru- mental hook-up as an extension of man's faculties, is utterly depen- dent on the integrity of the instrumental functioning, and the integrity of functioning of the adult intellect at a level of purity corresponding to that of the four-year-old child's..."

(Here RBF quotes Christopher Morley's 1922 poem, "The greatest poem ever known, etc.")

- Cite THE PROSPECT FOil HUMANITY, WDSD Doc. 3, P- 75, Aug'64
See Invisible Aesthetics

See Airport. 11 Feb*73 Walls, 1767

invisible circuitry: (1)

"Disclosure of a new phase of geometry employing the invisible circuitry of nature. The computer based on such a design could be no bigger than the subvisibly dimensioned domain of a pin head's glitter.... Closures and pulsations disconnected at the icosahedron stage... Milky Way-like remoteness."

"As we get into cryogenics--- taking energy-as-heat out of the system--- the geometries become more regular and less asymmetric, thus fortifying the assumptions of synergetics about the vector equilibrium. The isotropic vector matrix can be described as a matrix of lights on a Broadway billboard with powerful little lights at each vertex which could be controlled in intensity and color displaying all the superb concentricity around a nucleus. Your innermost guts could be illustrated and illuminated, I could turn all the right lights on and you could move through space in a multidimensional way, just by moving the lights from one vertex to the next.

"This may be what Universe is doing. This is one way we"

- Cite RBF to EJA, 3200 Idaho, 28 Oct»72 13 *ay»73

(Revised citation at Atomic Computer Complex (5)lo)(£), W

InyjLaifrle circuitry; (2)

"could have come here from any place in Universe.

"If I wanted to build a matrix with lights and move something through it like a sphere or a vector equilibrium--- which would be the easiest things--- you could just program them multidimensionally on a computer.

"We would see reality as the subvisible increments on the verge of resolution, like a benday screen lithograph. Then you would see what people still think you can call'solid.' It is preposterous to be deliberately ignorant about 'solid state' or 'black hole.' They cannot see what is true until they relinquish what is not true."

- Cite RBF to EJA, J200 Idaho, 28 Oct'72

Invisible Circuitry:

See Billboard Model

Man: Interstellar Transmission of Fan Thinking: Analogy of Sphere Layers

"...The stretched-out reality of the invisible colors of all the 92 regenerative chemical elements of associative energy or of the various radiations."

- Citation and context at Optical Motion Spectrum (1)_t 4 Mar*69

See Visible Thermodynamics vs. Invisible Electrodynamics

Invisible GameJ:

bee Conceptual Mathematics, (1)

Invisible Hole;

"And 1 just want you to understand what it means--- annihilation. We have a rubber glove. There's only one rubber glove, and it fits my left hand, it's on my left hand, it's red on the outside and it's green on the inside. I strip it off my left hand and now it fits my right hand. And the left hand has been annihilated. I took it off my right hand and now it fits my left hand--- the other one has been annihilated. There's the one that fits, the other one has been annihilated. There's the one that fits: that gives you the local system. The rest of the Universe. In other words you and 1 are matched by the rest of the Universe. There is an invisible hole--- a matrix of you and 1 sitting in the Universe. So it really isn't annihilated, but it is nonlocally identifiable. . . . The annihilation is not going out of Universe, but it is nonlocally, or visually or conceptually .present."

- Cite RBF address, transcript p.y, Tel Aviv, to Jun'72

Invisible Hole:

See Black Hole

Invisibility of Macro- and Micro- Resolutions; (1)

"The eye of a healthy human can comfortably perceive an interval of 1/50th of an inch and the human's timing sense can recognize the rhythm of identical minimum intervals lying between the black vertical lines of an engineer's white ivory measuring scale, but with

optimum naked eyesight humans can only with great difficulty read a 1/100th-of-an-inch scale. Humans eyesight cannot 'resolve,' i.e., differentially perceive 1/200th-inch intervals between microdots of 1/200th-of-an-inch diameter. For these reasons black-and-white or color plates of printed picture reproductions consisting of subvisible benday screen dots spread 1/200th-of-an-inch apart produce pictures whose surface information appears to humans as being realistically 'continuous' as a progressive color blending, ergo 'naturalistic.'

"The diameter of the spherical activity domain of a single atom including that of the electrons orbiting its nucleus is called one angstrom. And one angstrom is 1/2,500,000th the diameter of the smallest humanly-seeable speck. The diameter of the atomic nucleus is 1/10,000th of one angstrom, and the nucleus has now been found to consist of a plurality of further"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 260.11-.12; 17 Dec'75

Invisibility of Macro- and Mero- Resolutions: (2)

particles' such as quarks, leptons, hadrons, and so forth.

Humans have now developed electromagnetic sensors and have microphotographed individual atoms and have macrophotographed a billion galaxies, each of hundreds of billions of starpopulation magnitudes---99.997 percent of which information about reality is invisible to humans' naked eyesight. (See Sec. 1238.60.) 'What humans have been experiencing and thinking of 'realistically' as dim 'somethings' or 'points' in a field of omnidirectional nothingness now requires experimentally-provable reconsideration, epistemographic reconceptualizing, and rewording."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 260.12; 17 Dec'75

See Astro & Nucleic Interpositioning

Relative Activity Diameters of Stars & Electrons "and incidentally in 1927 I did feel that in trying to free myself, to think effectively, I first spontaneously tended to change my clothing and to break many of the patterns and customs. I found that what I was trying to do, however, to turn my thoughts to the advantage of others, began to be impeded--- at that time--- by my unique physical appearance and my determination to eat only certain things at certain times. So I was really putting self before others in what I was doing physically. So I decided then to become the most invisible man I knew how to be. And the most invisible man to me was to be the second-rate bank clerk. So I have tried to appear like a second-rate bank clerk ever since. . . This makes me look quite different from a rishi."

- Cite RBF at Sli-iS, U. Mass., Amherst, 22 July '71, Talk 12, pp 2-3.

"It is very warm in here but I am going to risk putting you to sleep by putting out the lights again for slides. I think I will take the liberty of removing my own coat which I never did before. I am a very formal person. I think I will tell you why I am formal. In 1927 I started doing the work I am doing and I /njd up my mind to think and to pay attention to what I thought instead of what other people thought. At that time it was such a new experience to be thinking myself and trying to discipline myself to go along with what I thought, that I found it convenient to pay such attention to what I was saying that if I said I was uncomfortable that I would get myself comfortable. You find yourself in strange attire or in no attire at all, and in due course you find you are getting good results. And you are thinking that there are other human beings that are interested in what you are thinking and the thought doesn't belong to you. I found myself being invited out to

dinner at someone's house, and I said I'm sorry but I don't eat that stuff. They had taken a lot of trouble with it and I was wearing something very strange, and they were all neat and so what I was wearing or didn't wear became important and what I didn't

Invisible Man:

"eat became important and what we had to think about became important. I saw I was imposing a lot of nonsense so I decided that what I cared about was understanding one another, being able to think, so I went in exactly the opposite direction.

I decided to be an invisible nan. The way to be an invisible man is to conform; so everything about me physically is as invisible as you can get. This is supposed to make you very [visible--- to wear a Brooks suit--- but it actually makes you very invisible."

- Cite Oregon Lecture #8, p.29O, 12 Jul*62

"... There are no invisible masters of World Two.

Visible masters are anathema in World Two. World Two is inherently governable only by the complementary integrities of initiative of the individuals of defbcracy."

- Cite RBF, June 1856, Caption J25 to R.W. Marks book on RBBF.

Invisible Masters:

See King's Sign

Leaders: Leadership

Pirates: Great Pirates

Realm

Rule

HU Invisible Motion:

"Scientists who know the Sun is not ¹ going down¹ 'see' it setting. Scientists who know there are*no solids, or straight lines, or things, still 'see' and talk about solids, straight lines, and things. For example, they refer to high energy events as 'particles'. Humanity's intellect and sensorial reflexes are completely uncoordinated. We see clouds floating by, birds flying, and people moving, but we can't see plants or humans growing. We can't see the economic charts realistically: Humanity gets out of the way only when it sees the motion. »/e cannot see the dates on the calendar moving nor the hour or minute hands on the clock moving; we can only see the second hand move. Like parrots, we learn to recite numbers without any sensorial appreciation of their significance. We have yielded so completely to specialization that we disregard the comprehensive significance of information."

- Cite Heartbeats and Illions, World Mag., 13 Mar'73

"Man is so ... is only impressed by the things he can see move, and we can't really see all the motions. We can't see the hands of the clock move. We can't see the tree grow. We can't see the stars move. We can't see the atoms move. We find man really not accrediting all the great . . . continual evolutionary change,"

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69 Saturn Film transcript, Sound 1, Reel 1, p.84.

See Afterimage Large Atom: Motion of Atomic Components of Matter
Clock: Invisible Motion of the Hands of the Clock Motion Apprehension Perception

Sensorial Spectrum

Stars:

Trees: Invisible Motion of the Stars Invisible Growth of Trees

Electromagnetic Spectrum

See Buildings as Machines, (1)(2) Nonsimultaneity, 7 Nov*73 Optical
Motion Spectrum, (2)(3) Tunability, Mar'66

Invisible Muscular Field:

Synergetics, Sec. IOOy.31

.InYlal tola. ? ton IYS :

"Invisible does not mean the same thing as negative. 'Push*' and 'pull*' are different, although they are both Invisible. The pull always seems to be negative, but a great deal of the positive Is Invisible too. We have the invisible Universe on the one hand, which contains both the negative and the positive; and we have the negative Universe on the other hand which contains only the negative.

"But the positive always wins out: positive x positive - positive positive x negative - negative negative x negative - positive."

- Cite RBF to BJA, in response to direct query, 3200 Idaho, Wash. DC.,
28 May'75

Invisible / Negative:

See Spherical Quadrant Phaae, 29 May*75

See News Ignores Invisible Reality

See Impossible: Only the Impossible Happens, (Bl

InYiPiblo / NQnsoncgpwl:

See Artist, 6 Jul'62

Conceptuality, y Jul'62

invisible: ^NaaKht gg invisible ag the Obvious?

See Obvious, 1968; Jan*72

"The room we sit in is permeated by thousands of weightless waves, each of unique character. iou can tune in hundreds of wide-frequency-range radios within your room, and each can bring in a different program from a different part of the world because the individual, weightless waves flow through trees and house walls. That extraordinary world of weightless invisible waves is governed by mathematical laws, not by the opinions of men. The magnificent orderliness of that ever individually and uniquely patterning weightless wave Universe is not of man's contriving. The infinite variety of evolutionary complexities, inherent to the orderliness of complementary principles operative in Universe, is of unending synergetic uniqueness,"

- Cite Synergetics text at Sec. 505.34, Nov'71

See Tunability, 1960; Jun'66; D_{ec}'69 Planetary Democracy, (6) Death, 29 liar'77

See Instruments, 20 Sep'76

Form Cannot Follow Function, 20 Sep*76

"The bubble gum, the wire film, or the balloon all display invisible pneumatics evenly distributing the tensive energy loads to produce films of uniform thickness. No man could hammer or roll a substance into such exquisite dimensional stability. The popular image has the blacksmith working his will on the semimolten metal, but it is not so. The great armorers and swordmakers found just the opposite; they discovered the way in which nature Sennits the metals to yield and still retain their integrity.

umans cannot see the rearrangements of mountain-reflecting lake waters in atomical and molecular 'Between-the-Halves' marching maneuvers to halve at the state of ice; this was arrived at, however, in ever-orderly intertransforming, geometrical integrity, invisible-to-humans magnitude of perception and analysis."

- Cite SYNERGETICS text, Sec. 1024.21; galley rewrite of 27 Dec'73
invisible Quantum as Tetrahelix Gap Closer-

"As we tense the octahedron It strains until one vector (actually a double, or unity-as-two vector) yields its end bondings and precesses at 90° to transform the system into three double-bonded (face-bonded) tetrahedra in linear arc form. This tetra-arc, embryonic, electromagnetic wave is in neutral phase. The seemingly annihilated-- but in fact only separated-out— quantum is now invisible because vectorless. It now becomes invisibly face-bonded as one invisible tetrahedron.

"The separated-out quantum is face-bonded to one of the furthestmost outward triangular faces occurring at either end of the tetra-arc array of three... with the fourth invisible tetrahedron face-bonded to one or the other of the two alternatively-vacant and alternatively-available of the furthestmost end faces of the tetra-arc group. With this fourth, but invisible, tetrahedral addition the overall triple-bonded tetrahedral array becomes either rightwardly or leftwardly spiraled to produce a four tetrahedron tetrahelix, which is a potential embryo, electromagnetic circuitry gap closer. Transmission may thereafter be activated as a connected chain of the inherently four-membered individual-link continuity. This may explain the dilemma of the wave vs. the particle."

- Cite SYNERGETIC, 2nd. Ed., at Sec. 936.19, 23 May'75
Invisible Quantum as Tetrahelix Gap Closer:

See Octahedron as Conservation ft. Annihilation Model Fourth Quantum

"The 99.9 percent invisible reality is essentially incorruptible by the all-history-until-now, selfishly motivated exploiters of humanity's inexorable and lethal predicaments, who fortunately are spontaneously excited only by their direct senses.

"Transistors were not smell-discovered and can't be made to do what is physically foreign to transistor behaviors. There is no scarcity in the eternally regenerative, ergo eternally adequate and totally successful, Universe governed by the exclusively metaphysical principles."

- Cite RBF Address to MENSA, Chicago, IL., 22 Jun'74

" ... Loving humans

Have unwittingly tutored

Their young to acquire

A whole body of reflexes Labeled as knowledge, All of which has since
been invalidated By experimental science's findings--- As armed with
powerful instruments For exploring

The ninety-nine percent of reality,

Which is inherently

Untunable directly by the human senses.

Humans grope for absolute understanding, Unmindful of the a priori
mystery Which inherently precludes Absolute Understanding.

Unaware that their groping

Does not signify personal deficiency,

And ignorant of the scientific disclosure Of the fundamentally inher-
ent mystery, They try to 'cover up' their ignorance

By asserting that no fundamental mystery exists."

- Cite ILTUITIOK, pp.40-41 May '72

'The almost totally invisible. nonsensorial, electromagnetic womb -
sheath of environmental evolution's reality-phase into which human-
ity is now being born--- after two million years of ignorant, gestation
--- is as yet almost

entirely uncomprehended by humanity. 99.9 per cent of all that is
now transpiring in human activity and interaction with nature is taking
place within the realms of reality which are utterly invisible, inaudi-
ble, unsmellable untouchable by human senses. But the invisible re-
ality has its own behavioral rules which are entirely transcendental to

man-made laws and evaluation limitations. The invisible, reality's integrities are infinitely rejuible. It can only be comprehended by meta-physical mind, guided by bearings toward something sensed as truth.
.. "

- Cite RBF Intro, to enea Youngblood's EXPANDED CINEKi.
Pp. 25-06. Oct'70

See Conceptions: Weightless Conceptions Knowledge as Reflexes
Optical Motion Spectrum Sensorial Spectrum Tunability

News Ignores Invisible Reality

See Gravity (j)(k)

Aesthetics & Integrity, 8 Sep*75 Form Cannot Follow Function, 20
Sep*76

Invisible Sewer System:

See Architecture, 26 Sep'6S

Invisible Spectrum:

See Newspaper, 16 Oct'?2

Xnyj.P>^ble StrucWg:

See Relativity, 1 Apr'49

Invisible Tetrahedron: (1)

"Because it consists of two such half-quanta of energy, the vector-edged tetrahedron exactly equals one quantum of energy, and is also one minimal structural system of Universe. The six vector tirahedron is also synergetic in that two vector triangles combined to make the four triangles of the tetrahedron. This is not magic. The two additional

invisible triangles that became visible by associating the visible pair are always secreted in the SXM invisible complementarity reserves of the 99.9 percent invisible Universe of utterly abstract weightless principles.

"Employing vectors, the two convergent sides of any given angle can only be considered as potentially realisable by a third and invisible vector which invisibly holds the outer ends of the angle-describing convergent vectors apart. This is metaphysics and not magic. The physicist says that all the physical Universe is energy--- energy associative as matter and energy disassociative as radiation, both interconvertible to the other. The physicist says that the physical will always move a levered needle--- either by gravity or electromagnetism.

"Metaphysics embraces all experiences, such as the phenomenon"

- Cite GOLDYLOCKS, pp. F1*F2, 27 May»75

Invisible Tetrahedron: (2)

•Understanding,* which does not move a pivoted needle. The invisible metaphysical Universe of pure principles complements the physical components to realise in pure abstract principle the empty yet structurally stabilising invisible triangles."

- Cite GOLDILOCKS, p.F2, 2? May'75

RBF DEFINITIONS

Invisible Tetrahedron:

"Descartes discovered the 720° but he didn't call it the tetrahedron, /` `cf. Letter from Coxeter, JO Oct. *70j7 Xhe tetrahedron can be turned inside out; it can become invisible. There is an internal invisible tetrahedron of concave angles, 720° or less."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

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Invisible Tetrahedron:

"In tetrahedron we have the extraordinary property of being able to turn inside out, or become invisible. Therefore, they permit your understanding of the disappeaAce, or the isolating aspect, of our Universe which is always present. And I find it oscillates with what you call the tetrahedra as unit measure. Tetrahedra come together in a common point in the vector equilibrium."

- Cite RBF tape transcript, Carbondale Dome, p.29, 1 May*71

Invisible Tetrahedron:

'•The invisible and n-sized tetrahedron which complements all systems to aggregate as finite but nonsimultaneously conceptual scenario Universe is mathematically analagous to the annihilated left-hand phase of the rubber glove during the right handed occupation of the glove. We now can say scientifically that the difference between the sensorial, special case, conceptually measurable, finite, separately experienced system and the bailee of the nonconceptual scenario Universe is one finitely conceptual, but nonsensorial tetrahedron."

- Cite Nehru Speech, p. 15. 13 NOT'69

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Invisible Tetrahedron:

"We can say that the difference between any conceptual system and total but nonsimultaneously conceptual--- and of course nonsimultaneously sensorial--- scenario Universe is always one tetrahedron of whatever size may be necessary to account for the balance of all the finite quanta thus far accounted for in scenario Universe, outside the conceptual system considered.

- Citation and context at Tetrahedron, 13 Nov'69
Nehru Speech, pp. 15-16. 13 Nov '69 •

"We are all equally responsible not only for the big complementary surface areas which we develop on systems by our every act, but also for the finite complementary outward tetrahedron automatically complementing and enclosing each system which we devise

- Citation and context at Spherical Triangle 13 Nov*69
Invisible Tetrahedron:

"inasmuch as the difference between any conceptual system and total universe is always one weightless, invisible tetrahedron if our physical, conceptual system is a regular equi-edged tetrahedron then its complementation may be a weightless, metaphysical tetrahedron of various edge lengths--- ergo, n-mirror imaged--- yet both with the visible and invisible tetrahedra's corner angles adding up to 720° respectively though MMRs be equi-edged and the other vari-edged,"

- Cite Nehru Speech, pp. 39-40. 13 Nov'69

- Sec'£157

Invisible Tetrahedron:

"We can say that scenario Universe is finite because, though nonsimultaneously conceptual and considerable it is the sum of the conceptually finite, after-image furnished thoughts of our experience systems plus one

finite but invisible n-sized tetrahedron."

- Cite Nehru Speech, p. 15. 13 Nov*69

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Invisible Tetrahedron:

'The tetrahedron may be identified as the 720° differential between any irinii definite local geometrical system (Greek solid) and finite universe."

- Cite OMNIDIRECTIONAL HALO, p. 146, i960

InriJilbl* Suspension Bridge:

(1)

See Invisible Trampoline

See Critical Proximity, 10 Feb'73

See Angular Topology: Principle Of Annihilation

Antitetrahedron Negative Tetrahedron Invisible Quantum Inside-
outing Tetrahedron

See Black Hole (1)

Halo Concept, 1960 » 22 Feb'72

Octahedron Model of Doubleneae of Unity, (2)

Finite fc De-finite, Nov'71

See Membrane Invisible Suspension Bridge

See Critical Proximity, 10 Feb*73

Invisibility: Trends to Invisibility:

"We are fooling ourselves because form cannot follow function. That is what I am talking to you about in the trend to invisibility."

- Citation and context at Form Cannot Follow Function (2), 1 Jul'62

See Ephemeralixation Track to Trackless Wire to V/ireless Visible to
Invisible

See Form Cannot Follow Function, (2)
Social Organization, 1 Jul'o2
InYlalblitY! Turning Inside Out:
See Vector Equilibrium: Zero Model
See Periodic Table: Harmonics of 18, 22 May*75
invisible .Palver5Q;
(D
See Negative Universe

See Star Event & Degrees of Freedom, 12 May*75 Invisible Tetrahe-
dron, (1) (2) Transuranium Elements, 23 Feb*72

See Motion Apprehension

Visible to Invisible

See Visual Symphony (2)

Invisible War;

See War is Becoming Invisible
invlomt; JnxlslkUlu: (U)

See Extrasensoriality Inconceivable t Invisible Motion Apprehension
Nature's Subvisible Order Nothing Nothing: Mold of Nothingness
Novent Optical Motion Spectrum Pandora's Box of Invisibility
Perceptual Peephole Subvisible Trees: Invisible Growth of Trees
Unseeable

Vacuum = Novent " Invisible

Vacuum

Visible & Invisible Visible to Invisible Omniinvisible Half Invisible

See Infra & Ultra Tunable: Infra & Ultra Vielble Strength is Invisible

InxislStls; JuxUIMUM:
(2)

Abstractions, 1964 See Architecture, 1965 Black Hole (1) Conceptuality, 9 Jul'62 Democritus, 5 Jul'62 Dimpling Effect, (3) Gravity, 23 Sep*73 Industrial Fan, 10 Oct'63 Inconceivability, 1960 Integrity, 25 Jan'72* Life-support System May'72 Magic, 18 Nov'72 Minimum Inventorying, 26 Jan'73 Perfect Prototype, 4 Oct'72 Point: Inbound Point. 23 Sep'73* Rubber Glove, 23 Fay'72 Vector Equilibrium: Zerophae, 31 Kay'71 './alls, 1967 Complementarity of Growth a Aging. 22 Jan'75 Thinkability, 6 Nov'73

Invleible: Invisibility:

(3*)

See Invisible Aesthetics Invisible Architecture Invisible Circuitry- Invisible Colors Invisible Hole Invisible ban Invisible /'asters Invisible Motion Invisible Muscular Field Invisible f Monconceptual Invisible: Naught so Invisible as the Obvious Invisible Pneumatics Invisible Operation of Thousands of Radio Programs Invisible Reality Invisible Sewer System Invisible Spectrum Invisible Structure Invisible Suspension Bridge Invisible Suspension Field

See Invisible Tetrahedron

Invisible Trampoline

Invisibility: Trends To

Invisibility: Turning Inside Out

Invisible to Visible

Invisible War

Invisible Electrodynamics

Invisible Twoness

Invisible Quantum

Invisible Universe

Invisible / Negative

Invisibility of Macro- and Micro- Resolutions

Invisible Games

Invisible Performance

Invisible News

InYQlunterYJ

See Automation of Metabolic and Regenerative Processes

Baby Button

Birth: Non-self-requested

Determinism

Happening

Life's Original Event

Voluntary & Involuntary

MHB Involuting-EYOlutIng:

"Explosions are pushive and evolute and involute as do rubber toruses."

• Cite RBF caption for Synergetics Illustration #67 Beverly Hotel, New Tork, 24 April 1971.

XnvslwUng-wluUnB =

See Energetic Functions Fountain Pattern Inward 4 Outwardness
Rubber Tires Torus

(D

See Convergence & Divergence, 11 Feb'73

Explosions, 24 Apr'71

Omnidirectional, 1yb0 Macro-Micro, 12 Nov'75 Four Intergeared Nobility Freedoms, 2 Nov'73

Involvement Domain;

See Vector Equilibrium Involvement Domain

"Inward explosion: an inter-entity, tensionally induced, precessionally accomplished, omniembracing squeeze."

- Citation and context at Implosion, 8 Apr*75

Jnrdmae ra».

(D

See In, Out & Around

Radial-circumferential

Jmfflrndnsaa YB> Omnidirectional:

(2)

See Tuning, 20 Jan*75

Inward VO. Outward Pislinail of Error:

See Dymaxlon Airocean World Map: Icosahedral Version.

27. Jan'75

"We have demonstrated circumferential complementarity, the circumferential twoness of systems such as the Northern and Southern Hemisphere of our earth. There is also inward and outward complementarity, inward and outward twonees. As a consequence there are also circumferential oscillations and inward and outward pulsations."

I 051 l0

- Cite Synergetics draft, Sag, 8?I, August 1071.

See Jynamic Frame of Reference, (2)(4)

Meaning, I-ay'49

Radial-circumferential, Apr'72; 9 Jan'74

Reciprocity, (1)-(3)

See In *tt* Out

Iron:

See Copper. 15 Aug'70 Electric Motor, 25 Jan'72 Squattere, (1)

"... The XYZ coordinate system inherently requires recognition of such irrationalities as pi and the paradoxical recognition that we cannot finitely subdivide the circumference of a finite circle by its radius. There are a great many irrational numbers occurring as fundamental constants in the mathematical coordination between mutually remote scientific disciplines which I thought might be the consequence of our arbitrary use of the XYZ coordinate system."

- Citation at Calculus {2), 1965

ta«U2nal Pongunw

See Askewness, 6 Nov*72

Future of Synergetics, 19 Apr'66

Science Opened the Wrong Door, 30 Dec'73

XYZ Coordinate System, (B)

Pi, Aug'71

**So long as the comprehensive cyclic dividend fails to contain prime numbers which may occur in the data to be coped with, irrational numbers will build up or erode the processing numbers to produce irrational, ergo unnatural, results."

- Citation and context at Prime Number; First 15 Primes., U Jan'74

Irrational Number:

See Cyclic Dividend Imaginary Number Pi

toaslssABla:

See Conservation of Energy, 18 Ear't>5 Mathematics, 11 Jul'62

IrzUeyarwi??:

' 'Static and irrelevancies are the same thing.'

- Cite RBF to EJA Carbondale 2 April 1971

Irrelevancies: Dismissal Of:

"All the dismissed irrelevancies merely rejoin the presently unconsidered---macro- or macro- --otherness of Universe; i.e., the presently untuned-In systems of experience-harvested information."

- Cite RBF rewrite of 6 Feb citation; Wash. DC; 8 Feb'76

Irrulevanciae: Dismissal Of;

"All the dismissed irrelevancies are merely the unconsidered."

- Cite RBF to EJA; Metroliner to Phila.; 6 Feb'76

RBF DEFINITIONS

"You cannot program the unknowns you are looking for because they are the relationship connections and not the things. The only thing you can program is the dismissal of irrelevancies."

- Cite Synergetics text at Sec. 50*.30; galley rewrite 7 Nov'73

"You can't program what it is you're looking for--- because they are the connections, and not the things. The only thing you can program is the dismissal of irrelevancies."

- Citation at Program. 2 Apr'71

"/hat we call thinking is putting aside irrelevancies--- dismissing irrelevancies to contemplate the set under consideration. . . . There are two kinds of irrelevancy too infrequent and too frequent (high frequency)

overly hotels new fork

13-careh 1971

- Citation to context at Thinking. 12 Mar* 71

Irrelevancies: Dismissal of Irrelevancies:

"I am not a creator. I am a swimmer and a dismitter of irrelevancies. ... To find order in what we experience we must first inventory the total experiences, then temporarily set aside all irrelevancies."

- Citation and context at Order. 1971 + W Order. 1960

Irrelevancies: Dismissal Of;

"We discover that in the process of developing the disciplines for carrying on this process of temporarily putting aside the irrelevancies and working more closely for the relationships between the components that are considered relevant, thought about our awareness of a developing geometry of configuration of the considered components and we finally came down to a minimum configuration that satisfied the condition and it turned out to be tetrahedron.¹¹

Lecture #8, pp. 277-278. 12 Jul'62

"Pattern has emerged first from our preoccupation with getting rid of the irrelevancies and out of it has emerged a minimum consideration, a minimum constellation and it is a four star affair. It is tetrahedral. It is very amazing to have a geometry just appear out of our just considering what is thought.

- Citation 4 context at Tetrahedron. 2 Jul*62

See Bit: Bitting

Co urn on Sense: Perceptual Peephole Considerable Set

Consideration

Grass: Putting Aside the Grasses

Parting the Strands

Quarry: Quarrying

Swimmer: I Am a Swimmer

Relevant

Thinking

Thinkability

Twilight Zone

Stark

Tuning « Dismissal of Irrelevancies Variables: Theory Of

Tuning-in & Tuning-out

ItElsiansisa: *M-*

(2)

See Considered Set, Jun'66 Environment Controls, (1) General Systems Theory, Intellect, 1960 Order, 1yo0* Parameters, I960 Pattern, 1954 Program, 2 Apr*71* Tetrahedron, 2 Jul'62; Nov*71 Thinking, 12 kar'71*; (Il(II)5 6 Nov»73 Generalized Dichotomy: Grand Strategy, (3)

See Thinkable System Takeout, 6 Nov'73

See Geodesics vs. Irrelevance

Relevant

Stark Nonconceptual Irrelevancy Thinkable System Takeout

See Epistemological Stepping Stones, 30 Dec'73

Pronouns: I - We Us, (2)

Seven Kinimam Topological Aspects, 12 Feb'76

Irreversibility:

"The star tetrahedron is in oalance with the vector equilibrium-- pumpable, irreversible, basically- shuttling like the time clock of one of the atoms."

- et

- Citation at Star Tetrahedron, 4 Oct*71

Irreversibility:

"When the dynamic symmetry is undertaken through the tetrahedron's base to produce the negatively balancing tetrahedron, only the four negative tetrahedra are externally visible for they hide entirely the four positive triangular faces of the positive tetrahedron's four-base, four-vertex, fourfold symmetry. The positive tetrahedron is internally congruent with the four internally hidden triangular faces of the surrounding four negative tetrahedra. This is fundamental irreversibility: the outwardly articulated dynamic symmetry is not regeneratively procreative In similar tetrahedr«*al growth."

- Cite SYKLKCK.TIC£ draft, "Ant i tetrah edron ,** 8 Oct. *71 > Page 5.

Irreversibility?

"Tbo star tetrahedron's entropy may be the basis of irreversible radiation. . . "

~~© Cited SYKLKCK.TIC£ draft~~

- Citation & Context at Star Tetrahedron. 8 Oct'71

Irreversibility:

'Eternity contains time; time does not contain eternity.

The relationship is irreversible."

~~Cite SYNOPSIS draft - "Conceptuality: Life" - RBF
Nagminite, Somerset Club, Boston, 25 April.~~

- Citation & context at Eternal & Temporal. 25 Apr*71

Irreversibility:

'Definition of Intellect: The metaphysical measures the physical, but not the reverse, i.e., local irreversibility.ⁿ

- Citation at Intellect: Equation of Intellect. 22 Apr'71

"Arrow . . as in macro micro

eans irreversible."

ifafiksttmir Hutei

H Mai riutSgU.

- Citation at Arrow. 25 Mar*71

IrrgY£TJlblllEY!

****..«The irreversible succession of self-regenerative human events--- experiences, intuitions, experiments, discoveries and productions.'***

- Citation &. context at Evolution (1)

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RBF DEFINITIONS

"Universe is a serial communicating system; a scenario of only partially overlapping, nonsimultaneous, irreversible, transformative events."

- Citation and context at Communication, Oct'70

- Wite gar inbrgd-ttewxm-to-Uene ioungo-ieoa-*s sxHArwb J

Irreversibility:

'Thus evolution must forever alter the total inventory of humanity's nonsimultaneous and only partially overlapping experience for clearly experience always alters previous experience and the process is both irreversible and nonidentically repetitive."

- Citation and context at Heisenberg-Eliot-Pound Sequence, 22 Apr'68

Irreversibility:

"...I had long ago discovered that systems had Inherent convexity and concavity and required irreversible turbinizing of their omnigearred Universe event relationships. Inasmuch as all systems could be turned inside-out, having inherent insideness and outsideness, I discovered that mirror reversal of the rubber glove from one hand to the other could be accomplished without reversal of the finger wrist axis..."

- Citation and context at Left Hand:* Right Hand. 4 May*57

Irreversibility;

"Modification may only be accomplished forwardly in time.

The system is inherently irreversible."

- Cite TOTALTHINKING, I&I, p.226, May® '49

JrraYw-gjblt;

"Among the irreversible succession of self-regenerative human events are experiences, intuitions, speculations, experiments discoveries, and productions. Because experience always alters previous experience, the process is both irreversible and nonidentically repetitive."

- Cite SYNERGETICS text at Sec. 502.22; RBF rewrite, 6 Nov'73

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Irreversible Inventory of Information:

See Learning, Dec*72

Wealth as Know-how, 2y Jun*72

(Corollary of Principle of Synergetic Advantage)

"The principle of irreversibility states that the evolutionary process is irreversible locally in physical * time-space'— i.e., in frequency and angle definitioning, because the antientropic metaphysical is not a mirror-imaged reversal of the entropic physical world's disorderly expansiveness."

- Cite BIXIN & MIND, 1.27, as amplified by RBF on SYNERGETICS draft, Apr'71
(Incorporated in SYNE RG&T ICS text atz Sec, 229.10)

/Fission proves Einstein's Equation/

(Corollary of Principle of

(Principle of Irreversibility:| Synergetic Advantage/)"

"This is an example of one

Of the great generalized principles Operative in scenario Universe Ahich is the principle Of irreversibility

Of evolutionary process

For the anti-entropic metaphysical

Is not a mirror-imaged reversal Of the entropic physical's Disorderly expansiveness.' '

- Cite RBF Draft, BRAIN & M1IND, 1.27 f 1 g 1971

Principle Of:

See Nonnirror Image Syntropy & Entropy

Irrevereibllisy: IrrsiBCBlbls:

See Darwin

(1)

Determinism

Eddington's Proof of Irreversibility

Evolution

Feedback

Inventions that Decrease the Degrees of Freedom Inexorability

Local irreversibility
 Mero — micro: (Synergetic Advantage)
 Pure Science Events
 Radiation
 Reversibility
 Womb: Humanity Cannot Return into the Womb
 hxsx£££lkuux: Irreversible:
 (SA)
 See Arrow, 25 Mar'71
 Coinnunication, Oct!70*
 Dictionary, 19 Oct'70
 Economic Accounting System. (B)
 Eternal & Temporal, 25 Apr'71*
 Evolution, (1)*
 Generalized Principle, 28 Jan'69
 Heisenberg-Eliot-Pound Sequence, 28 Jan'69; 22 Apr'68*
 Hell, May'72
 Intellect, 1972 , . . ,

Intellect: Equation Of, 22 Apr'71*» Information, 4 Jan'70

Instantaneity, 25 Apr'71
 Nature, 26 Apr'71
 Parity: Left Hand: Right Hand, 4 May'57*
 Star Tetrahedron, 8 Oct'71*
 Thinkability, 26 May'72
 Wealth, Mar'06; 10 Dec'74
 Words, 15 Jun'74

See

Is:

"Is is always spacial case relativity.

Is is change.

Is is plural.

Is is awareness.

Awareness involves previous otherness.

Awareness is differential, sequential, secondness."

- Cite RBF marginalia of 24 Apr'72. on Letter from Donald Fusaro, p.3.

Island: (v.t.)

"Universe ielands its spherical compression aggregates and coheres the whole exclusively with tension..."

- Citation and context at Tenseerity. 9 Nov*73

Island:

"The Maori, whose prime love was the Pacific Ocean, looked upon islands as holes in their ocean and they looked upon what man calls harbors or bays as protrusions of the ocean inserted into the land."

- Cite SYNERGETICS, Sec. 831.22, Sept'72

Island:

"Small islands then had 'captains' because as explained by early sea concepts were felt to hold valid amongst islands, islands were unsinkable ships."

- Cite DEAR ISLAND STORY, galley p.23, 1y68

See Compression, 15 Oct*64 Geodesic Dome, 20 Dec'73 Male Ac Female. 20 Apr'72 Sphere, 2 Mar*68 Tensegrity: Unlimited Frequency Of, (4) Twelve Universal Degrees of Freedom, (1)(2)

See Millay

Islanded Radiation for Tensional Constancy:

"Radiation is special case, systematically centered, and discontinuously islanded. Gravity is continuous tension omni-inter-between all systems. Because gravitational intertensional intensivity varies as the second power of the arithmetical interdistancing variations, whose unique variations are locally periodic, it manifests periodic intensities of tidal pulls, but the overall tensional integrity is constant independent of local intensity variabilities.

'•Electromagnetic radiation is distributive and entropic; its frequency magnitudes represent multiplication by division. Gravity is nondivisive and syntropic; its conservation is accomplished by holistic embracement of variable intensities. Gravity is integral. Holistic gravity has no frequency.

'Earth's biospheric inventory of water is radially dispersed outwardly by vaporization and omnilocally condensed as inwardly 'falling' drops of rain, which are gravitationally and convergently collected as ocean."

- Cite SYNERGETICS 2 draft at Sec. 541.40-.43; 11 Feb'76

Island; Islanded:

(1)

See Atoll

Cloud-Island Spheres

Discontinuity

Sky-Island City

Water: Trend Toward Living on Water Frequency Islands of Perception

See Coherence, 9 Nov*73 Experience, 1960 Male i Female, 19 Dec»71
Sphere, 2 Mar*68; 1971 Tensegrity, 9 Nov'73 Vectors 4 Tensors, 19
Oct'72 World Corporations, 9 May'57 Frequency, Jun'71 Radiation, 11
Feb'76 Culture, 27 Jan'77

Isolating:

. the disappearance, or the isolating aspect of our Universe ... is al-
ways present." . "

Invisible Tetrahedron

- Citation and context at 1 May'?1

Isolation;

"A six-trajectory isolation of insideness and outsideness has four In-
terweaving vertexes or prime convergences of the trajectories, and
four areal subdivisions of its isolation system and constitute tetrahe-
dra."

~~- Cite: HYPERBOLIC Curvilinear, See, 240, by RDP 11 Oct, '77,~~

PwtiiTg *

- Citation at Tetrahedron,. 11 Oct'71

Sea Differwstiation

Energetics & Synergetic Island

(2)

See Dimensional Growth, 20 Dec*73 Invisible Tetrahedron, 1 May'?1*
Somethingness <fc Nothingness, 10 Nov*74 tetrahedron, 11 Oct'
71* Organic i Inorganic, May*49 Triangle, Jun'71 Constellar, 3 Oct'72
Fourfold Twoness, 10 Nov'74

Isosceles:

"An isosceles is semisymmetric."

- Citation and context at Semisymmetric. 15 Oct*72

Isoaoacelea:

See Lve, 15 Oct'72 Dynamic Symmetry, (1)

laotope Tracerfl on Food:

See Metabolic Flow, (1)(2)

**See Magic Numbers: Isotopal Magic Numbers Nonselfregenerative
Ninety-two Chemical Elements**

See Coupler, (2)

Experiment, Nov'71

Frequency, Jun'66

Individual Universes, (1)

Stars: Implosive Forces Of, 22 Jul'71

Synergy: Degrees Of, (3)

Twenty, Oct'71

Single Integer Differentials, (1)(2)

Geometrical Function of Nine, (7)

Time fc Size, Nov*71

Modules: A & B Quanaa Modules: Subtetrahedra, U Kay'73

Isotropic;

"Isotropic means 'everywhere the same.'"

- Cite Nehru Speech, p.23, 13 Nov'69

Isotropic:

See Frequency, 15 Oct'72

Octave Wave, 5 i<ar'73

Vector Equilibrium, 23 Oct*72

KBF DEFINITIONS

ipptropis Vfactor-tairls:

"In an isotropic vector matrix it will be discovered that there are only two omnisymmetrical polyhedra universally described by the configuration of the interSBMBacting vector lines: these two polyhedra are the regular tetrahedron and the regular octahedron.

' ` Each vector is composed of two halves, each half belonging respectively to the unique radius of one of the tangent spheres that is perpendicular to the point of tangency. The half-vector radii of the isotropic vector matrix are always perpendicular to the points of tangency; therefore they operate as one continuous vector."

"...The carrier waves and their internal-external zero intervaling are congruent with the omnitriangulated, tetra-planed, four-dimensional vector equilibria and the omniregenerative isotropic matrix whose uni-vectorings accommodate any wavelength or frequency multiplying in respect to any convergently-divergently nuclear system loci of Universe."

- Cite SYNERGETICS draft at Sec. 122J.14, 9 Mar'73

"Isotropic means everywhere the same, which also means omnidirectionally the same. The isotropic vector matrix provides the actual and only systematic scheme of reference which agrees with all the experimentally disclosed behaviors of nature, while also disclosing only whole number incrementations of nature's and individual's special-case objectifications of the often only subjectively apprehended information regarding the generalised principles being employed by nature. All the isotropic vector matrix identifications of experience are

expressible in terms of angle and frequency. The angles are independent of size and absolutely generalized. The frequencies are all special-case, time-space-limited specifics and identify relative sizes and magnitudes of eternally conceptual generalizations."

- Cite SYNERGETICS draft at Sec 100J.11, 16 Feb'73

Isotropic Vector matrix:

"All the relative volumetric intervaluations of all the symmetric polyhedra and of all uniradius closest packed spheres are inherently regenerated in omnirational respect to isotropic vector matrixes, whether the matrixes are inadvertently, i.e., subjectively activated by the size- selective metaphysical consideration initiatives, or whether they are objectively and physically articulated in consciously tuned electromagnetic transmission, or whether they are selectively tuned to receive on that isotropic-vector-matrix- defined- 'wavelength » "

- Cite SYNERGETICS draft at Sec. 426.47, 30 Nov'72 **"An isotropic vector matrix can be only radiantly generated at a 'selectable' (tunable) propagation frequency and vector size (length) modular spacing and broadcast omnidirectionally or focally beamed outward from any vector-center-fixed- origin such that one of its symmetrically regenerated vector- convergent fixes will be congruent with any other identical wavelength and frequency atuned and radiantly reachable vector center fixes in Universe."**

- Cite SYNERGETICS draft at Sec. 426.02, 30 Nov*72

"An isotropic vector matrix can be only omnisymmetrically, radiantly, and 'broadcastingly¹ generated, that is, propagated and resonantly regenerated, from only one vector equilibrium origin although it may be tuned-in to or received at any point in Universe congruent with any of its radiantly alternate vertexes."

- Cite SYNERGETICS draft at Sec. 426.01, 30 Nov'72

"All dimensions are definitively and intercoordinatably manifest in the isotropic vector matrix."

- Citation at Dimension. 29 Nov'72

Isotropic Vector MatrIx:

"Thus the Isotropic vector matrix of synergetics convergence and divergence accommodates elegantly and exactly both Einstein's and Newton's radiation and gravitation formulations both of which are adequately accounted only in second- powered terms."

- Cite SYNERGETICS draft at Sec. 960.10, 16 Nov'72

•'The limit number of experimentally demonstrable powering involves an Isotropic vector matrix whose omnisymmetrically interparalleled planes and electable omni-uniform frequency occurrences accommodate everywhere and anywhere regenerative rebirth of a unit angle and line structural system of convergent gravtiation and divergent radiation resonatability, whose frequencies are the dimensions.'`

- Citation at Dimension. 16 Nov'72

"Humanity's escape from the irrational awkwardness of the axiomatic hypothesis trap of eternal askewness which snagged him, involves all young humanity's discovery of the isotropic vector matrix synergetics' elegant rational simplicity and its omni-accommodation of all experimentally founded research. Popular understanding and spontaneous employment of synergetics' isotropic vector matrix coordination involves young, popular, experience-induced, spontaneous abandonment of exclusively rectilinear XYZ coordination, but without loss of the XYZ's uneconomically askew identity within the system--- all occurring 'naturally' because of youth's spontaneous espousal of the

most exquisitely economical comprehension of the most exquisitely economical freedoms of opportunity of individual realizations always regeneratively inspired by the inherent a priori otherness considerations."

- Cite RBF marginalis, b Nov'72, incorporated in SYNERGETICS draft at Sec. 216.02, y Nov'72

"` Nature always starts over again with the isotropic vector matrix. Energy is not lost; Just not available. At the heart of the vector equilibrium is the ball in the center of the rhombic dodecahedron at the core--- the one sphere all by itself. You put 12 rhombic dodecahedra around one central rhombic dodecahedron and you get the vector equilibrium. This is why synergetics can investigate nuclear symmetries: it all comes out absolutely discretely. And it does have both the A and B Quanta Modules in it. Look at the picture /"MARKS, p. 167 Pl. L.S7 which shows the one-half of the rhombic dodecahedron. Of all the polyhedra nothing really falls into a group so easily as the rhombic dodecahedron, the most common polyhedron in nature."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 24 Feb/'72

"Metaphysically the isotropic vector matrix is conceptually permitted. The difference between the physical and metaphysical is the omnipulsative asymmetry of all the physical oscillation in respect to the equilibrium. Metaphysical is equilibrious and physical is disequilibrious."

- Citation at Metaphysical vs Physical, Oct'71
R0F DuFIMITIOHb

"./hen energy-as-heat is progressively extracted from systems by cryogenics the geometries visibly approach equilibrium. Which is to say that removing energy-as-heat reduces the asymmetric pulsativeness in respect to equilibrium. As the asymmetric kinetics

of energy-as-heat are removed, the whole field of vectors approach identical length and identical angular interaction. That is to say that they approach the model of closest packed spherical energy fields. The lines interconnecting the adjacent spheres' centers constitute a vectorial matrix in which all the lines and angles are identical, which is spoken of by the mathematical physicists as the isotropic vector matrix, i.e., where all the energy centers are identical, i.e., in equilibrium."

(For later context see Vector Equilibrium: Elfeld of Energy. (B))

- Cite RBF dictation to EJA for SYNERGETICS Beverly Hotel New York, 28 Feb. '71. Incorporated in "Synergetics," Sec. 205.2, Oct. '71.

Isotropic Vector matrix:

"Identically dimensioned nuclear systems and layer growths occur alike, relative to each and every absolutely compacted sphere of the isotropic vector matrix conglomerate, wherefore the integrity of the individual energy center is mathematically demonstrated to be universal both potentially and kinetically."

- Cite SYNERGETICS, "Corollaries," Sec. 240.50. 1971

Istrafie VEcroK MTKIX - SEC.

"An Isotropic Vector Matrix is one in which all the forces are interacting everywhere equally in respect to both their (velocity x mass), linear magnitudes and to their relative angular direction interactions; wherefor all the lines must be of equal length and all their terminal inter-anglings must be the same.

"In an Isotropic vector matrix it will be discovered that there are only two clear-space polyhedra described internally by the configuration of interacting lines-- these two clear space polyhedra are the regular tetrahedron and the regular octahedron. But all other regular

symmetrical polyhedra known are described repetitiously by compounding rational fraction elements of the tetrahedron and octahedron. These elements are known as the A and B particles. They each have a volume of one-twenty-fourth of a tetrahedron. (ILLUSTRAT5) It will be discovered also that all the polygons formed by the interacting vectors consist entirely of equilateral triangles and squares,-- the latter occurring as the

cross sections of the octahedra and the triangles as the

uTcro/?] - Cite NEHRU Speech, 13 Nov'69

Isotropic Vector Matrix: (2)

"external facets of both the tetrahedra and the octahedra.

"Because all the vectors of this multidimensional matrix are 'everywhere the same' the vertexes of the system are equidistant from each other. Each vertex can be the center of an identical diameter sphere whose diameter is equal to the uniform vectorrig length. Each sphere will be tangent to the sphere? surrounding it. The points of tangency are always at the mid-vectors.

Because of the omniequiangular intertriangulating the omnitangential triangulating of identical size spheres constitutes WBB what the physicist terms closest packing of spheres and this closest packing characterizes all crystalline assemblages of atoms. All the crystals coincide with the set of all the polyhedra permitted by the complex configurations of the isotropic matrix."

- Cite NEHRU Speech, pp.23-24, 13 Nov'69

"It will be discovered also that all the polygons formed by the interacting vectors consist entirely of equilateral triangles and squares-- the latter occurring as the cross sections of the octahedra and the triangles as the external facets of both the tetrahedra and octahedra."

- Cite NEHRU SPEECH, p. 24, 13 Nov '69 vEcroiC/WIHX - SEC 47

KBF Dtrll.ITlOi.S

"The omniradiational isotropic vector system

accounting shows a set of values corresponding to the omnirational quantation of all of chemistry's associative or disassooiative events."

- Cite Nehru Speeech, p. 26, 1) Nov *69

Isotropic Vector Matrix:

'•Thus we see both the rational energy quantum of physics and the topological tetrahedron of the isotropic vector "atrix rationally accounting all physical and metaphysical systems."

(For final context aee Geometrical Conceptuality_f 11 Nov'73

- Cite Nehru Speech, p. 31. 13 Nov'69

vccr.« I'll

Isotropic Vector Matrix;

- (1) ' 'When angular and linear accelerations are rationally and uniformly modulated."
- (2) "A generalized Avogadro system in which the energy conditions and relative quanta ratios are everywhere the same."
- (3) "When the circumferential vectors equal the radial vectors, a polyhedron in which the edge dimension of the faces is precisely equal to

its radius. 24 circumferentials - 2 (12) radials.

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE. 1967

Isotropic Vector i-atrix:

"If all the energy conditions were the same, inasmuch as vectors describe energy conditions, this would mean a volumetric aggregation of vectors in a structural complex in which all the interacting vectors would have to be of the same length. This state of omni-sameness of vectors is what is spoken of by scientists as an isotropic vector matrix--- isotropic meaning 'everywhere the same.* This would mean a state of equilibrium.¹

- Cite NASA Speech, p. 65, June '66

RDF Dtfihmo«s

Isotropic Vector matrix:

"I found it possible to construct such an isotropic vector matrix. It consisted of the pattern of lines running between the centers of closest packed identical radius spheres. This closest packing of spheres is demonstrated by the atomic packing of like atoms with their own counterparts. I found that the space compartmentation formed by the vectors between the spheres always consisted of only tetrahedra and octahedra. I found that the spheres in closest packing coincided with the Eulerian vertexes, and the vectors between the sphere centers were the Eulerian edges* and the triangles so formed were the 'faces.'"

(For immediately preceding text see Equilibrium. Jun *66

- Cite NASA Speech, p. 66, Jun '66

VECTOR. MATRIX -

RBF DEFINITIONS

Isotropic Vector Matrix:

"My energetic and synergetic geometry exploration has since proven the 'octet /truss/¹ complex to be a precessionally non-redundant, isotropic vector-tensor evolutionary relationship whose energy transformation accountings are comprehensively rational--- radially

and circumferentially--- to all chemical, biological, elctro-physical, thermodynamic, gravitational and radiational behaviors of nature. As such, the discovered synergetic system is probably nature's spontaneously employed coordinate system, for it accommodates all transformations by systematic, complementary symmetries of concentric, contractual, involutorial, turbo-gearred positive-to-negative-te-equilibrium-to-vice-versa coordinate displacements."

- Cite INFLUENCES mN MY WORK (I&I) P. 21 Jul'61 sae«-

*veer***

Isotropic Vector Matrix:

"Where all the local vectors are approximately equal, we have a potentially_A isotropic tanat vector equilibrium, but the operative vector complex has the inherent qualities of proximity and remoteness in respect to any locally initiated actionergo a complex of relative velocities of realisation lags."

RdF DFIMTIOhS

"I will state our case in terms of an omnidirectional pattern--- an isotropic vector matrix--- rather than in the more usually employed linear or planar patterns, and thus satisfy M.I.T.'s primary mathematical premise of structural patterning, which structure is inherently an omnidirectional plural wavelength and frequency event system."

- Cite Ltr. to Jim Fitzgibbon (?). Raleigh KC, pp.J3-J4, uhdated Circa 1955

Isotropic Vector I'atrix:

"This infinitely extending vector system in dynamic equilibrium provides a frame of reference in universal dimension for measurement of any energy conversion or any degree of developed energy factor disequilibrium or its predictable reaction developments--- of impondment or release--- ergo, for atomic characteristics."

- Cite EARTH, Inc., p. 18, 1947

BoTROAC VEcfoft MAreix- -SR

Isotropic-vector-matrix Domain;

See Twelve Universal Degrees of Freedom, 7 Nov'73

Field:

"Nature always starts every ever freshly with the equillibrious isotropic-vector-matric field. Energy Is not lost; it is Juet not yet realized. It can be realized only disequilibriumously.

- Cite RBF rewrite of SYNERGETICS galley at Sec. 955.50, 20 Dec*73

"It follows that the isotropic vector matrix field discovery represents the frame of reference through which all the interpulsating transformations of time realizations transit, but which will never be directly witnessible in the eternally instant static state."

- Citation and context at Time (1)(2), 6 Kar'73

UMK Isotropic Vector katrix Field:

"Photosynthesis impounds energy and, by orderly molecular formation and crystal building, the synergetic intertransformabilities and the associabilities and disassociabilities of the isotropic vector matrix field accommodation occurs."

[61]

- Cite SYNERGETICS draft at Sec. 1009.15 Feb»73

Isotropic-vector-matrix Field:

See Cube: Diagonal Of. 20 Dec'73

Fourth Dimension, 17 Kov'72

Interchangeable Intertransformativenees, 22 Feb`73

Isotropic Vector Matrix, 6 Mar'73

Time, (1)(2)«

MMB IW* Fields of Thoughtor Physical Articulation:

"Humans may be quite unconscious of their unavoidable employment of isotropic vector matrix fields of thought or of physical articulations; and they may oversimplify or be only subconsciously attuned to employ their many cosmically intertunable faculties and especially their conceptual and reasoning faculties. However, their physical brains, constututed of quadrillions times quadrillions of atoms are always and only most economically interassociative, interactive, and intertransforming only in respect to the closest packed isotropic vector matrix fields which altogether subconsciously accommodate the conceptual geometry picturing and memory storing of each individual's evolutionary accumulation of special-case experience happenings, which human inventories are accumulatively stored isotropic-vectormatrix-wise in the brain and are conceptually retrievable by brain and are both subconsciously and consciously reconsidered reflexively or by reflex-shunning mind."

-Cite SYNERGETICS draft at Sec. 426.30 Nov'72

"In the isotropic vector matrix derived from the closest packing of spheres, every vector leads from one nuclear center to another, and therefore represents the operational effect of a merging of two force centers upon each other. Each vector is composed of two halves, each

half belonging respectively to any two adjacent nuclear centers. Each half of the line represents those unique radii of each of the tangent spheres which alone are perpendicular to the identical point of tangency and therefore they operate as one continuous vector.

"Unity as represented by the internuclear vector modulus, is of necessity always of the value of two, that is, unity is inherently two for it represents union of a minimum of two energy centers.'*

- Cite tAHTH, Inc, p. 18 as re-written in SYNc.RGi.TlCS, "System, Isotropic Vector Matrix," Secs. r and "Corollaries " Sec. 240.40. Hli.oi
* &Z

1971

lagtrgpic vector Matrix;
(D

Absolute Network

See Atomic Computer Complex

Avogadro: Generalized Avogadro System

Billboard Model

Closest Packing of Spheres

Coupler as Domain of IVM Vertexes

Dimensional Supremacy

Equilibrium

Sixty Degreeness

Radiant Valvability of IVM-defined Wavelength

Vector Equilibrium

Vectorial Geometry Field

Geometry of Vectors

Vectorial & Vertexial Geometry

Operational Evolvment Field

Octet Truss

Model of Toothpicks t Semi-dried Peas

See Broadcast, 2 Nov'73 Coupler, 5 Apr'73 Cube, 6 Nov*72 Dimension, 16 Nov'72*; 29 Nov'72* Insinuatability, 6 Nov*72 Invisible Circuitry (1)(2) Invention Sequence (A)-(D) Metaphysical & Physical, Oct'71* Modules: A & B Quanta Modules, 13 Noy»69 Pattern Strip Aggregate Wrapabilities Time (1)(2)* Synergetics. 14 May'73 Nature Permits It Sequence (3) Precession &. Degrees of Freedom. (1) Prime Vector, (2) Conceptual Physics, (1) Equilibrium k isenuilibrlum, (1) Electromagnetic Transmission of Human Organism 4 Jun`77 *

Everywhen, 18 Nov'77

See Isotropic-vector-matrix Domain Isotropic-vector-matrix Field
IVM Fields of Thought or Physical Articulation IVM: Internuclear
Vector Modulus

See Gravity: Speed Of, 21 Oct*72

It:

(1)

See Complex It

Thing: Thingness

It:

(2)

See Identity, 16 Feb '78

J

James , William:

See Fuller, R.B: Crisis of 1927, (d)

Japan

See Population: Stabilization Of, Jun-Jul'69 Human Unsettlement, (3)

Javelin:

"There were angular relationships here and it was possible to get the resultants. I liked what he / Calileo / was doing and I liked the idea of the vector because it seemed to me just as a boy— I'm standing in the water and I take an oar and I plunge it in the water and the thing comes back. There is something about the javelin having much more directional stability than the baseball. There is something man learned about an arrow and a sphere— of its controllability compared to just the ball." (See Galileo. 12 July *62, for immediately preceding entry.

(See Geometry of Vectors, 12 July *62, for immediately following text.) a Cite Oregon Lecture _w8, pp. 297-298, 12 July *62

Javelin:

See Charting Alternating Experiences, (4)

TE,XT CITATIONS

Jeans: Sir James:

Intuibion, p.19, May '72

1210 (p.739)

Jeans: Sir James Hopwood:

See Survival, 1938

Jet Engine:

(1)

"Such high heats and stresses Were involved in a jet engine That it could not be realized Until chrome-nickel-steel Was discovered and produced. And the jet engine Within only one decade of years Has «*unk our Earth Into one-town dimension. Which now realized accomplishment Was mysteriously unanticipated By any scientific society Of yesterday's Government, corporations, Educators and politicians, Who even now utterly disregard The mysterious realization That synergy now permits The logically predictable Humanly conceivable and executahle Rearrangement of environmental constituents In ways which are sufficiently favorable

- Cite INTUITION, p.52 Kay '72

Jet Engine:

' 'For the regeneration of all life

Aboard our planet Earth

By producing ever more performance

With ever less pounds, minutes and watt Per each function served,"

- Cite INTUITION, p.52 May »?2

Jet Engine:

"World War II saw the coming in of chrome-nickel-steel, non- rust- ing with very high tensile strength--- 3JO.000 p.s.i.--- seven times as strong as the steel of 1851 ana seven times high in tensile than in compression strength. With this sudden increase in tensile strength you could have enormous releases of energy with terrific thrusts in all our engines, if needed when they're on high heat. Nickel steel suddenly made possible great strength at very high heat. And that brought about the jet engine.

"The reciprocating engine is only 15 percent efficient; the turbine gets up to 30 percent... Then we could have fantastic thrust, but the engine would break up. And the principle of the jet had been invented by the squid long ago. Ran was not able to use it for his engine, or thrust, until he got chrome-nickel-steel, and it has such high strength and such high heat that made absolutely possible the jet engine. So the jet engine was something made possible by the metallurgical gains in chemistry. The principle of the jet had been invented long ago by the squid."

- Cite Univ, of Alaska Address, p.15, 20 Apr '72
Jfit. stilts* Jxt Stilting:

****... Running on the water like a duck. You've seen a duck taking off the water or landing: it's like a hamnerthrower or a pole vaulter: Jet stilting....**

"An omnimediuim vehicle could be propelled by twin-angled jet stilts. Omnimediuim twin-jet orientable stilts. It could have a turbine jet effect with liquid oxygen for jet propulsion and with wheels. The stilts would converge just above your head. Like stilt walking, when you move the stilt forward it becomes the third compression member which is always initiatable. You'd be hanging from the vectors which converge above your head, A tetrahedron."

"At one stage we had what Burgess called the 'flying bedstead': he thought it could work at low altitude, just above the water with JATO and ram-jets. The ideal would be to put humans in harness with jet stilts,"

- Citation & context at Omnimediuim Transport Sequence, 29 Jan'75

Jet Stilts: Jet-stilting:

See Dymaxion Car, (1)

See Trails & Wakes

Jet Streamer

See Most Economical, 15 Jun'74

Jitterbug:

"The vector equilibrium's jitterbugging conceptually manifests that any action (and its inherent reaction force) applied to any system always articulates a complex of vector equilibria macro-micro jitterbugging involving all the vector equilibria's ever cosmically replete complementations by their always cooccurring internal and external octahedra--- all of which respond to the action by intertransforming in concert from 'space nothingnesses' into closest-packed spherical 'somethings,' and vice versa in a complex three-way shuttle while propagating a total omniradiant wave pulsation operating in unique frequencies which in no-wise interfere with the always omni-co-occurring cosmic gamut of otherly frequenced cosmic vector-equilibria accommodations,"

- Cite SYNERGETICS, "Jitterbug as Energetic Model, Sec, 464.07.

4 Oct'72

Jitterbug:

"The jitterbug is more properly termed the articulation

of the vector equilibrium. . . or the propagative transformations of the vector equilibrium, both radiationally and gravitationally."

- Cite RBF to EJA, Haverfodd, Penna., 11 Oct. *71*

RBF DEFINITIONS

Jitterbug:

"One of the unique discoveries of synergetics . . . is the hierarchy of the symmetrically expanding and contracting pulsations of the interpolyhedral transformations, and their respective circumferentially and radially covarying states. (Also described as the 'litterbugging'* and pumping models.)"

- Cite RBF holograph 11 Oct. »71, Haverford, Penna.
Incorporated into SYNERGETICS, Sec. "Unique Discoveries,
Jitterbug:

"In the Jitterbug we Just use the external vectors of the vector equilibrium--- no internal radii. In order to collapse it--- to permit the pumping business--- the squares accommodate the Jitterbug, the triangles do not change."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971.
Jitterbug:

"Size alone can come to sex\$-> not conceptuality. In the jitterbug we need a sizeless nucleus for the pumping model The point is the microscopic turning around between going inwardly and going outwardly."

- Citation and context at Size, 31 May'71

"In the jitterbug we just use the external vectors of the vector equilibrium— no internal radii. In order to collapse it— to permit the pumping business— the squares accommodate the jitterbug, the triangles do not change," « • . "The cuboctahedron is a truncated cube made by bisecting the edges and truncating the eight corners to make the four axes of the four planes of the vector equilibrium."

- Cite RBF to EJA, Blackstone Hotel, Chicago, May!9?1,
Jtt-bug:

"Now I can't have six equilateral triangles around each corner because it would add up to 360° and the system would not come back on itself. So I have limitations. I can't have any less than three triangles to get this inside and outside. There are only three possible structural

systems in the Universe: tetrahedron, octahedron, and icosahedron. As I pumped this closest-packed set of 12-around-one, it went down like that--- it went down through the icosahedron phase--- that's exactly what happened when you took one ball out--- it goes through that, and then it becomes the octahedron So this vector equilibrium pumps between the three possible cases of all structural systems. So you begin to see how it is the frangfork of how things happen in nature."

- Cite RBF to Verner Smythe, NYC, Reel 2, p.1, 25 Feb'69

Jitterbug:

"You may remember my manipulation of the flexibly jointed vector equilibrium of 24 external vector memebbers. You may remember that thia device, which I call the ¹ jitterbug.¹ had the unique property whereby each of the diametrically opposed eight triangles moves towards its polarly opposed triangle in such a manner that the vertexes of the opposed triangles always remain in fixed positions opposite the midedges of their respectively opposed triangles; i.e.. there are symmetrically reciprocal axes of co-rotation. You may recall that the jitterbug, when so manipulated, contracts in a comprehensively symmetrical manner as the

system's 12 vertexes approach their common system's center at the same rates--- as the system transformed from the vector equilibrium, through its icosahedrmal stage, to its octahedronal stage, and finally, with polar torque introduced as a consequence of thesgj-gggg® momentum of the contraction, the whole systemjcontracted into the tetra- hedronal phase."

(angular

- Cite RBF Ltr. to Dr. Robt. Horn, 1 Dec '65, p. 2

Jitterbug;

"The jitterbug" is " simply a vector equilibrium constructed with flexible joints. When supported, it" is • "a perfect vector equilibrium consisting of eight triangles and" six "squares. When released however, it contracted*, symmetrically, going through a series of phases. It becomes first an icosahedron, then an octahedron. Ultimately it becomes a tetrahedron."

Cite MARKS, p. 42, 1960

See Interpolyhedral Transformation

Omnilibrium

Propagative Transformation of the Vector Equilibrium

VE & Icosa

Vector Equilibrium: Articulation Of

Twist-and-torque Contractions

Symmetrical Contraction of Vector Equilibrium Triangular-cammed,
In-out-and-around Jitterbug Model Omnitriangularly Oriented Evolution Angularly Hinged Convergence

See Gravity (1)

Hole in the Victrola Disc, 24 Jan'75 Octahedron as Annihilation Model,
30 Dec'73 Omniequilibrium,

Jobs

See Earning

Invented

A Living Jobs

KBF DEFINITIONS

Johansen Gauges;

"in mass production, Henry Ford, in order to have interchangeable parts had to be able to make very fine measurements. And he became very interested in guages for reducing the tolerance of error. Johanses developed fantastic guages. These were block guages with the surfaces so superbly machined that the distances between the surfaces was less than a molecule of the atmosphere. Therefore once you had them together you couldn't lift them apart--- like this--- because the gas couldn't get in. You could only slide them apart. But if you, with Johansen i guages, if you don't slide them apart pretty quickly, you'll never get them apart again because they are in such critical proximity that the atoms literally fall inward and coalesce as solid metal. I just wanted to give you another sort of prominent kind of experience that we do have, at least can have, at our Earth level."

- Cite RBF address, transcript pp. 5-6, Tel Aviv, 1b Jun'72

See Constant Relative Abundance Euler

Crossings, Openings & Trajectories

Events, Novents fit Event Interrelatabilities

Fixes, Discontinuities & Continuities Points, Areas & Lines Vertexes, Faces & Edges

Joints . Windows & . Struts:

See Window, 22 Nov'77

See Bonding

Hinge

Interjointed

Tensegrity: Vertexial Connections Universal Joint

See Complex Structure. 10 Jan'50 Interference, 15 Oct'64 Invention Sequence, (B)

Tetrahedron, 26 Apr'77

Jones, John.. Pauj:

See Detente, 20 Sep*76 "The brush and chisel artists who, despite the literary man's frustrations, tried to follow the scientists into 'nonconceptuality' with their 'nonrepresentational*' quasi-abstractions are now proven to have been intuitively sound in their conviction that they could really follow or even lead science in the game of intuitive probing, in a sense science behaved more ignorantly than the artists, but the artists' pursuit of science with its various phases of abstraction forsook the conceptually reasonable requirements of the literary man who has been held by society to be the public's interpreter of the significance of the total inventory of evolving realities. James Joyce to a mild extent and Gertrude Stein to a considerable extent attempted to go along with the brush and chisel abstractionists in following the scientists into nonconceptual validity of reasoning, but by and large the world public was left incommunicado by both science and modern art. Both the scientists and the artists themselves became defensively bewildered by the overall and unexpected emergences of major crises of man with none of which emergencies 2.sic/ either blind-flying science or blind-man's-bluffing art could cope, either positively or negatively."

- Cite nEPE? p. 01/1965 (For follow -on see Conceptuality.)

Juggler:

"Children... remember the juggler putting a simultaneous array in the sky with nonsimultaneous tosses."

- Citation and context at ChiJd-en's Pictures of the Sun and

Juggler:

See Star Evente, Mar¹71

Jump;

"Here I have a man standing and he jumps. . . He doesn't glide horizontally, he Jumps. That is, he goes outwardly from the center of the Earth, and that is a vector. . .

The action was not just horizontal but also vertical. It was mildly vertical in that he went outwardly."

- Cite Oregon Lecture #4, pp. 140-141, 6 Jul'62

See River: You Might as Well Jump in the River

JjABIE: Man-Jumping From a Boat

One energy event demonstrates the action, reaction and resultant of the open ended triangular spiral. This is illustrated by a diagram of a man jumping from one boat to another.

(Adapted.)

(See Illustration}.)

- &Wf=SSi&ftG&TieS ILLUSTRATIONS, caption #3. 1967

- Citation at Action-reaction-resultant. 1967

JUMP: Man Jumping From a Boat:

See WflflQEHMb

Energy Event, 6 Jul'62

Action-reaction-reaultant, 196?*

See Quantum Jump

See Charting Alternating Experiences, (4)

Children as Only Pure Scientists, (1)

Junkyard:

The junkyard becomes the new lode mine. "With today*® impounding of total resources through the progressive recycling and re-conversion of inventory materials, science has hooked up the everyday plumbing to the cosmic reservoir.

- Cite RBF quoted by William Kuhns in "Post-Industrial Prophets"* (Harper-Colophon), p.236. 1971

Jury: Trial By Jury:

"I think that in trial by jury there is a varying intensity of a telepathic comprehension of how all the circumstances developed. I think the great participation by world society outside the jury room makes its feeling telepathically felt by the juries. I am sure great justice is sub-consciously operative that is not, as yet, explicable by man. We will probably understand this as an everyday scientific fact when in the near future, it becomes established by physicists that telepathy is an ultrahigh frequency electromagnetic communication system, possibly beamed and re-beamed by our optical relay systems."

- Cite RBF in AAUW Journal, p. 178, May *65

Jury? Trial By:

See Eye-beamed Thoughts, (I)

Justice:

"By Justice, I mean Comprehensive felicity Which is often intuitively transcendental To immediate comprehension Due to humanity's Inadequacy of experience With respect to large cyclic magnitudes Which are as yet unfamiliar to humans, Without which recycling knowledge Eccentricity seems to be manifest."

(Compare with Intuition Draft Feb. »71 Insert A, p. 8)

- Cite RBF Dictation for INTUITION. Sarasota, Fla. b Feb. 1971

Justice;

See Law: Civil Law Social Justice

K

Kahn, Louis:

See Octet Truss in Yale Art Gallery

Kaleidoscope:

"It is an astronomical kaleidoscope--- the little fellow is shaking---
and from within."

- Context and citation at Epigenetic Landscape. May'49

See Universe as a Kaleidoscope

Kaleidoscope:

(2)

See Epigenetic Landscape, Kay'49 Game of Universe, 9 Feb'73 Measurement, (1) Scenario Universe, Dec'69

Kelvin: Lord Kelvin's Solid: (Wm. Thomson: 1824-1907)

See Bubbles Tetraikaidecahedron

Renner: Hugh Kenner:

"I love Hugh Kenner because I feel absolutely at home
with him and his wife and kids. . . The way they're

all brought up. . . They're really some great men running zoos, just a
few of them, but so sensitive."

- Cite KBF to EJA, >200 Idaho, Jashington DC, 23 Jan '72

Kenner. Hugh;

See Fuller, R.B: The Thinking Me, 18 Dec'76

See Synergetic Hierarchy, 13 Npv'69 Volumetric Hierarchy, (1)

RBF DEFINITIONS

Kepler Alone with the Stars;

"And" Einstein "said: 'What a faith must have inspired Kenler to spend all the nights of his life alone with the stars.' Most of the men of the church did not understand that kind of faith, but I think Einstein had it very deeply ... I think the word faith is very much better than belief. Belief is when somebody else dops the thinking.

Most of our religions are that way, just full of credos and dogma. They are anti-thought and that, to me, is antiUniverse. Man has to discover the full significance and only the mind can do that."

- Cite Barry Farrell PLATBOT Interview,

K^{et>1er} Alone with the Stars:

*. . . The great scientists such as Kepler, who had been called heretics, were indeed the most profoundly religious men when appraised in a cosmic, nonanthropomorphic sense. Einstein said, 'What an extraordinary faith in the orderliness of Universe must have inspired Kepler to spend the nights of his lifetime alone with the stars.'"

- Citation and context at EinsbSin: Cosmic Religious Sense.

19 Sep'64

See Einstein: Cosmic Religious Sense

Kepler Alone with the Stars; (2)

See Technology: Enchantment vs. Disenchantment, (2)

TEXT CITATIONS

Kepler: Johannea: (1571-1630)

Intuition, p.24, Way '72 + p.25, +p.30

Synergetics draft at Sec. 1009.80 et. aeq., 8 Mar'73

953.50 8201.22

1009.81

1009.94

1210 (p.738)

Kepler:

See Blind Man's Buff, 1 Oct*71

Gravity, (b)

Sweepout, Nay*72

Mites Make An Regular Polyhedra, 27 May'72

Key-Keyhole Sequence:

(1)

"We deal in a Universe in which unity is plural and at minimum two. We find that this is what we really mean by fundamental complementarity— what the physicists are trying to get society to realize. I've seen a newspaper man ask scientists, 'Is this the building block of the Universe?

Is this the key?' We find that the Universe cannot be explained by a single key; that there has to be a keyhole as well as a key. It is typical of our oversimplification just to think of the keys. We find that our geometries and our whole education just looks on one side of the line.

"So we find that complementarity is even more complex; that there had to be not only the keyhole, but that the keyhole had to be in something. The keyhole that was in something had to be related to the rest of the Universe. So then we had a rubber glove which was stripped off of this hand, which we called the left hand, fairly ignorantly, and now it fits the other hand. So where has the other one gone? Then I strip it off here and there goes the other hand."

- Cite RBF to World Game, Jun-Jul'69

RBF DEFINITIONS

Key-Keyhole Sequence:

(2)

"Quite clearly, both were there all the time, but only one of them could we detect. So there is not only the glove, which could have a keyhole, and we could put the key in that, but it would have to be in something of the rest of the Universe as well as the system we can see by. There's always a conceptual system, and there's the rest of the Universe which is nonconceptual because it's a scenario Universe and not a single frame Universe."

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, 327, pp.2-3.

See Monological

No Building Blocks

See Charting Alternating Experiences of Kan & Nature, (2)13)

Cosmic Accounting, 20 Dec'73

Hierarchy of Patterns, 1954

Human Beings & Complex Universe, (2)

Phonological, 7 Nov'73

No Building Blocks, May*72

Kida:

See Young World

See Livingry

Weaponry

Weapons Technology

See World Game, 29 Jun*72

See Economic Accounting Syetem, Sep ` 72 Planck'8 Constant, (Cj

Kindergarten:

See Model of Toothpicks 4 Semi-dried Peas Montessori

See Future of Synergetics, 19 Apr'66

Octantation, 14 May'73

Powering, (2)

Synergetics, Feb'71» Jun'66; 1960; 20 Jun*66

Conceptual Mathematics, (1)(2)

Kinetics of Gases:

See Balloon, (B) Domains of Actions. 21 Dec*71 Repulsion, 9 Jul'62

Kinetic OFinIgranFing:

See Atomic Computer Complex, (5)

See Dynamic Frame of Reference, (2)

KAngtlq i Klnstlgg:

(1)

See Asymmetric Kinetics Dynamic vs. Kinetic

Kinetic: Kinetics: (2)

See Atomic Computer Complex. (1)(2)

Buildings as Machines, il)

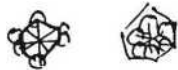
Knowledge, 9 Apr'40

Motion, 1938

Mites Quarks as Basic Notes, (1) (3)

King's Payability

See Sixty Degreeeenees, 18 Jun'71



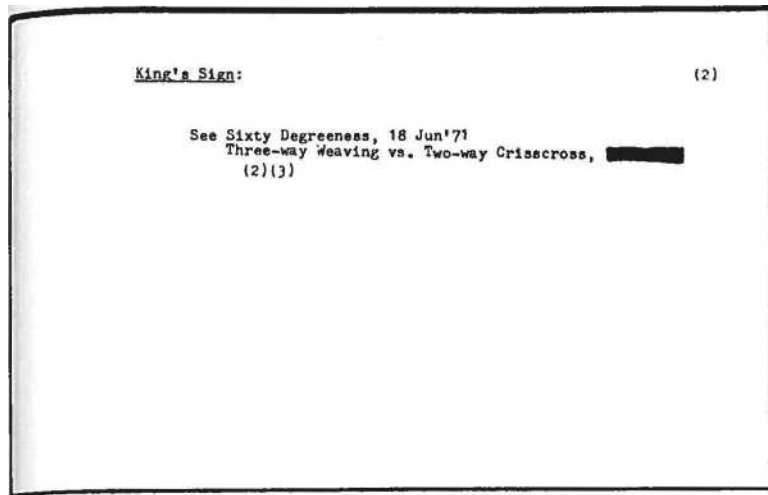
King's Sign:

"The king's sign, or Hexagon, or Double Axe, was displayed in the king's apartments of the palace of Knossos, Crete. It represented 60-degree geometry as employed by the

navigators; it was kept secret.”

- Cite RBF to SIMSSeminar, U. tlass., Amherst, 22 July 1971.

See Distaff



See Sixty Degreeness, 18 Jun*71

Three-way Weaving vs. Two-way Crisscross, (2)(?)

Walls vs, Airspace Technology, (1)

See Realm

See Design Revolution: Pulling the Bottom Up, (3)-(5)

Divide &. Conquer Sequence, (3)

Ecology Sequence, (H)

Real, 20 Apr'72

See Easts-East Theme

See Critic, 29 Sep*76

Kissing;

”Every time we start kissing we start turning ourselves inside out.”

- Cite RBF talk at Am. Mus. of Natural History, NYC, 1 May*77;

EJA transcript, p. 9

"... Finally we reach the condition where the space between the struts is the same dimension as the girth diameter of the struts. At this point we can let them kiss touch. We may then lock them tensionally together in their kiss, but not when we do so we must remember that they were not pushing one another when they 'kissed'* and we locked them in that equilibrium 'most comfortable' position of contact coincidence. Tensegrity spheres are not fastened in shear, even though their locked kiss gives a superficially 'solid' continuity appearance which is only subvisibly discontinuous at the atomic level."

- Cite SYNERGETICS draft at Sec. 715.01, 19 Oct'72

MfialWL K:

"... The 2\$ great circles of the vector equilibrium all... pass through all the 'K* (kissing) points of intertangency of all uniform-radius closest- packed spheres of all isotropic vector matrixes..."

- Citation and context at Atomic Computer Complex: (8), 13 May*73

Kissing:

See Poster!oral Osculations Locked Kiss

(1)

Kiss:

(2)

See Gravity (g)

Kite:

"A kite is just a very flat tetrahedron, a two-member tensegrity: the simplest tensegrity."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

wn* 4W < jrrrrmt*

Kite:

See Syte, 20 Dec'73

Kitten:

See Aveze Klan,
(D
Klepygmanlag; Intellectual Kleptomaniac:

See Idea Stealing Williams, Robert

Knapsack:

See Autonomous *Living Technology Packet
Knight'S Move in Chae;

The XYZ coordinate analysis... arbitrarily shuns most economical directness and time realizations-- by virtue of which calculus is able only Ml awkwardly to define positions rectilinearly, moving only as the chessman's knight."

- Citation and context at Rectilinear Frame, 24 Sep'73

Knight'S Move in Chesg!

"The knight's move in chess is processional.

- Cite RBF to EJA, 3200 Idaho, NW, 7 Oct'71

Knitting Needles;

See Interference. Nov'?1;

Vectorial Moael of Interference, Apr'?1

Knot;

Pulling on the two ends of the knotted rope causes the knot to contract. This is a form of Interference wave where the wave comes back on itself, and as a consequence of any tension in it, the knot gets tighter. This is one of the ways in which the energy-mass patterns begin to tighten up. It Is self-tightening. This is the essence of 'matter' as a consequence of two circles of 720 degrees tending to annihilate or lose one s self. Tetrahedron creates an insideness. Knot attempts to annihilate it. The knot is a tetrahedron or a complex of tetrahedra. Yin-Yang is a picture of a minimum tetrahedron knot interference tying."

- Cite SYNERGETICS text at Sec. 506.14, RBF galley rewrite,
7 Nov'73

Knot:

"A knot in a spliced rope consisting successively of manila, cotton, wool, or nylon may be progressively slipped along the spliced-together rope with all the latter's material changes of thickness, color, and texture along its length. We agree that the 'knot*' is not really any of these locally traversed substances. They were just so many colors and tactile experiences whose pattern displacement reported something moving through as a locally recurring pattern configuration. The knot is not the rope; it is a weightless mathematical, geometric, metaphysically conceptual, pattern integrity tied momentarily into the rope by the knot-conceiving, weightless mind of the human conceiver--- knot-former."

- Cite SYNERGETICS TEXT AT Sec. 506.01, 7 Nov'73

Knot:

"I'll bet a monkey can't tie a knot. . . if they could, they'd capture other animals and tie the whole jungle up in knots. What would the behaviorists say? Mind saw the knot, monkey did not. The monkeys held hands. But they didn't discover that the handshake is two circles running through one another."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

QofKff r<Mt. ry Kw«r -

Knot:

"You cannot have a knot with less than two circles (two finite unities). As the mind tells the brain to control the muscles in an event-scenario, one hand grasping the rope end describes the first circle. When the first circle is complete, the second hand holds the completed circle as the first hand continues to lead the rope end through the center of

the first circle in a different orbital plane than that of the first circle because if they were both in the same plane they would generate a coil or a spiral. The perimeter of the second circle should go through the center of the first. One has to capture the other in an interference."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

Cowee'rv41,r-y- KwfcT-

Knot:

"The rope with the knot in it is a trajectory of where your hands have been. The hand-led rope end and its pulled-through rope section form a visibly sustained trajectory of the conceptual patterning employed by mind in negotiating its visual realization by the brain- coordinated sensing of self or others. Like the contrail of jet planes, or smoke trails of sky-writing airplanes, or the extruded plastic threads of spiders, the roped knot represents a long-lasting memoixdum of the abstract weightless mind's weightless conceptioning in pure principle. '"

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

COA/CC/'TUALIT *KtJtT* J"FC

Knot;

"Each circle has 360°; the two circles have an interference of 720°; just as the triangles of a tetrahedron complement as 720°. The hands describe the circles nonsimultaneously; the result is a progression, ' he knot is the same 720° angular value as the tetrahedron.

"Pdlling on the two ends of the knotted rope causes the knot to contract. This is the essence of 'matter' as a consequence of two circles of 720° tending to annihilate or lose one's self. Tetrahedron creates an insideness.

Knot attempts to annihilate it."

- Cite almost illegible RBF Marginalia on SYNEGETICS Draft, Somerset Club, Boston, 22 April 1971

COAerfruftMTY- KNOT- fee

Knot:

"... The metabolic flow that passes through a man and is not the man: some hundred tons of solids, liquids and gases serving to render a single nan corporeal during the 70 years he persists, a pattern Integrity, a knot through which pass the swift strands of simultaneous ecological cycj.es, recycling transformations of solar energy. At any given moment the knotted materials weigh pwrhaps 160 pounds."

- Cite RBF lecturing at University of California, Santa Barbara, December 1967; quoted by Hugh Kenner in "The Rope in the Knot," Kentucky Review, Autumn 196b.

Knot:

"As a knot in a series of spliced rope of manila, cotton, nylon, etc. may be progressively slipped through all the material changes of thickness and texture along the length yet remain an identifiable pattern configuration, so man is an abstract pattern integrity which is sustained through all the physical changes and processing."

- Cite THE YEAR 2000, San Jose State College

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e»oHcerTvALiTY- Sec. yokO) *-64».Xo|

Knot:

"No longer do I want to talk about the chemical elements as things but as pattern integrities, each one of them is a unique pattern integrity. . . in a sense a form of knots so we get where there are chemical compounds and the knots tend to be interlinkable and they will catch on one another. This one is holding together all right, but this ball of twine and this ball of twine, suddenly one weaves into the other every so often and associates ..."

- Cite OREGON Lecture #5- P. 165. 9 Jul'62

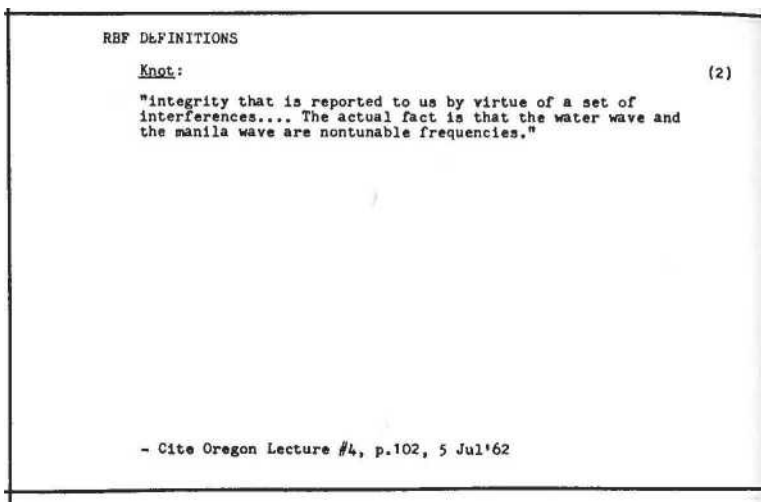
Knot: (.

"What we call rope turns out to be wave phenomena. The fibers themselves turn out to be wave phenomena. We are beginning to discover there is not too much difference between this tactile superficiality of apprehension and the real frequency phenomena which we can't see in the intervals between the waves. .We are beginning to have some faith in these principles, . .

"I am going to take the rope and curl out several of these things and I am going to splice a piece of manila rope into a piece of cotton rope and then I'm going to splice in a piece of nylon rope. A'e now have cotton, nylon and manila and I'm going to bring the ends of the rope around and splice them together. But before doing that I am going to put a slip knot in it. This is another form of interference wave where the wave comes back on itself and as a consequence of any tension in it the knot gets tighter. This is one of the ways which the energy masses of the Einstein kind of patterns begin to tighten up. It is self-tightening. I can take this knot and slide it along the rope and suddenly it goes off the manila and on to the cotton, and then it slides off there and on to the nylon. .. There is a regenerative pattern of

— , - Cite Oregon Lecture #, 4, p.102

CftMcf/ruAliry -fee JsUol 4 j'bt.nv 5 Jul'62



Knot:

"We moved the alip knot along on the rope; now it was nylon; now its was manila; and now it was cottpn--- and we agreed that it really wasn't any of these. They were just so many colors and tactile experiences which reported something to us as a pattern. They were a pattern integrity. Each of the chemical elements are pattern integrities in the form of local selfinterferences."

- Cite OREGON LECTURES, p. 164, #5, 9 Jul*62

Knot: (1.®. Nautical mile® per hour):

"The knot was adopted by navigators as a velocity unit which integrates time-space incrementation values."

- Cite SINERGETICS dirft at Sec. 223.81

Square Knot:

"It is structural redundancy when a square knot is tied and an amateur says, *I'a going to make that stronger by tying acre square knots on top of it,* The secondary knots are completely ineffective because the first square knot will not yield. There is a tendency of the second square knot to •work open' and thus deteriorate the first knot. Structural redundancies tend to deteriorate the effectiveness of the primary members."

- Cite SYNERGETICS draft at Sec. 72J.O3, 20 Oct'72

Knot:

Year 2000, San Jose State - Mar'66

Oregon Lectures - #2, p, 55-2 Jul'62

- #3, p. 102 - 5 Jul'62
- #5, P. 164 - 9 Jul'62

How Little I Know, pp. 17-18 - Oct'66

Comprehensive Anticipatory Design Science (Salk Ltr.) pp. 102-104 - 1-56

RBF To Children of Earth (Cam Smith (Dec'72)

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|---------------------------|--------------|----------------|
| 418.04-418.05 647.04 | 781.01 | s5O6.40-506.43 |
| 505.21 723.03 | 930.26 | 8529.40 |
| <u>506:</u> 506.01-506.30 | 1056.20 (31) | 8935.17 |
| 529.04 | | 81007.24 |

See Energetic Functions Metabolic Flow Metaphysical Disconnect
Minimum Knot Pattern Integrity: Atomic Knots

Hope

Self-knotting

Simplest Knot

Tie Local Knot Coil Yin-Yang

See Man ae Pattern Integrity, Feb'67 Matter ve. Radiation, 7 Nov*73
Nuclear & Nebular Zonal Waves, 1955 Particle, (2) Pattern Integrity,
(A); 9 Jul'62 Syntropy, 13 May'73

See Fuller, R.B: Moratorium on Speech, (1)

Know-how:

"We can refine all the tool and energy capability of single and
commonwealth into two main constituents: the physical and
metaphysical--- the physical consisting of specific energy quantities
and the metaphysical consisting of specific Know-how capabilities."

- Citation i context at Commonwealth,. Jun'66

RBF DEFINITIONS

"The great silence is the thorough intuitive awareness that world pat-
tern will replace local pattern and that know-how accounting will su-
persede physical accounting."

- Citation & context at World Pattern vs. Local Pattern. 29 Jan'75

See Cosmic vs. Terrestrial Accounting

Know-how Accounting vtu Physical Accounting:

(2)

See Disarmament, (1)(2) Old Man River Project, 20 Sep'76

See Technology {1}

News & Evolution, (3)(4)

"The support of life on our planet consists of two kinds: metaphysical and physical.
Both cosmic and terrestrial energetic regeneration, organic and inorganic, are physical}
while the know-what of pure science and the know-how of applied science are both
metaphysical. The know-what of science's experimental evidence informs technology's

know-how to employ efficiently the substantive resources and synergetic metaphysical patterns progressively found to be operative in Universe. These are essential to the maintenance of life on board our planet as well as in mounting local-Universe exploring excursions from our mother-spaceship Earth.”

- Cite SYNERGETICS 2nd. Ed. draft at Sec. 325.01, 11 Nov'74

See Wealth as Know-how

Wealth: Equation of Wealth

Intellect: Equation Of

Transnational Capitalism 4. Export of Know-how

See Aesthetics, 10 Oct'63

Commonwealth, Jun'66*

Cosmic Accounting, 2 Jun*74

Economic Accounting System (B)(D)

Economic Accounting System: Human Life-hour

Production, May'72

Metaphysical &. Physical, 2 Jun*74

Savings. 13 Mar'73

Ship (2)

Technology, 1947

Words, 15 Jun * 74

Transnationalism vs. Colonialism, (4)-(6)

Intellect: Equation Of, (C)

Club of Rome: Limits to Growth, (B)

Mobile Rentability vs. Immobile Purchasing, 20 Sep'76

Disarmament, (1)

Building Industry, (11)

Technology: Enchantment vs. Disenchantment, (4)

Know-what:

See Know-how & Know-what

KnQwledge«

"All the knowledge in the Universe may have been known to various people at other times."

- Citation <L context at Information Signal, 29 Jan'75

Knowledge i

"Knowledge organises Itself geometrically, i.e., with mod el a.

Citation and context at Eoletampler*, 16 Deo'73

RBF DEFINITIONS

"Awareness ie terminable, but knowledge ie eternal. Comprehending and knowing are eternal."

- Citation and context at Communicating (2)_t 11 Sep*73

fcW.wlftdgg:

"Knowledge is orbital."

Citation and context at Orbiting, 5 Jun*73

Knowledge:

"Knowledge ie of the brain Wisdom is of the mind And there is here-with implicit An a priori Wisdom of wisdoms."

- Citation at Wjadoa of Wisdoms, May'72

Knowledge:

**. . . the only potential survival means

of homo sapiens:

through the harmonic Integration of knowledge whose kinetic is universal,"

- Citation at Survival. 9 Apr¹40

Kaadadra Backward In Tima:

See History, 2y Aug'64

See Invisible Reality, Fay'72

Fuller, R.B: Moratorium on Speech, (1)
Knwng Harvested From All the Unknowns:
See A Priori Mystery. 8 Mar*73

Geometry. 14 Nov'73 Unknowable, 8 Mar'73

See Apprehension A priori Comprehension Epistemology Geometry of
Thinking How Little I Know Omniscience! Omnknowlng Universe: All
the Known Unknowable Unknown: A priori Unknown Wisdom

More cc More About Less 4c Less

See Communicating (2)* Comprehension, Feb'72» Eye-beamed
Thoughts (VII) Nature, 8 Mar'73 Orbiting, 5 Jun'73* Wisdom of
Wisdoms, May'72□ Survival, y Apr'40 Information Signal, 29 Jan'75*
Comprehensive Heallser, >iiy*49 Words t Coping, 7 Nov'75 Learning,
18 Jul'76 Optimism: I Am Not an Optimist, 26 Apr'77 Fuller, R.B:
Moratorium on Soeech, (1)*

See Knowing vs. Reasoning
Know-how
Know-how Accounting vs. Physical Accounting
Know-how: Cumulative Know-how of Humanity
Know-how & Know-what
Know-what
Knowledge
Knowledge Backward in Time
Knowledge as Reflexes
Knowledge Harvested from All the Unknowns
Koeatler. Arthur:

See Brain, 172

RB? QUOTATION

"A language for its maximum serviceability, must, at least have the structure of the events it attempts to describe; and so science must first discover the structure of events, for only then can we shape our languages and give them the necessary structure. Any acynce in our knowledge of OW* nature is strictly connected with new languages of similar structure which reflect the structure of the world."

- Holograph in unidentified hand, undated. In RBF "En-Syn Geometry" file. Attributed to Korgybski, "Science and Sanity," p.507.

Korzybski, Alfred:

See Is

Packaged Concept

Rose

Verbs: No 'Where's, No 'What's, Only , When's

Word

Kumasi Dome;

See Spherical Barrel: Kumasi Dome

Kumasi Dome:

See Ghana Dome: Self-chilling Machine, (1)

L

Label: Labels: See Cateroryltis

Labels:

See Verb: I Seem to Be a Verb, 26 Apr 1977

Labor: American Labor:

"American labor fought a great and worthy battle to win the working man's share of the synergetic productivity of industry. Labor's battle proved doubly worthwhile because it inadvertently brought about mass consumption. Without mass consumption you cannot maintain mass production. You cannot have the mass production of industrialization without qn original investment of vast capital effort of work and that original capital came first and long ago from serfdom or outright slavery. In order to bring industrialization to benefit comprehensively emancipated man, you must have mass purchasing power, which in due course will underwrite automation, which in turn will eventually produce so much wealth as to be able to free man's time for further educa-tion and research to increase the wealth long generated by unimpeded automation. American labor will not yield that unimpedement until it is clearly demonstrated that all men will prosper* directly by doing so. American labor did bring about the vast purchasing power in Industry, but in so doing it established all kinds of rules which inadvertently protected the obsolete inefficiencies of building."

- Citation and context at Radome Sequence (A) (B), 1960
See Architecture, Nov'66

Building Industry, (3)(4)

Dome House Grand Strategy: 1927-1977, (1)-(3)

Generalised Principle, (1)

Mechanics. 1928

New York City, }1 Jul*75

Politicians &. Defense Budgets, 20 Sep'76

Houses &. Infrastructure, 20 Sep'76
See Earning A Living

Doing What Needs to be Done Industrial Hypocrisy

Jobs

Inspectors of Inspectors take-work

Uneconomic
Work
Laboratory;

See Child as Laboratory Guinea Pig

Ladder:

See Berry Picking, (E)

**"The feet that there la lag means that we are aberrated and out of
phase with the absolute,**

inherently the center.

- Citation *6c* context at Center, 21 Jan*75

Lags:

"There is a lag when you actually capture it plus when you really understand,... Lags have to do with the fact that human beings have very limited motion spectrums so that they can't see the hour hand move; they don't see the minute hand; they only see the second hand. They don't see the flower growing. They don't see the child growing. And they don't see that the roots of that tree are going to break the sidewalk up three years from today.

"If they don't see something in motion that's going to run into them, they don't get out of the way. And many things are happening in society where something is coming their way and their not getting out of the way.!" "I saw that we do have this beautiful capability in movie pictures to accelerate the rate of the frames. We can have slow motion and really analyze what things are like... or accelerated motion. And we can take all the speculative or actual data about world population over 2,000 to 10,000 years, where we run every minute as 100 years, or every second is a year, and then"

- Cite tape transcript, pp.16-17; RBF to W. Wolf, 28 Apr'74

Lars: (2)

` ` you can suddenly see the population. We made a movie like that so you can really see it flowing around and it gets you terribly excited when you realize--- like a bonfire--- that it's really coming at you.

" I saw that we can step up and step down; we run backwards and forwards to tend to familiarize yourself with what we really have been through, and really feel some of the momentums of enormous evolutionary events."

- Cite tape transcript, pp.16-17; RBF to W. Wolf, 28 Apr'74

"The awareness of life is always a complex of cognition and recognition lags. Lags are wave frequency aberrations.**

(Later context at Vector Equilibrium: Field 6f Energy fCT)

- Cite SYNERGETICS text at Sec. 205.05; RBF correction to galley, 11 Oct'73

Lag:

'•The phenomenon lag is simply due to the limited mechanism of the brain; we have to wait for the after-image to realise."

Citation and context at Eternal Inatantaneity (1), 22 Jun'72

La£:

"The lag is the whole of life. It is lag and aberration."

- Citation and context at Rubber Glove_f 23 Kay'72

Lag:

"Part of the conceptuality is the lags which bring in the six degrees of freedom."

- Citation 4 context at Timeless _f 1 Apr'72

RBF DEFINITIONS

Lag:

. In our temporal life there will always be some degree of lag or asymmetry . .

- For citation and context see Ideal. 1 Apr *?2

Lag-

"Lags are intervals— nothing."

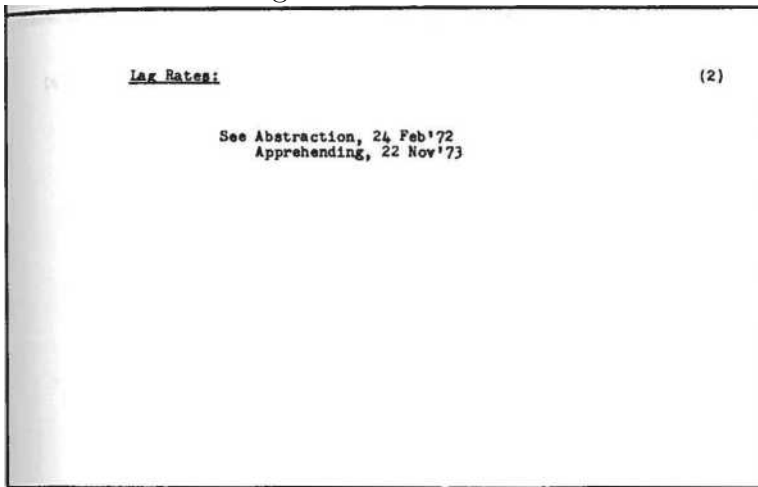
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• Citation & context at Eternal It, Temporal. 25 Apr'71

Lag facet:

See Woof

Omnidifferential Lag Rates



See Afterimage Lags Asynchronous Lags Apprehension lags Brain lag
Differential Lag Energy Lag Feedback Lags Gestation Lag Industrial
Lag Minimum lag Omnidifferential Lag Rates Realization Lag Recall
Lags Recognition Lags Time lag Trails it Wakes

See Eternal <fc Temporal. 25 Apr'71* Eternal Instantaneity (1
j* Frame of Reference, 4 Oct'72 Ideal, 1 Apr'72* Life, 23 May'72
Reading (1) Rubber Glove, 23 May'72* Time, 23 May`72 Timeless, 1
Apr'72* Individual Universes, (2) Center, 21 Jan'75* Pretending, 8
Apr'75 Conceptual Limits, 22 Jun'77

Laissez-faire Process:

"The laissez-faire process and its one-generation-slower by-products
means the accelerating reoccurrence of political crises after political
crises, all apparently invoked by evolving nature to ftjfce us, through
dilemma adopted expediences, to yield compromisingly inch by inch

from our inertia of 'let well enough alone,' thus fortuitously establishing, under each emergency, further increments of technical advances until we have finally grudgingly and ignorantly, acquired a level of technical efficiency Adequate to provide high standard physical living for total man--- which was always subjectively implicit and objectively inevitable because of the presence of intellect in physical Universe."

- Cite MEXICO p.16, 10 Oct '63

Laissez-faire:

See War, 1 Nov'72

See Wind Stress & Houses, (10)

See You and I and the Lamppoet

Lampshadea:

See Angular Sinus Takeout, Dec*61

See Real, 20 Apr'?2 Squatters, (1)

Landospan:

See Dymaxion Airocean World, (I)

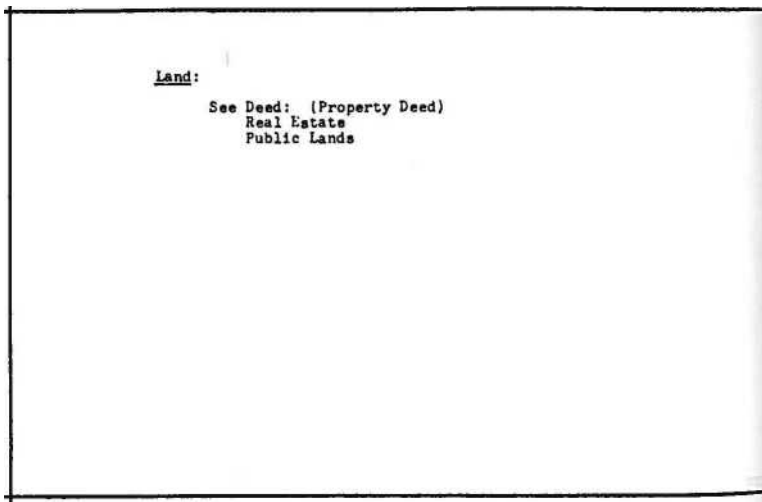
See Epigenetic landscape

See Buildings

Sea Technology

Sea Technology Conversion to Land Technology

See Weapons Technology, (2)



See Toole: Craft & Industrial Word as Industrial Tool

jancagt. aa. XmittstrXaX ,”iaX-

(2)

See Industrialization, (A)(B)

Cliche

Cussing

See Anglo-American

Babbling MB

Codes

Communication

Definitions

Koryzbski

Linguistics

Message: Message Contents

Profanity

Slang WBMI

Syntax

Universal Language

Up-and-down Language

Verb

Word

World-around Language

Structuralism in Language

People's Language

Radio Ham Language

Wave-frequency Language of Electromagnetlce

See Countries, 12 Aug'70

Daddy, (1)(2)

Eye-beamed Thoughts, (VI)(VII)

Fresh, 3 Oct'71

Nation, Oct'70

Synergetics, Oct'71

Seeing vs. Hearing, 22 Jan'75

Self-communicate, 8 Apr'75

Dance, 30 May'75

Series vs, Parallel Circuitry, 11 Dec'75

Primitive, 19 Jul'76

See No largest Case

(1)

See Universe, 26 Sep'73

Largest Common Denominator:

See Basic Triangle: Basic Disequilibrium 120 LCD Triangle

Large Patterns;

"The early humans sensed and revered the greater pattern events of Universe as manifesting an ever and everywhere presence of a knowing, life-giving, supporting, and terminating competence vastly greater than that of humans. They saw themselves and all that

they could see, including the Sun, Moon, and stars, as having only minuscule local parts in an organic whole whose shape and size transcended both the ranges of their vision and the scope of their imagining."

- Citation & context at Naga. (3), 30 May*75
large Pattoraa- d)

"In February 1943 when LIFE brought out the dymaxion map, they were suspicious that I had perhaps 'Just rediscovered' an earlier cartographic projection process. They brought in a Dr. Borgs from the State Department Map Division--- he was the head of the American geographers--- and he assured them that my map was Just 'pure invention', which is to say that I just sort of 'fudged' it; anyway, he meant the term as a very derogatory appraisal and he concluded that I must be totally ignorant of the mathematics of cartography.

''(Ironically, his dismissal of my work served me in good stead as my patent attorney cited him as an authority for the map's originality when I applied for, and was granted, a patent for my dymaxion map.)

''LIFE's issue with the map was their first press run to go over two million and it was completely exhausted immediately. at the time there were two Australians passing through New York on some secret mission connected with the war: they were on the way to see Churchill and Luce wanted them to take home a copy of my map. .*1)60 I took the man over to their hotel - showed them how to assemble it. I put it together''

- Cite RBF videotaping session, Philadelphia, PA_t, 26 Jan'75
large—Patterns • (2)

"with Australia in the middle and at the top. They were astonished because that's where Australia really is and they said that none of the other maps showed the world the way it really was. They said that's the way the world really looks, but I told them to assemble it for Churchill with England at the center....

"At about that time Henry Luce asked me out to dinner in Greenwich where he wanted me to show my map and talk about it to the guests. In the middle of my explanation he said that for the first time in his life he had found a man (me) who was his exact opposite. So I told him that was a compliment. Luce was certain that all big patterns were introduced by man. He correctly recognized--- but disassociated himself from-- my own view that large patterns are introduced by nature and only discovered by man.

"Just before the war Henry Luce once told me that the U.K.

was sending its archives to Ottawa for safe-keeping. He told me this in great confidence because he said I didn't know the war was coming. I said of course I knew the war was coming;"

- Cite RBF videotaping session, Philadelphia, PA., 26 Jan'75

Larne Patterns:

"I Just didn't know what was going to trigger it off but that didn't really matter.

"Another time I had given a lecture in Haverford and I had a model of the Dymaxion map in nice big picture puzzle pieces. One of the professors took me home after the talk and asked me to show the map to his young children. They spontaneously started putting it together on the rug when the professor looked over their shoulders and said, 'No, no that's wrong you've got the world upside-down, dear.'.... Can you believe it?"

__ Cite RBF videotaping session, Philadelphia, PA*_t 26 Jan'75

Larr.e Patterns

"The way I have been able to present order to you is only by looking at some of the very large patterns.

- Cite RBF at Penn Bell videotaping session, Philadelphia 22 Jan'75

Largest Pattern: Large Pattern:

(D

See Big Complex: Big Picture: Big Pattern: Big System

Remote - Intellectual

Comprehensive: Comprehensive

Astro-largest

See Carbondale Office, 10 Aug'70

Fuller, R.B: Crisis of 1927. 26 Sep'68

Universe, 1954

Tension, 9 Jul'62

China (C)

Artifacts, 28 Apr'74

Halfway-round-the-Worlding, 26 Jan'75

Plumbing, (1)(2)

Evolution, 15 May'75

Naga, (3)*

Lasso:

"Even as a tension-controlled lasso can be gyrated and thrown and wave impulses can be sent out controllably over it, as a snake whip may receive a wave by the wrist to hit an object and return the wave as a tension circuit again to the sender, so does radio and radar tensively induce circuits to pull radiation phenomena over almost unlimited distances«"

~ Citation & context at Wind Stress *k* Houses, (10)(11), 1946

Last Resort:

See Adoption of the New Only as Lasst Resort

La at Wow:

See Wow

See Matter ¶«. Radiation Potential ve. Radiant

See Rate, (pp,62—63} 1938

Utin America;

See China (B)(C)

Lattice;

See Matrix

Spherical Triangular Lattice

See Synergetics, 10 Jul'62 Tetrahedral Coordination of Nature, 1965

Lighter-

See Chemistry Seemed to Laugh Comedy

: Antoine Lavoisier: (1743-1794) "Lavoisier was really identifying the reality. Lavoisier, like Democritus, could see the invisible. Priestly didn't weight the air under the bell Jar; he Just weighed the small objects. Fire turned out to be Just swift oxidation separating the air into separate constituents. All the products, water, vapor, etc., all weigh more. We hadn't learned how to weigh nothingness."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 1 Oct. '71.

Lavoisier;

See Quantum Sequence, (1)

Law:

"I think the antientropic ordering principles are both subconsciously and consciously developed by humans as conventions of understanding of, for instance, how we can prosper without getting into trouble. 'The Law and the Citizen'¹ relates to this consciousness.

"Laws are conventions, working agreements, often different from the experimentally discovered principles governing physical Universe behaviors. There is usually a deal of difference SKS9Q9B between yesterday's erroneous assumption and today's scientific findings.^{1'}

- Cite RBF in panel transcript, AAUW Journal, p.175» May'6\$

Law:

"We must learn what we each bring to the other, collectively and singly. Man has had enough experience with his angers and his disconnects, and his invented national hates and their subsequently contrived reversals, to know how illogical he must often be, at any one given moment, because of the going mode of bias propaganda. He realizes that he has not been very happy when he has been excessive and destructive. Laws come entirely out of experience, but only those endure which are taken with the powerful intent to guarantee our mutually favorable evolution. Each individual has rights all of which must be coordinately protected and realized without cost or inconvenience to others."

- Cite RBF in AAUW Journal, p. a 178, May *65

Law: Legal Codes:

"Legal codes. • • are enforceable only by negative penalties."

- Citation and context at Individual R/viTmmin 1965

A'h

Laws of Nature VB. Lawa af Kan:

**See Invisible Operation of Thousands of Radio
Programs, Nov'?1**

Outlaw Area, 8 Jan'66

Social Sciences: Analogue to Physical Sciences, (A)

Laws; Scientific Laws:

"Laws require proof.

Synergetic principles and theories Thus far described

Have been experimentally demonstrated;

Their concurrent mathematical proof Is the work of Bthers."

- Cite RBF to EJA Sarasota, Florida 7 February 1971

See Antientropic Ordering Principles

Grid: Crisscross Right-angle Grid in Civil Agrarian Law

Jury: Trial By

Outlaw Area

Patent

Responsibility

laws of Nature vs. Laws of Man

Law; Civil Law:

(2)

See Sea: The Sea, 1971

**Society: Control Of, 1938 Natural, Oct'66 Air Space, May'65 Word
Trenda, May'44 Wealth, 20 Sep'76**

**See Antientropic Ordering Principles Cosmic Law Family Generalized
Law Kepler's Third Law Newton's First Law Newton's Second Law Nat-
ural Law Thermodynamics: Second Law Of Physical Law**

See Parity, 1960

Synergetics, 19 Jun*71

JAH: tMlscftllaneoua): (1

See Angular Law

Assembly: Law Of

Convex & concave: Law Of

Contracting Universe: Law Of

Cosmic Law Family

Decreasing Confusion: Law Of

Diminishing Chaos: Law Of Evolution: Synergetics Rules Of Generalizations: Law of Contractively Orderly Grid: Crisscross Right-angle Grid in Civil fc Agraian

Law

Probability Laws

Progressive Order: Law Of Reproducibleness: Law Of Rule: Regulation Sphericity: Laws Of Structural Law

Wave Mechanics: Law Of Physical Law

(Miscellaneous):

(2)

See Topolcr: Synergetics &. Eulerean, 28 Oct'73 Structural Sequence, (A)

-tax : (Syagrmica :

See Angular Topology: Principle Of

Design Law

Design Covariables: Principle Of

Functions: Principle Of

Conservation of Finite Universe: Principle Of

Conservation of Intellect
Order Underlying Randomness: Principle Of
Prime Number Inherency is Constant Relative Abundance
Of Structural Systems: Principle Of
Regenerative Design: Law Of
Conservation of Symmetry
Scenario Principle
Synergetic Advantage: Principle Of
Universal Integrity: Principle Of
Unity: Principle Of
Whole Systems: Principle Of
Irreversibility: Principle Of
Lawyer-capitalism:

See Technology: Enchantment Disenchantment, (4) Pirates: Great Pi-rates, 22 Jun*77

Let yer:

"Every layer of a finite system has both an interior, concave, associability potential and an exterior, convex, associability potential. Hence the outer layer of a vector-equilibrium- patterned atom system always has an additional full number 'unemployed associability' count."

- Citation and context at Super-AtollAcs Sequence (3), 5 Nov'73

See Boundary layer

Concentricity Layering Embrace

Shell Growth Rate

Surface / layer

See Hole in the Victrola Disc; 24 Jan'75

LCD Triangle:

120

See Basic Triangle: Basic Disaquillbrlur/LCD Triangle Basic Triangle:
Basic Equilibrium 48 LCD Triangle

Leader:

'Part of the scheme of specialization is that
there has to be a head man.'

- Cite RBF Lecture

Town Hall Lew York

12 ranch 1971

"Mankind will demand that political forces yield to the understanding
that either we all make good together or none of us stays. Nobody
will have to yield to another man's policies--- he'll be yielding to a
computer, so he won't lose face. All sides can win."

- Cite RBF quoted by Tina Jeffrey in the Newport News Daily Press, 1
Apr'73

RBF DEPUUTIUNS

"A new, physically uncompromised, metaphysical initiative of unbi-
ased integrity could unify the world. It could and probably will be
provided by the utterly impersonal problem solutions of the comput-
ers. Only to their superhuman range of calculative possibilities can
and may all political, scientific, and religious leaders acquiesce."

- Cite RBF quoted by William Kuhns in POST-IN DUSTRIAL PRuPHETS
(Harper-Colophon) p. 243. 1971

"No opposed politicians may ever yield to their adversary without a
trial of relative strength. To yield prior to such a trial of strength is to
be either a traitor or a funk.

Trial of ultimate political power, in international Malthusian- Darwinian terms, always lead to war. For this reason political leaders avoid arbitration by third parties as subject to subtle corruptibility. But gradually society in general and its political leaders are beginning to yield mutually to computerized solutions of lethally vital disputes where the computer has been given the problem in the terms of the question: in which way do most sides profit the most?"

- Cite SENATE HEARINGS, p.6, 4 Mar'69

KBF DEFINITIONS

"You may very appropriately want to ask me how we are going to resolve the ever-acceleratingly dangerous impasse of world- opposed politicians and ideological dogmas. I answer, it will be resolved by the computer. Fan has ever-increasing competence in the computer; witness his unconcerned landings as airtransport passengers come in for a landing in the combined invisibility of fog and night. While no politician or political system can ever afford to yield undeiijjtandably and enthusiastically to their adversaries and oppressors, all politicians can and will yield enthusiastically to \square MLUUUSMaBnKOH* SOn the computer's safe flight-controlling capabilities in bringing all of humanity in for a happy landing.

"So, planners, architects, and engineers take the initiative. Go to work, and above all co-operate and don't hold back on one another or try to gain at the expense of another. Any success in such lopsidedness will be increasingly short-lived. These are the synergetic rules that evolution is employing and trying to make clear to us. They are not man-made laws. They are the infinitely accommodative laws of the intellectual integrity governing Universe."

- Cite 0 Ph HATING MANUAL FOR SPACESHIP EARTH, pp.132-133, 1969
- U1UB Leaders Can Yield to the Computer:

"Since man's fear conditioned reflexes prevent him from voluntarily freeing his spherical space ship from its success paralyzing sovereignties, we must look to the computers to clarify the ways in which success for all may be found. No politician can yield to another politician but all politicians can--- and eventually will--- yield to the complex problem solutions of the computers. First of those steps to be taken through complex computer analysis will be to stop humanity from trying futilely to compete with the machines as real wealth producers, and instead granting each unemployed human being lucrative fellowship to re-enter the educational processes and, where logical, to engagement in research and development of the doing more with less technologies."

- Cite NEWSWEEK, "Architecture, The Present Scene," p. 10 undated

Leader*-Can Yield to the Computer:

See Politics, 11 Aug'70

Politics: Accessory After the Fact, 12 Aug'70 Politicians, 31 Jul'69; Ear*70 World Game, Mar*70; (I)---(III)

"Keep all the world's political systems in force and all the world's politicians and political workers at work, and at the same time take all the machinery of industrialisation, all the tracks, pipes, and wires and dump them in the oceans away from all the countries of the Earth, and in six months two billion people, half of humanity, will die of starvation.

"Lacking the industrial tooling, no political system could alter that result.

"But, taking the contrary, leaving all of the machinery, wires, pipes, and tracks in place, and all the humans who now operate them, at their daily tasks, but take away all of the world's politicians of any and all ideologies and send them and their party workers on a trip around

the Sun by a slow speed rocket ship, and all those who are now eating will go on eating, and with all the sovereign nations' barriers unmanned, the foods will begin to cross borders and the resources will be integrated and soon all of humanity will be eating and prospering."

- Cite RBF in interview by George J. Barmann, "Plain Dealer," Cleveland, 4 Jul'72

••Take away the energy-distributing networks and the industrial machinery from America, Russia, and all the world's industrialized countries, and within six months more than two billion swiftly and painfully deteriorating people will starve to death. Take away all the world's politicians, all the ideologies and their professional protagonists from those same countries, and send them off on a rocket trip around the Sun and leave all the countries their present energy networks, industrial machinery, routine production and distribution personnel, and no more humans will starve nor be afflicted in health than at present."

- Cite CITIZEN OF THE 21st CENTURY LOOKS BACK, U. or O Chan. 1
1 Apr'67 *

"At the present moment, we could take all the machinery from all the countries around the world, all the railroad tracks, all the wires, etc., everything we call industrialization--- and we could dump this all in the ocean. Within six months two billion people would die of starvation, having endured great pain. On the other hand, supposing that we take away instead every politician, all the ideologies, all the books on politics- and send them into orbit around the Sun. Everybody would keep on eating as before, down will go all the political barriers and we would begin to find ways in which we could send the goods that were in great surplus in one place to another. So people may even begin to eat a little better--- in a hurry. This could not be said before."

- Cite THE YEAR 2000, reprinted in AD, Feb*6?

"To start with here is an educational bombshell: Take from all of today's industrial nations all their industrial machinery and all their energy-distributing networks and leave them all their ideologies, all their political leaders, and all their political organizations, and I can tell you that within six months two billion people will die, having gone through great pain and deprivation along the way.

'•However, if we leave the industrial machinery and their energy-distribution networks and leave them also the people who have routine jobs operating the industrial machinery and distributing its products, and we take away from all the Industrial countries all their ideologies and all their

politicians and political machine workers, people would keep right on eating. Possibly getting on a little better than before.

'The fact is that now--- for the first time in the history of man for the last ten years, all the political theories and all the concepts of political functions--- in any other than secondary roles as housekeeping organizations--- are completely obsolete. All of them were developed on the you-or-me basis. This whole realization that mankind can and may be comprehensively successful is startling." » Cite WORLD GJKg (2), "Take the technological tools of industrialization away from U.S.A, Russia, France, China, England, West Germany, Japan, and Italy, and leave them all their respective ideologies, and within six months two billion world humans will die of starvation. Contrariwise, take away from those eight sovereign states all their political ideologies and political leaders, and leave them their industrial tools and human operators and their habitual daily production and distribution system network tasks, and no more will starve, than are starving now. New gap-filling pro tempore leaders would spring up everywhere, overnight, with emergency-gained authority who would make things work as well and probably better."

- Cite GEOSOCIAL REVOLUTION (4), pp.180-181, 1965

Lgadgrg: Leadership:

(1)

**See Anticipatory Divide & Conquer Divide k Conquer Sequence King's
Sign Invisible Masters Pirates: Great Pirates Politicians President of
the U.S. Realm Rule Whitehead's Dilemma No Leaders**

See Biosphere, (2)

Child Sequence, (1)

Communications. 8 Feb¹71

Economist, Feb*73

Problem: Statement Of, 1954

Specialization. 12 Ear*71> 5 May'72

Money, 4 Feb'68

(2)

Depression: Great Depression of 1930'8, Womb Population, (4)

Leavea:

(1)

See fapie Leaf

Petal

Blades of Grass

Leaf: Leaves:

(2)

See Energy, 6 May*48

Leaf:

See Octahedron ae Photoeyntheeie Model, 11 Dec'75

See Minimum Leak Tetrahedron: Leak in the Corners Twist Vertex of Exit

Sea Energy, 19 Dec*73

(2)

Learning:

"All learning has to be within self and has to be related to what you already know."

- Cite RBF to Don Fuearo A. EJA; 3200 Idaho; Wash, de; 18 Jul*76

R0F DEFUUTIOIS

leanilng:

"Don't try to make me consistent: I'm learning all the time."

- UJA, f.Lai.iLY-TTT

Citation at Consistency, 22 Feb'72

Learpn_f;

"It's really a very great world task to get life the information it needs in order to develop humanity's highest potentials; how to get the information it needs in the simplest, almost unself-consciously effective manner. Life with the information will do its own learning. It's not something you can give with a needle. But people have to learn. So how do you provide life with the information it needs to fulfill successfully humanity's function in Universe? I would not like to get up a system and say, 'I have a system,* and try to sell the system to people, but really to see everything we know we can do to help life get the information it needs.

"You don't necessarily have to go through all the grades of school that we usually do before you can start creating wealth. These things are fairly evident. Once human beings really begin to find out how powerful information really can be, they are suddenly able to master spherical trigonometry and make beautiful geodesic structures, and they are eager to make them, ... If you get the right information to people when people want something. You can't get it to them if they don't want it. I never talk to people unless they ask me to talk to them."

- Cite RBF address at Minnesota Experimental City Learning Center

Learning: "I think that anything we want to do to help people has got to be something they ask for when they want it. The appetites of humanity for information are very closely linked up with other chromosomal initiatives. . . . Children ask extraordinarily beautiful questions. They're famous for it. There's no family that doesn't have experience with a child really asking startlingly good questions, that the family can't answer. And the fact that the family can't answer it, this is the time that they really want to know. The kids are asking about the Sun and the Stars, and they want to understand the atoms and the grown-ups can't tell them. The point is that they want to be able to learn for themselves: what they need to know; where to find it. And if you can answer them, they'll develop very rapidly. I don't think humanity understands this self-teaching process.

"Every child is a laboratory." ... I wouldn't start with getting rid of schools. I would start with how to accommodate what needs to be accommodated. I am convinced that life, as born, has many more faculties than has ever been recognised and will grow very, very rapidly if given the chance." - Cite RBF address to I-IXC, Dubuque, Iowa, 15 Dec. »71

Learning vs. Consistency:

See Consistency, 22 Feb'72

"Every time man makes a new experiment he always learns more. He cannot learn less,"

- Cite RBF quoted by Cam Smith in RBF TO CHILDREN OF EARTH, Bec*72

See Universe. 15 Dec*71 Information, 4 Jan'70

**See Education Study Unlearning Learning: You Can't Learn Less
Learning vs. Consistency Crudity is Part of the Learning Trial & Error
Knowing vs. Reasoning**

See Experiment, 1970

Consistency, 22 Feb`72*

Belief, 6 Jul»75

Mistake, 9 Nov*75

Words & Coping, 7 Nov*75

Human Tolerance Limits, (B)(0)

Leaat AavmmetrY:

See Raft: Basic Raft

Least Effort:

"There are only three possible cases of fundamental omni-symmetrical, omni-triangulated, least effort structural systems in nature: the tetrahedron with three triangles at each vertex, the octahedron with four triangles at each vertex, and the icosahedron with five triangles at each vertex."

- Cite SYNERGETICS ILLUSTRATIONS - # 7 1967

See Frame of Reference: Six Schemata, 28 Oct'73

 **See Least Resistance Minimum Effort**

Most Comfortable Omnitriangulated

See Prime Structural Systems, 11 Jul*62; 196?

Ruddering Sequence, (3) Structural Quanta 3 Oct'72 Triangle, 1960
Pattern, 3 Oct'72

KbF UbFINITIUNS

"...Everything invariably moves in the direction of least

"The history of man's creative effort is the story of his struggle to control 'direction*' by the elimination of known resistances.

"To the degree that the direction of least resistance is controlled by vacuumizing the advance and de-vacuum zing the wake, the course of society can be progressively better charted and eventually determinable with a high degree of certainty."

- Citation and context at notion. 1938

See Least Effort Preferred Directions of Least Resistance Most Comfortable

igagy RwlgtanctH
(2)

See Motion, 10 Nov'73 Precession. 10 Jul'62 Universe, 8 Jan'66

Lecturing:

"Every lecture brings a fresh inventorying of experience.

Psychologically, I'd prefer to clam up."

- Cite RBF to Harold Cphen, Washington DC, 27 Apr *71

Lecturing:

"Speakers who appear frequently before large audiences of human beings over a period of years have learned that the eyes of the audience `talk back* so instantaneously to them that they know just what their audiences are thinking and they can converse with their audiences, even though the speaker seems to be the only one making audible words. The feedback by eye is so m swift as to give him instantaneous spontaneous reaction and appropriate thought formulation.*"

- Cite RBF Intro, to Gene Youngblood's EXPANDED CINEMA. P.29 Oct'70 '

LgfiWlMi (1)

"My daughter's a dancer. She's really been a dance!from when she was tiny. She's a professor of dance anthropology at UCLA. And when she was about 12 she said, 'Daddy, you've been brought up in this New England way that teaches you that it's very ill- mannered for men to

show any emotion, and to make their words with the least possible display of MH motion. And as a dancer I know that you're repressing everything important in you, and if you just dare to let yourself move, you're going to find that your thoughts are coming very much more clearly.'

"And she was really so cogent that I was knocked over by this little child; and I decided that she was right and I would try to do it. It was quite a reverse in all the training I'd had--- the Naval Academy and everything else. But today I'm absolutely unaware of my motions and sometimes when I see a film of my lectures, I'm amazed to see that I'm all over the stage like a ballerina. Absolutely unaware of it.

"That first happened to me when I was speaking to the San Quentin prisoners. I was thinking so hard that I closed my eyes and I must have had my eyes closed for half an hour. And when I

opened them I was just teetering at the edge of the stage. That's

- Cite RBF tap to Barry Farrsll, Bear Island, 11 Aug'70

L>ur.ing: (2)

"happened quite a few times when I'm thinking very intensely. If I'm aware of myself, it's no good. Every time you give a lecture it's like an airplane loaded with fuel. You need that runway. And when you take off is when you become unconscious of yourself."

"My wife is Just fantastically faithful. She must have been to 500 or more lectures. She thinks the half-hour ones are the best."

- Cite transcript of RBF tape to Barry Farrell, Tape #2, Side B, p.5; Bear Island, 11 Aug'70

Lecturing:

I don't ask anybody to believe anything, ever. So it takes a long time to cover all the points of departure. I really must tie everything together and take as long as it takes. I can do it in about 55 hours: (times 7,000 words makes 385,000 words)."

- Cite transcript of RBF tape to Barry Farrell. Tape #2. Side A p.4; Bear Island, 11 Aug'70 ' '

Lecturing:

"You may think I am taking up a lot of your time," he tells audiences during the third hour of a four or five hour lecture, "but I don't think that man has much time.

- Cite RBF quoted in Queen, May *70

"I've learned many years ago that it is quite possible to think out loud and I find that it is quite an extraordinary habit--- about how live meetings are. People will be at meetings at which I am present and will take a piece of paper out of their pockets and start to read me a speech, and I'll say, "Let me have the paper, I can read it myself.* What I think really counts is the fact that we don't have the slightest idea what happens in our lives. This is something very mysterious and I'd rather look in everybody else's eyes--- I'm not interested just in hearing myself, and unloading some ideas. I'm interested in the many meetings in my life, in how we mutually may be able to find out why we're here, and what we ought to be doing about it, if possible."

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb '68, p. 1.

See Eye-beamed Thought

Feedback by Eye Fuller, R.B: Lecture Invitations Question Period

Slides: Graphics vs. Words

Slides: Use of Slides in Lecturing Speech

Thinking Out Loud

See Bibliography, 2 Jul'62

Communicating, (1)(2)

Puzzle of Washington Crossing the Delaware, (1)(2)

Rope, May*72

Mental Mouthfuls, 9 Jul` 62

Intuition as Remote Cosmic Transmission, 29 Jan'75 World-around
Communication Transcends Politics, (2) Communication, 21 Jun'77

RBF DEFINITIONS

Left Hand; Right Hand:

"Now what we call thinkable is always outside-out

what we call space is just exactly as real, but it is inside-out. There is
no such thing as right and left!"

- Cite RBF was
1 May 1972

- Citation at

fHHBf, ¹ May Parity

• 71

Left 1 Right:

"Human beings were given a left foot and a right foot to make a mistake first to the left, then to the right, then left again and repeat. Between the over-controlled steering mistakes they inadvertently attain the---between the two- desired direction of advance. This is why physics has found no straight lines---they have found a physical Universe consisting only of waves.

- Cite RBF Ltr. to Bro. Jos. Chuala, p.3; 7 Nov'75

Left & Right:

"I think your words 'right*' and 'left' should be replaced by the nonequal and opposite words 'positive*' and 'negative*'. The present dilemma of science in respect to 'parity' of right and left image amuses me because I had rejected right and left concepts in energetic-synergetic geometry. Right and left implied a two-dimensional reality, of infinite thinness. I had long ago discovered that systems had inherent convexity and concavity and required irreversible turbinizing of their omnigearred Universe event relationships. Inasmuch as all systems could be turned inside-out, having inherent insideness and outsideness, I discovered that mirror reversal of the rubber glove from one hand to the other could be accomplished without reversal of the finger-wrist axis...**

- Citation and context at Tetrahedral Dynamics (2)0), 4 May*57

See Non-mirror Image

Science: Left Hand & Right Hand Science Zigzag: Right-left: Halfway Averaging Walking

Steering: Steerability

Enantiomorph

Handedness

Mirror Image

See Democracy, 13 Nov'69

Parity, Jun'66; 1967; 1 Hay'71» Tetrahedral Dynamics (2)(31* Triangle, 1967; 20 Jun'66 Crystallography, 17 Aug'70

Invisible Quantum as Tetrahedral Gap Closer, 23 May'75 '

Mistake, y Nov'75 Feedback, 7 Nov'75 Human Beings a. Complex Universe, (3)

KBF UiiFiNITIUNb

Legs:

- Cite KBF as quoted in KULLihG bTuNt, 10 June 1971

"Fin was designed with legs— not roots.

- Cits I SEUi TO BE A VERB, Bantam, 1970

Lens:

- Cite Edw. C. Higbeo Introduction 26 Aug. *66, quoting RBF.

See Deployment: Man*a Increaeing Deployment Pattern Locomotion:
Radius of Man's Locomotion Mobility

See Locomotion: Radius of Man's Locomotion, (1) Human Unsettle-
ment, (4)

Lege:

(1)

See Edge

Female Leg Grasshopper's Legs

Uaas

(2)

See Planet Earth, 12 Feb*72

See Christian Legend &. Philosophy

Myth

Legend

Parable

See Fuller, R.Bs The Thinking Me, a8 Dec'76

Loibniti:

982.81

Lflbnltl • Gottfried Wilhelm von: (1646-1716):

See Blind Man's Bluff, 1 Oct'71

Lending:

See Half Octahedron: Lending Model

tending * Borrowing;

See Vector Equilibrium: Lending & Borrowing Model

Length: Longevity:

'Time and heat and longevity and weight are inherent in every dimension. . . "

- Citation 1 context at Dimension. 21 Dec*71
- erm Bng I.MTJa, iann__ Tdei. .f_ wa <h n

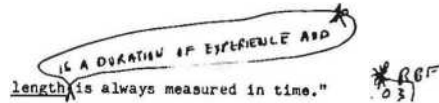
Length:

"/hat we call

- Cite RBF Lecture Town Hall, New York

12 Larch 1971

-f.it \$2.7



KBF DEFINITIONS

Length:

"The overall longitudinal length of \square wavlllnear vectorial lines is determined by the number of waves contained."

- Cl&SYN&&Ctt'XJLUA_Ciu ullariea11 m

Haverford-, PA***.,, ' »

- Citation at Wavlllnear, 11 Oct'71

Length:

"Length is distance. Distance is measured in time.

Time increments are calculated in respect to a variety of cyclic regularities manifest in our environmental experiences.¹¹

- Citation at Time. Jun'66

Length-Jo-alrth Ratio:

See Cigar Shape Push-pull Slnderness Ratio Tension

See Chemical Bonde, (1)

Gravity, 7 Feb* 71; 2 KarBj 15 Oct'64

Ruddering Sequence, (5)

See Vector: One-second Vector Length

Height, Length k Width Longevity Equilength

See Dimension, 21 Dec'71* Equiangularity. 25 Sep'72 Sixe, (1) Time,
Jun*66* Wavilinear. 11 Oct'71* Standard, Jul'71

"This star tetrahedron name was given to it by Leonardo da Vinci."

- Cite SYNERGETICS draft "Antitetrahedron, 8 Oct. *71.
P. 7.

"Leonardo da Vinci was apprised of the natural principle of mechanically functioning structures, but he had neither the precise materials to be highly use-effective teleologically nor the possibility of evolving them out of anything at hand to correspond with their efficiency as observed in nature."

- Cite NINE CHAINS, p. 176, 1938

Leonardo Type:

"Central to the intuiting of those who in history have proved themselves to be creative scientist-artists of the Leonardo type has been the spontaneous teleologic translation of past experiences into their objective designing. They all manifest in their work and record in their letters and diaries a prime intuitive regard for their potential and kinetic energy- coordinative experiences and for the full family of motion freedoms.

"Attaining and maintaining intellectually informed creative competence involves the antithesis of specialization. ..."

- Cite HYPER, World Mag., 10 Apr'73

"Now all this time the Leonardo, or artist, type was making one thing at a time for his patrons, 'When I was young the Victorian era was absolutely rampant and downtown there were beautiful cabinetmakers making beautiful cabinets for the rich middle class or the nobles. In other words, the artist made the end product with his own hands. They were good at developing more and more artists, digging art into almost everybody. It was being very greatly cultivated. Now in the new era the artist-Leonardo said: 'There are not enough artists to make end product for everybody by hand.' So what has to go on from now on is the artist-scientist-Leonardo type who makes designs for tools and the tools make the end product. And the tools require a lot of power; and we now have the relaying of power. We have the waterwheel. We can generate electricity, and so forth. Then all of our machinery you will find is all leverage... Various forms of levers. For the gears are just a series of levers— all tied up to an enormous entity much more than the muscle of man. So that we really is the beginning of what we might call the mass production era."

- Cite Univ. of Alaska Address, p.7 20 Apr '72 • 'There have been men in our history who have become well-known to us by virtue of their tool-inventing and tool-using capabilities; and their conceptualizing of tasks they could do— tasks they have done on behalf of their fellow men. I will simply call this kind of man the Leonardo-type. He was a very comprehensive toolmaker, tool-conceiver, tool-user, and a large problem addresser and solver."

"In the middle of the 20th century Henry Ford may be identified as the great Leonardo-type, even though he would be absolutely astonished. He thought of his work as utterly prosaic, but he might then be thought of as having Leonardo-type conceptualization. And the idea was that from this point on the artist makes tools and the tools make the end-product, and this is mass production."

- Cite COI-KITKIT TO HUMANITY, p. J2. May'70
Leonardo Type:

"Leonardo types seem to have avoided attempting to reform the metaphysical environment. They are documented only for their employment of the metaphysically generalized principles to reorganize the physical constituents of the scenery, apparently assuming intuitively that a more man-favoring rearrangement of the environment would be conducive to humanity's spontaneous self-realization of its higher potentials."

- Citation and context at Bridge. 13 Nov'69

Planetary Planning, pp.69-70; 74-75; 81-82; 86-87; 91, U Nov '69

RBF Address to International University of Art, Venice, 1971 in toto

Univ, of Alaska Address, pp, 4-5, 20 Apr '72

Earth, Inc, (RBF Reader, ed. Meller), p.232, 1947

637.01

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1210 (p.738

See Artist-sciential

Ford, Henry

LgnardQ Typg:

(2)

See Bridge. 13 Nov¹69 Intuition of the Child (3)

See Learning: You Can't Learn Less More With Less More & More
About Less &• Less

See Resource Inadequacy, May*72

KBF DEFINITIONS

Letters of the Alphabet:

. All patterns, for instance, nuabers or phonetic letters, consist of physical ingredients and physical ingredient recalls. The physical ingredients consist inherently of event-paired quanta aad the latter's six-vectored, positive and negative, actions, reactions and resultants ..."

- GltK

- Citation at Iuwb: Jun'66 Number. Jun'66

Letters of the Alphabet:

See Phoenician, 28 Jan*75

Lever:

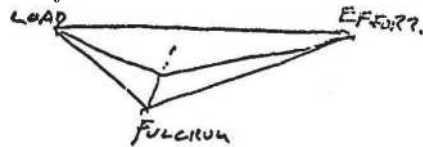
"The lever is a tetrahedron."

/ "See acompanying sketch ,J

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara ,10 Feb'73

'T&e- <L s t r

A- f->-



Lever:

"The principle of leverage ie a scientific generalisation. It makes no difference of what material either the fulcrum or the lever consists--- wood, steel, or reinforced concrete. Nor do the special case sixes of the lever and fulcrum, nor of the load pried at one end, or the work applied at the lever's other end, in any way alter either the principle or the mathematical regularity of the ratios of physical work advantage which are provided at progressive fulcrum-to-load increments of distance outward from the fulcrum in the opposite direction along the lever's arm at which the operating effort is applied."

~ Cite SYNERGETICS draft. Chronicle, pp. 4-5, from NehrusSpeech as rwwritten by RBF j Jun'72

"The lever work# whether it ie wood, steel, aluminum, fiber glass, or even reinforced concrete. Reinforced concrete can make a lever. The principle of the lever: that is, balancing the arms from the fulcrum over to the load and then on to the lifting arm on the opposite side of the fulcrum to go out one increment of distance between load and fulcrum and you have an even advantage: to go out with ten such lengths, you can lift ten times as much weight, and so it goes. If the distance is one foot from the l&ad to the fulcrum, and you go out on the lever arm ten feet, and you weigh 200 pounds, you will be able to lift ten times 200 pounds, or exactly one ton on the other end of the lever.

"So little you could lift one tom. I should say 'little 200- pound you' could lift one ton. That would be ten times your own weight; that is my main point. And the main point about the lever is that it doesn't have to be wood. It can be any kind of material and it can work anywhere in the Universe, Whereas your experience with the lever is always one specialcase lever--- a wooden one, or a steel one-- and any that you"

- Cite RBF Preface to Henry Malcolm's "Generation of Narcissus." 5 Feb'71

RBF DEFINITIONS

(11)

"can design will always have to be special case. There is ths general mathematical principle. • .

- Cite RBF Preface to Henry Malcolm's "Generation of Harcissus * 5 Fob'?1

Lever:

"The generalised principle of leverage

Holds true in all cases

De the lever rfood, steel, aluminum, Or reinforced concrete."

- Cite GENERALIZED PRINCIPLES, p.1, 28

JAWC: (I)

"You might think about the total of all our mechanic# as being eome-thing done in terms of levers. Men ware learning how to develop higher advantage gainable out of the use of the hands with a lever and then learning how to capture free energy patterns, bring them into focus, and bring them on to the ends of the lever. For instance, a waterwheel is really a series of levers, first one lever and then another lever--- get out on the end of the lever where you can do the most work, move from the center of the hub, the radius of the waterwheel being the length of the lever. You present a series of levers and you learn then to take the great energy pattern of nature: atomizing the waters and making them into clouds and then coming down as rain and landing on the top of hills and coming down the hills as rivers. We learn to take the energy pattern of the waterm rushing to the lowest level; and they exploited gravity then by canalizing that water into reservoirs and then being able to let it out of the reservoirs at the time they wanted to do the work. So they had it coming out specifically, landing on the blade of the waterwheel.^{1'}

"Man suddenly developed a way in which he organized the energy*

- Cite Oregon Lecture 31, pp.3-4, 1 Jul'62

Layer:

"patterns of nature with the principles of leverage so that he could stand off and the work could go on in a preferred nanner. This is really the essence of everything we are going to talk about in mechanics and industrialisation*"

- Cite Oregon Lecture fl, pp.3-4, 1 Jul*62

Leverage-augmentation:

"The original chaotic disposition of the 92 chemical elements is gradually being converted by the industrial principle to orderly separation and systematic distribution over the face of the earth in structural or mechanical

arrangements of active or potential leverage-augmentation."

- Citation at Industrial Principle. 1 Jun'49

"Environment controlling artifacts consist essentially of structures & machinery.

Mechanical advantaging environment controls consist of lever complexes.

Gear trains and turbines are lever complexes."

- Citation & context at Environment Controls (1)(2), 31 May'74

"If we find any exception

We no longer have a scientific generalization.

Scientific generalizations are extraordinarily meaningful,

As for instance was the discovery Of the principle of leverage.

Which probably came about as follows:

Occasionally humans who have penetrated

Wilderness forests

Encounter trees fallen slantwise

Across their line-of-sight path

In their chosen direction of travel.

"It is oabviously quffcer

To climb over the fallen tree

Than to try to walk around it.

They find it logical
To walk along the top of the fallen tree
When it leads in the direction of preferred travel
Or toward the next opening in the forest.
As they walk along the horizontal trunk
They feel the tree to be progressively sinking.”
- Cite BRAIN & LIND, pp. 136-137 I-lay »72

**On which Is lying And then That the Opposite In which Is itself
superimposed**

LgX^er: Fallen Tree as a Lever;
”As they move farther it tips earthward At a faster rate.
They retreat —
Back along the tree trunk.
Experimenting, they find the tree they are walking across another tree, they observe
end of the tree behind them, to the direction they were walking,
(B)
By a third and very mighty tree.

**"Looking the situation over they find That as they walk outward---
journeyward--- Along the first tree
That its slow but* accelerating descent Coincides with the other end's**

Lifting the trunk of the massive tree.

Never having heard of a lever Or fulcrum,"

- Cite BrtALL &. KIM), p.137 Kay '72

‘ ‘ They say, 'That big tree which is being lifted Is much too big for me
to lift.* They go over to the massive tree And attempt to lift it directly
With their arm, back and leg muscles. It doesn't budge.

"Shaking their heads in surprise, They once more try walking along On the first tree.

Again the massive tree rises easily.

And Neanderthal man probably thought As it rose

That he had found a magic tree-lifting tree. And he probably dragged it home Where the tribe worshipped it Until suddenly his wife said, 'Any tree will do that lifting.* And sure enough,

Not only would any tree do But so too would any steel bar, Or glass reinforced plastic bar,

- Cite BRAIN & KIND, PI .137-138 May *72

Lever, ' Fallen Tree as a Lever: (D)

"Or any small-toothed gear, Or a large-toothed gear.

"this man discovered

A true scientific generalization

Which always holds true

Under any circumstances.

The lever works equally well

Anywhere in Universe.

It can be made of many materials, It can be of any size.

Its behavior follows incisively predictable

Mathematical laws."

- Cite BRAIN 4. p.US Kay >72

MBF uaFinniuho

"For instance, we have the principle of the lever. The lever is nothing by itself, . /e have a bar, a fulcrum, and a load and then the application of effort on the other end of the lever arm with a minimum of the levering function, Using the distance from the fulcrum to the load as a

basic increment, we discover that going one unit on the lever arm outwardly produces an even balance. Going two units outwardly makes it possible to lift twice that amount, in this way little man has been able to lift large tonnages with his little tiny weight, where only maybe a 200-pound man can lift a ton with his lever. I'm sure the first lever discovered by man was a fallen tree, where one fallen tree would lie across another fallen tree. When by accident he stepped on the tree that was lying across the other one--- he saw that his standing on the other end made the big tree lift. He discovered the lever. . . The lever can be of wood; it can be of steel; it could be of aluminum; or it could be of reinforced concrete. It could be many, many substances and we discover that the human mind is able to discover a principle and the mathematics of it. It learns that subjectively. But then it can also employ the principle

- Cite RBF at SIF.S Seminar, U. Mass., Amherst, 22 July '71, D.7.

"objectively. But in employing the principle

objectively, man cannot design a generalized lever. It must be a specific lever, a special case lever, again either wood or steel, six feet long or ten feet long, whatever it might be. So the human mind has the ability to recognize generalized principles which, in order to be principles, must be eternal, we have then the human mind demonstrating a contact with the great eternity and able then to modify within our present life various physical ways."

- Cite RBF at Students International Meditation Seminar, U. Mass., Amherst, 22 July '71, pp. 7-8

"Out of industrialisation came the ability to do very large things in very big ways. But I'd like to get down to something rather more fundamental. What man then has to discover is generalised principles. In literature, the word 'generalisation' means trying to cover too much territory too thinly. In science the word refers to the discovery of a principle that holds true in every case; if you find even a single exception, then it is no longer a generalized principle in science.

"Consider, in ancient times, a man like any of us going through the woods from time to time, woods where men have not gone very often. Trees, fallen in great storms, are strewn across one another, and he tries to reach his destination as directly as he can by climbing over them. As he climbs over one of the trees, it begins to sink with him slowly and he moves back for a moment and then comes up again to the same place. As he walks on the tree and it sinks lower and lower, he wonders what's going on. He looks at the tree and sees that it's lying across another one, the other end of which is under a very big tree--- and as he moves out farther that enormous tree is being lifted, and he says: 'I never lifted a tree like that.' He goes over and tries to lift it with his muscle and finds that he can't"

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

LAIfTx: Fallen Tree as a Lever; <^b>

"budge it* But standing back on the fallen tree, sure enough he can lift it. Now I suspect this myth must have gone to his family with talk of a magic tree, a very special tree that would be brought home and kept around for a number of generations. But then one day someone must have found that any tree would do. Now, as a generalisation, that is the beginning of the lever.

"With that lever, man was able to move things he couldn't move with his own muscle. He began to move large rocks around and develop monumental defenses. Then the great pirates began to use levers in big ways. They set their slaves to rowing ships, which now could go windward with the rowing ship (something the wind alone would not let them do). They then began to have very much bigger ships, and they had to find a way to anchor them. The anchor, which of course had to be recovered when not in use, was made of metal and was very heavy. So they developed those same levers into a capstan around a shaft that the slaves® pushed around horizontally--- and up came the anchor. Later, man found that he could turn the shaft around vertically and from this came water wheels. Man had time and again felt the potential force of falling water (under water falls and so forth)

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

"Now men mounted a wheel on a shaft and bearings, and they put pulleys and then belts up into buildings to do all kinds of work. This was the beginning of man's discovering generalized principles and using them to channel energies from the atmosphere. In this case, the Sun is elevating water out of the sea into the sky until it returns down the hills to be channeled to the ends of levers to do man's work. From this point on, the big task of man was to use his mind to find ways of doing work very much greater than his muscles could possibly do, by mastering and channeling energies of the Universe onto the ends of levers,"

- Cite RBF in Franklin Address, Auburn, Ala., 1970

Lflygr* Fallen Tret a_g a L_{eYcr}:

See Wheel, 9 Feb*64

Lever:

Saturn Films Transcript, World Camo,
608.02-608.03
614.06

Jun-Jul*69, pp. 91-93
8533.08
8533.12

614.07

615.02

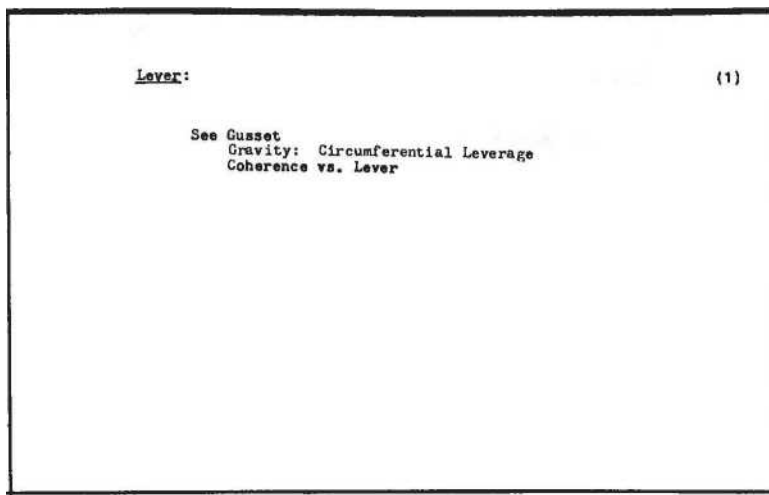
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1051.50-1051.55



See Buckle, 10 Nov¹73

Coherence, 11 Feb¹73

Continuous Man (4)

Energy, Jun*66

Industrial Principle, 1 Jun'Ly

Mass Production: Inadvertence Of, May*72 Mind (2) Precession (b) ;
(II) Radiation, 18 Mar+63 Waterfall. Feb*73 Conservation of Energy,
18 Ear*6\$ Technology. 21 Jan'75 Necklace, (A)(B) Triangle, Nov'71
Equilateral, Nov*71 Surface Strength of Structures, Mar'72 Creation,
29 i<ar* 77

Library:

(D

See Brain as Library

Library:

(2)

See Brain, Jun¹66 City, (B) Communications Hierarchy. (3) Relation-
ship Analysis, (1)

See Omnibrum

License:

See No License to Be Of Service:

Lfi: Telling A Lie:

*... The point is that the experiences are multiplied. It includes the
people who move the furniture of the information around and put it in
conditions it had never been before-- called telling a lie, or prevaricat-
ing. But they will have to be dealing with that furniture of experience."

- Citation and context at Universe. 16 Jun'72

Lies;

"There are people who lie to you but the furniture of their lies are re-
alities. They say they put the chair in the
corner over there but they didn't. There is a chair and there is a corner
so manipulation of the data doesn't bother you in the terms of these
experiences."

Cite Oregon Lecture #2, p. 58.2 Jul >62

Liea;

See Lying Truth 4 Nontruth

Life:

"The chemical atoms are all physical; whereas the phenomenon life is utterly metaphysical. Life is the fourth, now-you-see-it-now-you-don't, quantum. The metaphysical mind employs these organically regenerative, subjectively interacting, sensing, storing, and intuiting devices, as well as all the organism's unique, objectively articulate faculties to harvest critically relevant information."

- Citation & context at Man:: Interstellar Transmission of Man (B), 9 Jun'75

Life:

"Since 'life' and its comprehending mind are only metaphysical, weightless, sizeless. and immortal, there are no physical environmental conditions within which" humans "cannot cognitively prosper.

"...Those who speak of the 'chemistry of life' are unwittingly self-misinforming. Life is not chemistry. Life is not physical. Life is indestructible, immortal, eternal. Life is only weightlessly and omnipresent."

- Citation & context at Human Mind & Physical Evolution, (6)M, 5 Jun'75

LUft:

"Life--- so far as we know it--- is a physical experience and it is not only physical, it is structured."

- Cite RBF in "Panorama" 4TTG-TV broadcast, <Vash. DC, 7 Apr'75

"Life is a synergetic phenomenon that 1« between, and not of, the metaphysical.*

- Citation & context at Metaphysical & Physical, 22 Jan*75

Lj

"The awareness we speak of as life is inherently inroortal and equi-eternal."

- Citation and context at Pure Principle, 10 Feb'73

Life:

"The lag is the whole of life. It is lag and aberration."

- Cite RBF to Brendan O'regan, enroute Cleveland, 23 May'72 Context at Rubber Glove. 23 May'?2

"Life may well be a dream, A comedy and tragedy Of errors of coneep-tioning Inherent in the dualistic Imaginary assumption Of a self differ-entiated From all the complex otherness Of reasonably conceivable Universe For it must be remembered That no human has ever seen directly Outside himself,"

- Citation and context at Sensorial Identifationof Really
RbF DaElhITXUNS

Lif e:

"Since whatever life may be,

It has no weight, As has been discovered By weighing individuals

At the moment of their dying."

- Cite BRAIN & KIND, p.170 May '72

Life:

'But as long as self-consciousness continues The inherent inexactitude of

Blthian mind's self-and-environment apprehending--- Yclept life--- will continue Only as a dependent function Infinitely subordinate To cosmic totality.

"But life will--- ever and anon--- Experience inspirational glimpsing Of the orderly cosmic vectors All of which point convergingly to absolute--- Ergo incomprehensible to temporality--- Truth."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH, Jan '72, pp. 8-9.

Life :

"Life is metabolic regeneration."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. '71.

Life:

"A cone is simply a tetrahedron being rotated. Omnidirectional growth--- which means all life--- can only be accommodated by tetrahedron."

τ a 5 -Attgtujr~T9?». .

- Citation at Tetrahedron. 2§ Aug*71

"Life, and the Universe that goes with it, begins with two spheres: you and me. « . and you are always prior to me."

- CITE RBF marginalia on Synergetics draft Sec. 223.31- 19 Jun '71

Life:

. The regeneration of the Universe probably depends on these local monitors of very high capability ... to solve very complex problems. Certainly our lives manifest just problems, problems, problees. Nothing could be more descriptive of life than problems, . . . But we have a beautiful sotting capability."

- Citation at Problem. 2 Jun'71

Life:

"Life is the Now event with its reaction Paet and resultant Future."

- Cite RBF Marginalia, STNERGET1CS Draft (Conceptuality, Life)

TTfJ- 53/.a/]

Life;

"Universe is omnisymmetrical. Butw it is locally asymmetrical. This is what makes life so interesting." "You can only see the asymmetrical. You can't see the total."

~~—rTIT'Twpr tsissHB<n1L nmr lu r.ll aRd~HU!U_T lIHcagw, JI toy J7*«~~

- Citation & context at Asymmetry, J1 May'71

Life:

"Life is high pulsative asymmetry."

- Cite RBF tape transcript Blackstone Hotel, Chicago, 31 May 1971, p. 51.

Life:

"Only life's temporary vehicles Can be destroyed.

"Life is inherently immortal."

- Cite Dreyfuss Preface, "Decease of Meaning " 2B April 1971, p. 4

Life:

"Organisms are machines, Life is not the organism-machine.

Theorganic residues progressively disassociate And reassociate chemically.

Only the physical reassociations

Are organic machines

Which are inherently temporary Evolutionary formulations.

"Life. love and its mind

Are eternal--- metaphysical--- weightless--- And forever reinvestible
In temporal reformulations, As limited degree assignments, Suitable
to mind's solution

Of complex, local evolutionary problems Implicit in th eternally re-
generative Scenario Universe.'*

- Cite Dreyfus Preface, "Decease of Meaning

28. April 1971. p. 3

Life:

"Life is the eternal present in the temporal. Lach individual life is a
special case articulation of the infinite variety of 'scenarios' to be re-
alized within the multi-degrees of freedom and vast range of frequen-
cies of actions that are accommodated by the generalized laws gov-
erning Universe, tftth death the individual loses nothing, but gains the
insight and knowledge of all others as well."

- Cite SYNERGETICS Draft - "Conceptuality: Life" - RBF Marginalia,
Somerset Club, Boston - 2\$ April 1971

Lif<? 53/'

Life;

"What we call life is a complex of multidimensional oscillations an3
"palpitations between various degrees of positive and negative asym-
metries, whose multi-variant lags in conceptioning bring about what
seems to be temporal substance. The complex woof of¹ a plurality
of lag rates--- produces pure weightless metaphysical images-- pro-
duces the awareness we speak of as life.

- Cite SYNERGETICS Draft - "Conceptuality: Life" - RBF Fhrginalia, Somerset Club, Boston, 25 April 1971

Lt er SEC. 59/

Life:

"Life is visible and invisible but immortal,"

- Cite RBF holgraph, Somerset Club, Boston, 22 April 1971.

RBF DEFINITIONS

Hilts

"Life is the difference between temporality and eternity. Our individual life is a special case. Death reverts to the whole. It may not seem satisfactory, but the individuals survive in awareness because they are potential to the whole--- like an average of plus (+) and minus (-) weights.

"So what we call life is escalation between various degrees of asymmetry, or lags in conceptioning, which brings about what seems to be the temporal. The plurality of lags is the apparent explanation of the awareness we speak of as life itself. Lag is the same as interval. Instantaneity would eliminate otherness, time, self-and-other awareness. Instantaneity and eternal are both timeless: they are the same."

Cite RBF to EJA, Beverly Hotel, NYC, 13 Mar' 71

Life:

"'My life' is the progressive harvestings of the information unpredictably accruing in the attempt to be both adequate and accurate. The harvest is stored in the brain bank. Life consists of alternate observing and articulating interspersed with variable-recall rates of 'retrieved observations' and variable rates of their reconsideration to the degrees of • understandability,'"

- Cite SYNERGETICS text at Sec. 513.06, 25 Mar'71

Life;

"Life consists of observing and articulating."

Cite draft-4

- Citation and context at fHMHHMMBHB Observing vs. Articulating.
Mar¹71

Life:

"The concept of life Is unique to the mind. Brain apprehends Only the physical.

Brain does not differentiate life and death.

* Citation at Brain & Mind, 28 Jan'69

Life:

"... i/hatever life may be it has not been isolated and thereby identified as residual in the tiolggical cell. ... No life per se has been isolated

"/.hatever else life may be we know it is weightless. At the moment of death no weight is lost. All the chemicals, including the chemist's life ingredients are present but life has vanished. The physical is inherently entropic--- gives off energy in ever more disorderly ways. The metaphysical is anti-entropic, methodically marshalls energy. Life is anti-entropic. It is soontaneously inquisitive. It sorts out and endeavors to under

stand."

"The inanimate alone is not only omni-present but is alone experimentally demonstrable."

- Cite KEHRU, ?b. 38-39> 13 Nov'69

Life:

"Life is physical and antientropic."

- Citation and context at Animate and inanimate, 4 b'ar'69

Life:

"Life is orderly energetic regeneration in Universe.

**Humanity experiences spontaneous contentment, satisfaction hope,
and aesthetic pleasure in the presence of an abundant reproduction
of the essentials."**

- Cite GENERALIZED LAWS OF DESIGN, p.3, 22 Apr*68

"The biological corpus

Is not strictly 'animats' at any point.

**Within the order of evolution as usually drawn Life 'occurred as a se-
ries**

Of fortuitous probabilities in the primeval sea.

It could have been sent or 'radiated' there.

Not as primal cell, but as

A fully articulated high order being

The life integrities are apparently

Inherently immortal."

- Citation at Pattern Integrity Oct'66

Life:

**"Humans about to die in hospitals have been carefully weighed as
life departed. No weight was lost. Whatever life is, it is imponder-
able."**

• Citation and context at Death: Weighing of People As They Die
10 Oct'63

Life:

"...Life in a series of compounding degrees of complexity--- of possible- into probable interactions, separations, and substitutional relaying."

- Citation and context at Intellect, 16 Aug*50

Ufa:

"Ufa in retrospect, however, may be informatively discovered to have been comprised of a progressive series of interruptions and penetrations of the successively latest a priori environment continuities--- by unfamiliar frequencies or biodynamic groups of frequencies, always occurring as unfamiliar to the ignorantly accepted trend to mono-tony."

- Citation context at Periodic Experience, (2), May*49

Life:

"Consciously or unconsciously life is systematically pulsive.

The heart pulses without conscious authority. It ceases without recourse to man's assumed objective authority.

It propagates."

- Citation & context at Charting Alternating Experiences of ton 4.Nature (1), toy•

- i n.s iim-Tinmiimr., lah-y.-n?, myi

Lifeboat:

See Geoscope, 2y Jan'75

See Biological Celle

Protoplasm Tissue Cells of Animal Flesh

U£fJ?«Ug;

(2)

See Genius. 1938

Human Beings. 1972

Talent, (1)

Touch, 29 Dec*58

Animate & Inanimate, 11 Dec'75

UMB Life & Death;

"We don't have two Universes--- this world and the next world. Death is only the as-yet unexperienced, superlow frequencies. Both death and life are complementary functions of our electromagnetic experience.

"Life's reality is constituted by the unique frequency identifications of the chemical elements and their atomic components, as well as the humanly-tune-in-able 'color' frequencies of the comprehensive electromagnetic spectrum's concentrically interpositioned occurrences-- usually published as a chart of positions along any one radius of the comprehensive, concentric system. Death's reality is constituted by all the intervals between and beyond--- inward- ly-and-outwardly--- of the comprehensive electromagnetic frequencies."

1st Para : Incorporated in SYNERGETICS 2 at Sec. 262.10

2nd Para : Incorporated in SYNERGETICS 2 at Sec, 531*0

- Cite RBF rewrite (holograph) of 25 Jan'76 citation; Wash. DC., 26 Jan'76

CMHH) Life & Death:

"We don't have two Universes. Death is only the _as yet unexperienced... very long-wave, superlow frequencies.

Both death and life are part of our science, part of our electromagnetic experience."

- Cite RBF to EJA, 3200 Idaho, Wash., DC; 25 Jan'76

Life & Death:

"Life is an Inventory of in-and-out tunings. Birth is the first tuning-in; death may not be the last."

- Citation 4 context at Tuning-in & Tuning-out, 17 May'77

Ufa. & DMUU ID

"Within economics we may be able to demonstrate the existence of a metabolic process generalization which is akin to, if not indeed implicitly inherent in. a composite of Boltzmann's, Einstein's, and others' concept or a cosmically regenerative omnintercomplementation of a diversity of energetic exportimport centers that nonsimultaneously ebb and flow to accommodate entropically and syntropically, omniversally, omniregenerative intertransformings. How can economics demonstrate a generalization from the utterly uninhibited viewpoint of the individual human?

` `It is said that stones do not have hunger. But stones are hygroscopic and do successively import and export both water and energy as heat or radiation. New stones progressively aggregate and disintegrate. We may say stones have both syntropically importing "appetites" and self-scavenging or self-purging entropic export proclivities.

"When a person dies all the chemistry retracts and we see that the human organism's same aggregate quantity of the same chemistries persists from the 'live' to the 'dead' state, which"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 1005.611-.612, 20 May'75
Life & Death-

aggregate of chemistries has no metaphysical Interpreter to communicate to self or others the aggregate of chemical rates of Interacting associative or disassociative proclivities, the integrated effects of which humans speak of as 'hunger,¹ or as the need to 'go to the toilet,' The the associative intake 'hunger' is unspoken metaphysically after death, the disassociative discard proclivities speak for themselves as these chemical proclivity discard behaviors continue arxi reach self-balancing rates of progressive disassociation. What happens physically at death is that the importing ceases while the exporting persists, which produces.[®] unbalanced--- exclusively exporting--- system." (al oca Dy)

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1005.612, 20 May'75

KBF DtFlnlTluhfe

fIMB Life & Death:

"Love is plural and pro-life,
Hate is singular and pro-death."

- hajfyeri—Ueiegiiapli in

w.

- Citation at Love & Hate. Oct'71

MXg & Death:

"/here syntropy is gaining over entropy life prevails
//here entropy is gaining over syntropy death prevails

- Citation at Feedback_f May»71

Life & Death:

"The concept of life Is unique to the mind. Brain Apprehends Only the physical.

Brain does not differentiate life and death.”

- Citation at Physical, 28 Jan'69

See Animate & Inanimate

Quick & the Dead

Threshold of Life

Morphology: Living Morphology vs. Corporeal Morphology

Birth-death

Birth-death Interplay

Complementarity of Growth k Aging

Chicken with Head Cut Off

(2)

Life & Death;

See Human Beings, 1972

Feedback, May'71*

Love i Hate, Oct*71*

Livingry, 13 Dec'73

Physical 28 Jan'69*

Rafts: Early World Drifting on Rafts (1) Tuning-in & Tuning-out, 17

Ray'77*

Life Alters Environment Environment Alters Life:

"Life continually alters the environment and the altered environment
in turn alters the potentials and realities of

life. The environment is basically a complex of nonsimultaneously occurring but omniintegrating

or interstimulating, and therefore interregenerating, mutations of man's integral, internal metabolic regeneration organism, on the one hand; on the other is his external, invention-realized, metabolic regeneration organism, which we think of and speak of as industrialization."

- Citation &. context at Newton Vs. Einstein (2), 16 Aug*70

Life Altera Environment *k* Environment Alters Life:

See Epigenetics

Epigenetic Landscape

Heisenberg-Eliot-Pound Sequence Systems Alter Other Systems

See Environment, 29 l-'ar*77

"This independence of local formulation corresponds exactly with life experiences in Universe."

- Citation and context at Powering: Fourth and Fifth Dimensions.

18 Nov'72

Inventory of Characteristics of Life:

Life:

See Life, 16 Aug*50

Life's Original Event:

"Life's original event

And the game of life's

Order of play

Are involuntarily initiated,

And inherently subject to modification

By the a priori mystery,

Within which consciousness first formulates

And from which enveloping and permeating mystery Consciousness never completely separates, But which it often ignores Then forgets altogether Or deliberately disdains."

- Cite INTUITION, pp.11-12, May »72

Ufa's Original Event:

See Birth

Conception

Cosmogony

Primitive Regeneration Primordial

See Closed System: Conservation of Energy, 1968 Pattern Integrity,
(3)

Life is a Sumtotal of Mistakes:

(1)

"Man--- bom naked, helpless, and ignorant--- but with innate drives to insure procreating and refueling... He Just makes mistakes all the time, learning only by making mistakes. The billions of humans who have lived must have made septillions of mistakes. Since these mistakes must have given humans such an inferiority complex, nature had to offset this tendency by a chromosomically-induced pride, ego, and self-deceiving capability.

"When people are surprised by some new development, they tend to say, 'I knew it all the timet' in a self-congratulatory way. So parents have brought up their children with the idea that they should make no mistakes, they should be frozen into their customs. It is this Emperor's-clothes-like tradition which universally assumes that only fools make mistakes; it is this kind of tradition that requires such a revolutionary breakthrough.

"Mistakes have a servomechanism you acknowledge mistakes you do function in life. Clearly when recover from them. It is like

- Cite RBF to EJA, 3200 Idaho, Wash. DC., rewrite of 10 Bep'75

"walking: left foot, right foot; or steering starboard or port,..., in between the succession of alternative shifts we inadvertently describe a directional course. As we gain practice we make more delicate alternating corrections at a higher and higher frequency as in a mechanical servomechanism, which devices greatly reduce the magnitude of error eliminate the process of

"Life is a surtotal of mistakes, a balancing of mistakes. This is cybernetics, steering gyro controls. This is how Universe works: this is why physicists have found only waves and

no straight lines resulting from all the frequencies of the omniresonant physical Universe."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, rewrite of 10 Sep*75

See Genius: Children are Born Geniuses,(1)

Liff IB Not Physical: (3)

Q. "Spirit and soul: do you have definitions for those?"

RBF: "I don't have any definitions for either. What I have said is that I am sure that life is not the organism which it employs. Our organisms consist physically entirely of atoms--and atoms are completely Inanimate. Whatever you and I are is metaphysical, has understanding, and has nothing to do with the physical. The relationship is between but not of, there is something between us but not of---I speak about mind as operating there, but mind discovers the relationships existing between.

"Brains are always and only coordinating the input of the senses. This one smells this way, this one sounds that way--- so they are always dealing in special case compositions of experience and they can recall the special case compositions. Mind is not the special

cases, but it finds these relations- ships---a good thing--between the special cases. This is as close as I can really come to explaining the phenomena of life and mind. It employs this organism to get its information."

- Cite transcript p.12, RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Life is Not Physical <2)

Q. "Do you equate spirit and soul with mind then?"

RBF: "I don't ever use the word spirit or soul. I can see that they were probably what people were intuitively identifying as best they could. In other words, they had the spirit leaving the body as though it was weightless. And I say whatever life is, I would use the word life rather than spirit... because I don't use words of which I don't have some kind of knowledge. I think man was making a mistake all this time saying that life was physical whereas it was always metaphysical. The chemistries are right there. I find biochemists saying very improperly that this is the chemistry of life. The chemistry of life is still there when there is no life left."

- Cite transcript p. 13 RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Life, is Not Physical

"My reality is: life is not the organism which employs it.

- Citation & context at Interrelatedness vs. Names. (1): 20 Feb'77

Life is Not Physical;

"The scientists seemed to have given up the idea of significance ; they seemed to have lost their gift for philosophical thinking. So the focus on physical things was kept kicking along by the church, trying to treat the physical as life, which it isn't. The Catholic Church is built on the

notion that life is physical--the bits of hair of the Savior, the communion with the physical wine, the bread is my flesh, this is my body. In the mass or holy communion the wine is the blood: drink this: piece of bread: the purely physical contacts of life. If life were physical we really could make synthetic men, laboratory animals, and artificial intelligence; we never will."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 531.05; 12 Dec'75

Ig Rgt Physicals

"A foetus is just physical life, a bundle of reflexes like a chicken running around with its head cut off.

"'Consciousness and identity begin not with conception but with birth. Awareness, that's the thingl... that's what begins with birth."

"Whether the Catholic Church survives or fails depends on whether it can make this philosophic recognition."

- Cite RBF to EJA, Aspen, Colorado, 13 Jul*74

Life Is Not Physical:

"I an 78--- and at my age I find that I have now taken in more than 1000 tons of water, food, and air, the chemistry of which is temporarily employed for different lengths of time as hair, skin, flesh, bone, blood, etc., then progressively discarded.

I weighed in at seven pounds . and I went on to 70, then 170, and even 207 pounds. Then I lost 70 pounds, and I said, 'Who was that 70 pounds?--- because here I am.' The 70 pounds I got rid of was ten times the flesh-and-bone inventory at which I had weighed in, in 1895.

"I am certain that I am not the avoirdupois of the most recent meals I have eaten, some of which will become my hair, only to be cut off twice a month. This lost 70 pounds of organic chemistry obviously wasn't 'me,' nor are any of the remaining presently associated atoms 'me,' We have been making a great error in identifying 'me' and 'you' as these truly transient and, ergo, sensorially detectable chemistries."

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag., 11 Sep»73

Life Is Not Physical!

"Philosophical Realization That Physical Is Not Life: The philosophical realization that the physical is not life will lead to the ultimate conquest of mind over muscle. This generates the historical transition of experience to a predominant mind-over-matter reality,

"Misassuming that both the animate and the inanimate are physical, humanity misidentified 'civilization' with the burial of its dead. That is where man broke away from all the animals. Animals recognize that the carcass is not life. Kings sought to rationalize the inheritability of sovereignty by identifying life with the physical. This also generated middle class mausoleums and hereditary privileges.

"Emancipation of individuality requires elimination of the slave mentality. It is the realization of the inherently inviolable integrity of the individual."

- Cite WORLD-AROUND PROBLEMS THAT HAVE TO BE SOLVED NOT BLOODLESS DESIGN SCIENCE REVOLUTION, NY Times, 29 Jun'72

Life Is Not Physical:

(1)

See Animate & Inanimate

Pattern Integrity

Telephone

Twenty Questions

You & I as Pattern Integritys No Chemistry of Life Metabolic Flow /
Man Organism / Life

Ufa la Mat-HixaltaJ.:

(2)

See Metaphysical, 14 Feb'72

Mortal, 4 Mar*69

Tactile Sequence, (4) World Game, (5) Death, 1 Feb'75 Organism.
12 Feb'72; 3 Jun'72 Life, 9 Jun'75, 5 Jun'75 , . Interrelatedness vs.
Names, (1)* Fuller. R.B: On Christopher Morley, 22 Jun'7?

Human Beings & Complex Universe, (10)-(14)

Life Preserver:

See Piano Top

Life-SupportIng; Capably?

"Humanity's productive and distributive Life-supporting capability---
wealth--- Had been irreversibly amplified."

- Citation and context at Copper (2), May '72

Ufa jiwisa-V Jiaitlacy.:

d)

See Scarcity: Economy Of

Survival Recourse

See Synergetica, 6 Nov'72

"... The invisibly bounteous life-support system Hidden in the super-
ficial landscape, And consisting only

Of instrumentally gleanable information,

Abstract and weightless generalized principles, Unique electromagnetic frequencies

And exclusively mathematical realizabilities. •.”

- Cite INTUITION, p.64 May '72

See Inadequacy

Scarcity

Hunan Tolerance Limits

I4fg \$UPP9rt« Life-support System:

(2)

See Biosphere Inventory, 15 Nov*74 Agrarian Metabolics. 29 Jun'72
Spaceship Earth, (b)-(d) World Game: Grand Strategy, 2 Jun'74 Des-
overeignixation Sequence, (2) Wealth, 20 Sep'76 Building Industry,
(1) Invented Jobs, 20 Sep'76 United Nations, 29 Mar'77

Life ap Synchronisation of Time t Consciousness:

"Not until the second experience did Did time and consciousness

Combine as human life.”

- Citation k Context at Consciousness. May'72

Llfq as Synchronisation of Time & Consciousness:

See Consciousness as Synchronisation of Time & Energy

•I must always be sure

I am increasing your elective freedoms.

Your life can be capital!zed

as the number of hours you will probably live.

How many of those hours are really free?

You will find that a great many are preoccupied In the chemical process you and I;

There are a great many involvements in this process and relatively few of them that we can actually direct.

So I must--- as a design scientist-- increase the proportion of your total life that is at your disposal.

I must reduce the restraints.

I must reduce the number of negative restraints set upon you by circumstances and increase the number of your favorable electives."

(b)(c)

- **Citation context at Trespassing:**

Not Trespassing. 31 May'74

RBF DEFINITIONS

Lifetime: Personal Lifetime Experience for Elective Investment:

"We need a way for humans to cordinate their senses and thought in terms of their personal life experience, for instance with their respectife allotments of life time. Each one is born with some lifetime expectancy as calculated by the life insurance company mathematics... Let us think about the minutes and seconds you and Ireally have at our elective disposal every 24 hours. We all have to sleep--- about one- third of our time. A lot of or time is dedicated to just going from here to there..."

Citation and context at Heaitbcm.i .agnitude Sequence (1) 1} Mar

*73

See Electable: Elective

Reinvestable Time & Survival Needs

Fellowships: Life Fellowships in R 6c. D Unemployment as Freedom to Think Hour: Human Life-hours

12)

See Individual Economic Initiative. Dec*72

Spending, 25 Mar*71 Trespassing: Not Trespassing, (A)

See Sixty Degreeeneea, 16 Dec*73

Life-Time-Space Phenomena:

"AH temporal (temporary) equilibrium life-time-soace phenomena are sequential, complementary, and orderly transformations of space-nothingness into time-somethingness and vice versa."

- Citation and context at Time-Somethingness. 22 Feb*73

U.ta'1 TwOTWTY 'chiclet;

(D

See Human Instrument Vehicle Humana as Machines Body as Mechanism

Temporary Vehlclee:

(2)

See Life, 28 Apr*71 Death, 28 Apr'71

Lifewayg:

See Inventions a a Lifeway of Human Behaviors

ll£i' ti*>

See Animate

Animate & Inanimate

Awareness

Biologicals vs. Nonbiologicals Cell: Life Cell

Chess: A Priori Intellect Invents a Game Called

"Life"

Continuity of Conscious Life

Continuous Man

DNA

Drama: Earthian Drama "Life"

Economic Accounting System: Human Life-hour Production

Fellowships: Life Fellowships

Fourth Quantum

Game of Life

Growth

Human Beings

Human Beings & Hard Machinery

Impossible: Only the Impossible Happens Livingry

Life: (W)

See Mathematical Explanation of Life Metabolic Regeneration Mini-
mum Awareness Morphology: Living Morphology vs. Corporeal

Morphology

New Life

Organic: Organism

Old Life

Organic Model: Biological World as Model for Society

Organism + Life

Physical Life

Quick & the Dead

Regenerative: Regenerativity

Sensorial Identification of Reality

Temporality

Tetrahedron as Primitively Central to Life Threshold of Life Tissue

Twenty Questions

Viral Steerability Young World

No Chemistry of Life

(2A)

See Animate & Inanimate. 4 Mar'69*

Architecture. Jan'34

Asymmetry, 31 May'71*

Awareness. 10 Feb'73; 28 Apr'77

Charting Alternating Experiences of Man & Nature (1)»

Consciousness, 20 Dec'71

Brain & Mind, 28 Jan'69*

Death: Weighing of People as They Die. 10 Oct'63*

Experience, 20 Dec'71

Imperfect, 22 Nov'73

Intellect, 16 Aug'50*

Impossible: Only the Impossible Happens, 14 Dec'73

Learning (1)(2)

Linear & Curvilinear. Jun'66

Observing vs. Articulating, Mar'71*

Potential, Aug'72

Pattern Integrity (1)-(4)«

Problem 2 Jun'71*

Pure Principle. 10 Feb*73*

Rubber Glove, 23 May'72*

LU*:

See Tetrahedron, 25 Aug*71*

Syntropy & Entropy, Feb¹71

Information, 12 Feb*72

Four, 27 Dec*73

Dream 1968

Spending, 25 Mar*71

Metaphysical & Physical 22 Jan'75*

Periodic Experience, (2j*

Birth, 15 May'75

Self A Otherness: Four Minimal Aspects. 9 Jun'75

Error, 30 May>75

Human Mind & Physical Evolution, 5 Jun'75

Vector Equilibrium, Oct*75

Environmental Inventory, 28 Apr'77 Environment, (A)(8)

U&t:

See Life &. Death

Life Experience

Life's Original Event

Life is Not Physical

Life Preserver

Life Support Capability

Life Support Inadequacy

Life Support System

Liretine: Personal Lirellae Experience for Elective Investment

Life-in-Time

Life-Time-Space Phenomena

Life's Temporary Vehicles

Lifeways

Life as Synchronization of Time & Consciousness Life Alters Environment & Environment Alters Life Life: Inventory of Characteristics of Life Life is a Sumtotal of Mistakes

Lift:

See Airplane Flight as Lift

See Flight. 1971 Planck's Constant, (B)(C)

Light:

"Light comes from the hydrogen cycle: the hydrogenhelium interplay,"

- Citation and context at Black Hole. 28 Oct'72

Light;

"Within the electromagnetic spectrum visible light is exquisitely minute."

Invisible Architecture (1), Aug'64

Citation at

Light;

"Light (as typical wave frequency group) obstruction is greatest where structural components converge (grid photostats show this as stars at convergent points)."

- Citation & context at Radome Sequence (1), 29 Dec*58

Light Celia:

See Dymaxion House, 2y Jan'75

Light side YB. SprlQUfl Side of any Queatlon:

See Coincidental Articulation Sequence, (2)

RBF DEFINITIONS

Light on Scratched Metal;

"When a bright light ahinea on a complex of surface scratches on metal, we find the reflection of that bright light upon the scratched metal producing a complex of concentric scratch-chorded circles. In a multiplicity of omnidirectional actions in the close proximity of the viewable depth of the surfaces, structurally stable triangles are everywhere resultant to the similarly random events. That triangles are everywhere is implicit in the fact that wherever we move or view the concentric circles, they occur#, and that there is always one triangle at the center of the circle. We would add the word approx-
imately everywhere to make the everywhere-ness coincide with the modular-frequency characteristics of any set of random multiplicity. Because the triangles are structurally stable, each one imposes its structural rigidity upon its neighboring and otherwise unstable random events. With energy operative in the system, the dominant strength of the triangles will inherently average to equilateralness.

- Cite SYNERGETICS text at Sec. 614.06; 9 Nov'73

Light on Scratched Metal:

See Scratched Surface

Light: ppg?d Qf LUhV

"The 186,000-mile-per-second speed of light is so fast that it was only just recently measured, and it doesn't really have much meaning to us. You don't have a sense of 700 million miles per hour. If you did get to 'see' that way, you would be spontaneously conscious of seeing the Sun eight minutes after the horizon had obscured it; ergo, consciously seeing an arc around the Earth's curvature. We are not seeing that way as yet."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 801.14, 22 Nov'73

Lixhy; Speed of Light:

"Einstein was much purer than Planck in just taking the speed of light, which was a constant figure. It was demonstrated in a vacuum tube, linearly. Therefore, light--- as all candle power does--- goes in all directions, not just ⁱⁿ *

line. Therefore we know that the surface always grows as the second power of the linear. So the speed of light is c --- use small c for any radiation, the speed of any radiation omnidirectionally.... because a wave of light is going in all directions. Therefore it is c^2 to the second power."

Cite MF to BO*R, tape transcript, Carbondale Dome, p.42, 1 Hay'yt

L1^{ht}: Ppted gf HriiV

"Light's relative swiftness instantaneous."

is far from

- Cite NASA Speech, p. 99 Jun'66

L1K^{ht}: Speed of Lihht;

"Before the speed of light was measured, sight seemed

• . . to be instantaneous. . . . Neither light nor any other phenomenon is instantaneous."

- Cite NASA Speech, p. 52

Jun*66

LUiU' SBSWI ftf:

See Nonsimultaneous

Radiation: Speed Of

See Reelutant, 22 Jul»71 • 20 Jan*75 Limit Speed, 11 Sep*75

Mrhx. Xaara - Intellect Seconds:

See Intellect Seconds, i960

U)

See Nonsimultaneity

Photon

Radiation

Omnidimensional Light Matrix Refraction Visible Light vb. Electricity
Searchlight

Light;

(2)

See Black Hole, 28 Oct'72*

Corpuscular, 9 Jul'62

Cosmic Structuring, (1)(2)

Invisible Architecture, (1)

Picture, 1938

Radome Sequence, (1)*

Reflection Sequence: Apple, (1)(2)

Resultant, 22 Jul'71

Spherical Sweepout, (1}{2)

Vector, Mar'71

Scratched Surface, 27 Jan'75 Wind Stress & Houses. (9) Celestial Radiation Accumulators, 28 Apr*77

"Maybe we ought to try and capture lightning in electrostatic generators underground--- build up charges of lightning and then release it later?' We might really reverse our atomics: instead of learning how to release energy we could learn how to actually make the atoms.

- Cite RBF to W. Wolf and B. Brooks, DSI Project, pp.10-11, 28 Apr'74

See Reverse Atomics, 10 Sep'74

Lightning;

Sea Energy Event, Mar*71 T-ahelix, (2)

Lily:

See Natural, 20 Jan'75

Limit:

****Physics has not assumed conceptual modelability* When you deal with limits you don't need anyone to mark your paper. You can find your own limits when you go from the whole to the particular»"**

- Citation & context at Thinking. (III), 23 Jun'75

Limit;

"Relationship constants are always predicated on Units, Only limits are invariable. (This is the very essence of the calculus.) Variation is between limits."

- Citation at Constants, 26 Sep'73

Limit:

Metaphysical experiences have no endurance limits."

- Citation and context at Metaphysical Experience. 13 Mar*73

Limit:

"The nuclear group with 92 spheres in its outer, or third layer is the limit of unique, closest packed symmetrical assemblages of unit wavelength and frequency. These are nuclear symmetry systems."

- Cite SYNERGETICS draft at Sec. 414.02, 29 May*72

Limit:

"There is a limit in nature of how large a number will accommodate all the possible permutations of Universe.

... It could be that if we used all the primes which occur between one and 17, we would have all the possible number accommodations necessary for all the permutations in nature. Furthermore, they would all come out in whole numbers."

- Cite SYMattCuTICS, "Numerology," p. 15. Oct. '71.

Limit;

it is not so far to the 1-oon, then it is not so far to the limits--- whatever, whenever, or wherever they may be.

¹¹ Limits are what we have feared, so much has been done to make us conscious of our infinite physical smallness that the time has come to dare to include the complete Universe in our rationalizing."

- Citation and context at Nine chains to the loon,

Limited Aeaelablltleii:

See Temporary, 1J Mar'73

Halt Case:

"The power of the word as an Industrial tool is very great.. Incidentally, what I'm doing with you now is showing the way** I began to conduct myself when I said I'm going to do my own thinking. I would try to find the limit cases, where there is a real break. Thresholds. I'd have `` to get that kind of information to give me some kind of guidance."

- Cite RBF to Harvard Law School Forum, 10 Dec'73

Limit Case;

"Because it is the Unit Case it is prime.

- Citation and context at Prime Otherness

Limit Case: Closest-packed Symmetry as Limit Case:

"The closest-packed-sphere interspace had been Inscrutable a priori to the limit phase of omni-intertangencies; which limit phase is, was, and always will be, omnipotential of experiential verification of orderly integrity of omni- intercomplementarity of the space-time, special-case, local conceptualizing and the momentarily unconsidered seeming nothingness of all otherness."

- Citation and context at Omni-intertangency, 17 Feb'73

Limit Case: Closest-packed Symmetry as Limit Case:

"The closest-packed symmetry of unius spheres is the mathematical limit case which inadvertently 'captures' all the previously unidentifiable otherness of Universe whose inscrutability we call "space". The closest-packed symmetry of unius spheres permits the symmetrically discrete differentiation into the individually isolated domains as sensorially comprehensible concave octahedra and concave vector equilibria, which exactly and complementingly intersperse eternally the convex 'Individualizable phase' of comprehensibility as closest-

packed spheres and their exact, individually proportioned, concave-in-betweeness domains as both closest packed around a nuclear uni-radius sphere or as closest packed around a nucleus-free prime volume domain."

- Cite SYNERGETICS draft at Sec. 1006.12, 17 Feb'73

See Hex-pent Sphere, 15 Sep*76

Tensegrity Masts, 27 Dec'76

Meli_£a£s'

See Complementarity

Limit Transformation Case Prime Otherness Minimum Limit C_ase No Maximum Limits

Cage;

(2)

See Jitterbug, 25 Feb'69 Operational Procedure, 22 Nov'73 Radiation: Speed Of 22 Jun'72 Simplest Knot, 1 Jan'75 Tetrahedron, 24 Sep'73 Mark Your Paper, 20 Jan'75 Design Science, 23 Jan'75 Nuclear Domain & Elementality, (1)

See Scenario Universee

See Spherical Field, Aug'73

c_{OT}<UU<?n = See Terminal Condition

ID

Limit c_niiltlan:

12)

See Black Hole, 28 Oct'72

DNA-RNA: Twenty Sphere Models, 2 Oct'72

Radiation, (p.126) 1959

Vector Equilibrium: Lending i Borrowing Model

20 Dec'73

Umlt factors:

See Gneral Systems Theory, 1967; 8 Nov'73

W Gf Birth

See **Club of Rome: Limits to Growth**

Exponential Model vs. Limits to Growth

"...The propagative pulsations are unopposed by the inherent but eternal, limitless, unoccupied outwardness of absolute metaphysical integrity. The unlimited metaphysical conceptual equilibrium integrity permits the limited special-case realizations. The limited cannot accommodate the unlimited. The unlimited metaphysical can and does accommodate the limited and principles-dependent physical; but the physical which is always experienciable and special-case, cannot accommodate the metaphysical independence and unlimited capability."

- Citation and context at Zeroohase (1) (2), 4 Nov'73

Llnlt-llnltleaa:

See **Eternal Universe & Physical Universe Metaphysical & Physical Unlimited vs. Limited Zerophase**

(2)

See Einstein. 16 Nov'72

Metaphysical fc Physical, 4 Nov'73

Tensegrity, 28 Jan'75 General Systems Theory, (1)

Unit NpqVgr:

See Isotropic Vector Matrix, 16 Nov'72

Unit Phflao>

See Limit Case: Cloeest Packed Symmetry, 17 Feb¹73

Paint:

` ` Let us consider a tetrahedron which also always has an externality and an internality. At its internal center is its terminal turn-around and come outward again condition. This is exactly why in physics there is a limit point at which you turn yourself inside-out. You get the the outside and you turn yourself inside-out and come the other way. This is why radiation does not go off into a higher velocity. Radiation gets to a maximum and then turns itself inwardly again--- it becomes gravity. Then gravity comes to its maximim concentration and turns itself around and goes outwardly--- becomes radiation."

- Cite SYNEREGTICS draft, Sec. 441.04 9 Jun'72

See Gravity Cooes to Maximum Concentration and Becomes Radiation
Cosmic Limit

Cosmic Limit Point

Point: Inbound Point

Point: Outbound Point

See Isotropic Vector Matrix, 16 Nov'72 Time-six, 20 Dec¹73

RBF DEFINITIONS

"All radiation has a terminal speed, ergo an inherent limit reach...

- Citation 4 context at Unit Radius. 17 Jan¹74

Limit Minimum Simplex:

See Hydrogen, 13 Kar'73

Limit Speed:

"The sense coordinating brain of each and all humans, like sound or light, has a limit speed of apprehending."

- Citation & context at Time & Cognition. 11 Sep*75

Limit Structural Transformative Tendencies:

"Great circle arcs represent limit structural transformative tendencies of outward surface tensing as occasioned by internal pressures and great circle segment chords represent the optimum limit structural behavior of the axes of compression-resisting columns which oppose external pressure by surface spreading."

- Cite PENNA. TRIANGLE, p. 11 Nov '52, as confrimed and rewritten by RHF at Kennedy Airpori; NY, 1 Apr '72.

Limit Structural Transformative Tendencies:

"Great circle area represent limit structural transformative tendency of outward surface tensing by internal pressures and great circle segment chords represent the limit structural behavior of the axes of compression-resisting columns opposing external pressure by surface spreading."

- Cite PENNA TRIANGLE, p.11, Nov»52

See Aberration Limit

Absolute

Allspace-filling Limits Asymmetric Limits Beginningness Chemical
Limit
Concentric Hierarchy Limits Cosmic Limit
Degenerative Negative Limits Delimit
Diametric Limit Functions Domain Limits
Electro phit
Extremes
Four-dimensional Limit
Frequency Limit Hunan Tolerance Limits Initial Limit
Internal & External Limits Conceptual Limits
See Limit-limitless
Maximum Limit Case
Measure - Limit
Micro Limit Integrities
Minimum
Min-max Limits
Min-max Zone System Limits
Nuclear Geometric Limit of Rational Differentiation
Nuclear Limit
Nonlimit
Octave Limit of Variation
Optimum Limit
Outward Limit of Nuclear Phenomena
Prime
Push-pull Limits

Rotational Aberrating Limit

Resolvability Limits

See Symmetric Limits

System Limit

Three-dimensional Limit

Time-limited

Time-size Limits

Trigonometric Limit

Triacontrahedron as Limit Regular Polyhedron

Thermal Limits

Turn-around Limit

Ultimate

Unlimited vs. Limited

Zero Limit

Zone Limits

Unlta of Thinkin,:

See Resolution, 5 Jul'62

Unit Trangfgrmtlen. Paag:

See Congruence of Vectore, 15 Feb'73

See Anticipatory. 3 Nov'64 Break. 27 Dec'73 Charting Alternating Experiences of Man k Nature (3) Constanta, 26 Sep*73* He« & Therea, 4 Jun'72 Humans, 6 Mar'73 Integration 4. Differentiation, 10 Dec'64 Integrity, 24 Jan`72 Metaphysical Experience, 13 Mar'?3* Nine Chains to the Moon, 1938 Octantation, 14 May'73

Omni-intertangency, 17 Feb'73* Point: Outbound Point (1) (2) Prime
Otherness, 23 Sep'73* Resolution, 5 Jul'62 Pattern, 1954 Thinka-
bility. 27 Jan'72 Time-size, 20 Dec'73 Zerophase (1)(2)* Tunability:
Intra &. Ultra, 1954

See Mensuration, Aug'73

Quantum '•mechanics: Grand Strategy, 10 Anr'75

Thinking, (III)* ' 0

Population of Cities, 10 Sep'75

Unity: Complex & Simplex, 16 Oct*72 Conceptual Limits, 22 Jun'??

See Limited Associabilities

Limit Case

Limited Conceptuality

Limit Condition

Limit Factors

Limite to Growth

Limitless

Limit-limitless

Limit Number

Limit Phase

Limit Point

Limit of Powering

Limit Reach

Limit Minimum Simplex

Limit Structural Transformation Tendencies

Limit Transformation Case

Limits of Thinking

Limit Speed

Limit Case Vector Chord System

TEXT CITATIONS

Limitless; Nonlimit:

200.04

217.04

537.02

644.01-644.02

645.01-645.12

646.03

647.20

750.11-750.23

764.02

780.32

784.40

801.13

See Infinite Limit-limitless Nonlimit Unlimited Endless Universally Extensive

See Generalized Principle (1) Regularity, 2 Nov'72 Twenty Questions (4) Tension, 15 Oct'64 Intellect, 21 Jun*77

Lincoln: KBF on Abraham Lincoln:

"Abraham Lincoln's concept of 'right triumphing over might*' was realized when Einstein as metaphysical intellect wrote the equation of physical Universe E - Meand thus comprehended it."

- Cite uPBHATIKG MJuAL FOR bPACubHIP EARTH, P. J6 , 1969

"Lincoln's industrially catalyzed awareness that 'right' had come to ascendancy over 'might' is of the essence despite all ignorantly detoured chaos of transition."

- QLLH JUiriinfiz 19 5ft.

GF—

- Citation 4 context at Dvmaxion Airocean World (II), Jun'56

Lincoln: Abraham..:

Univ, of Alaska Address, pp.14 + 19, 20 Apr *72

See Right over Kight

See Civil War, (1) (2)

Lindbergh;

Mexico '63, p.6, 10 Oct '63

Upti.bjrjthi

See Daddy, 2 Jun'74

Line:

"Lines (edges) are the moot economic omnivertexial interrelationships of the system considered."

- Cite RBF marginalia (not surviving in
in SYNERGETICS 2 draft Sec. 987.022 text), 14 Nov'78

Lina:

"A line is a relationship between any two microsystems.

- Citation &. context at Microsystems. 22 Mar*76

Line:

*A line is a relationship between two somethingnesses,"

- Citation & context at

9 Jun*75

Line;

"Because I am experiential I must say that a line is a consequence of energy: an event, a tracery upon what system?'"*

- Citation *i.* context at Polyhedron. 1 Jan*75

Lino:

"A line is a tetrahedron of macro altitude and micro base.. Lines are real, conceptual, experienceable visually and mentally..."

- Citation & context at Point. 20 Dec'73

Line:

"Line is a leading, the description of man's continual discovery of the angularly observable directional sequences of events. Lines are trajectories or tracteries of event happenings in respect to the environmental events of the event happening."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 502.41(d), 6 Nov'73

Line:

"There are no straight lines, physical or metaphysical. There are only geodesic, i.e., most economical interrelationships (vectors)

- Cite RBF galley correction at Sec. 240.25 of SINERGETICS. 28 Oct'73

Line:

"A line is a directional experience.

A line is specific like In. while Out is anydirectional. Lines are always curvilinearly realised because of universal resonance, spinning, and orbiting.

A point is not a relationship.

A line is the simplest relationship.

Lines are relativity. A line is the first order of relativity: the basic sixness of minimum system and cosmically constant sixness of relationship identifies

lines as the relativity in the formula $N^2 - N^w$

- Cite RBF to EJA, 3200 Idaho, 5 Nov'72; reconfirmed by RBF 7 Nov'72
Incorporated in SYNERGETICS draft at Secs. 521.22 + 23, 13 Nov72

Lint:

"All 'lines,¹ trajectories, are the most economical vectorial interrelationships of nonsimultaneous event foci."

- ~~<w-mniimniii || i in iiiiiiiiniir 'll III~~
- Citation at IntWTtlatlOTallIM, '971

cm

Ljnat

"Lines are definitions of experiences--- of given tracteries, or ofersively deposited tracks, or of gaseous fallout along a trajectory--- and the symbols for number extractions such as X and Y, are always and only experientially conceived devices."

- Cite SYNERGETICS text at Sec, 50\$,03, N_OV»71

Line:

"The overall logitudinal length of w wavillnear vectorial lines la determined by the number of waves contained."

- Citation at Wavillnear. 11 Oct¹71

Line:

"The word * line¹ was nondefinable: infinite. It is the axle of inter tangency of unity as plural and infinitely two. Awareness begins with two. This is where epistemology comes in. The * line * becomes the axis of spin. Even two balls can exhibit both axial and circumferential degrees of freedom."

- Cite RBF to EJA, Beverly Hotel, New York, 19 June 1971. vK««-iK Jii + 5'3i.xxl

Line:

"The domains of lines are two tetrahedra, not one octahedron."

- Citation at Domains of Lines. 18 Jun*71

Line:

. Lines (subvisibly spiraling and quantitatively pulsative) . •

- Cite RBF Marginalia to SYNERGETICS Draft (Conceptuality Critical Proximity), Chicago, 1 June 1971.

Line;

" • • • Invisibly modulated, spiraled vectorial lines . .

RBF Marginalia on SYNERGETICS Draft (Conceptuality, Interference)
31 May 1971, Chicago.

Line;

"Speaking operationally, lines are products of the energy interactions of two or more separate systems. The local environment is a system. A line is always formed by an alteration of the local environment by another system. □Lines* are the pattern of consequence of one system altering another system, either by adding to it, or by taking away from it. The event leaves some kind of tracery, either additively, as with a vapor trail or a chalk mark, or reductively, as with a chiseled groove or a pin scratch, or as a crack opened between two parts of a formerly unit body."

- Cite SYNERGETICS Draft - "Conceptuality: Interference." RBF Marginalia, Boston, 25 April 1971

Line:

"Line is a leading, the description of man's continual discovery of the directional sequences of events."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

Linet

"All th^o time phenomena of physicists are linear.

- Citation 4 context at Time, 8 Mar '71

Line:

"Linear does not mean straight* Lines are energy event tracteries, mappings . . . trajectories* Physics has found no straight lines: only waves consisting of frequencies of directional inflections in respect to duration of experience."

- Cite RBF SYNERGETICS, Mar '71

Line:

"Lines are finitely developed events.

And their durations

Are always relative

To some cyclic experience in time."

- Citation and context at Radiation: Speed Of (D)_t 28 Jan '69

Lino:

"Lines are vector trajectories."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE. 1967

VECT.CF *sec.* 511. z.<]

Line;

. .As Einstein pointed out, when the speed of light was finally ascertained and measured, there could no longer exist anything that was instantaneous. The mathematician's concept of a straight line was instantaneous: in that way he did not have to say that his straight line was generated. It takes energy and action to get from here to there. Then what is a line? Lines are directional energy events: they are vectors.'*

- Cite HBF, Univ, of Rhode Island, 26 Aug. '66.

Line;

"The pure mathematicians straight line must be instantly Infinite in two directions. All its parts must be absolutely uniform and simultaneously sub-existent. It must avoid being progressively generated as an experimentally produced action-trajectory of one system modifying another. Microscopic inspections of any action-trajectory's impressed, graven or deposited trail must disclose gross irregularities. Progressively closer inspections of experimentally attempted demonstrations by the mathematicians of their allegedly 'straight' lines increasingly disclose volumetric aberrations and angular digressions from straightness. They are axiomatically selfcontradictory."

- Cite NASA Speech, p. 44 Jun'66

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Line:

"All mathematicians, both Euclidian and non-Euclidian, assume erroneously that you can run a plurality of lines through the same point at the same time. I find experimentally that the lines are always the products of energy actions. A line is always an alteration of the lo-

cal environment. 'Lines' are the consequent pattern of one system altering another system, either by adding to it or taking away from it. The event leaves some kind of tracery either additively--- as a vapor trail--- or reductively, as with a groove or scratch."

"We can say that because lines are directional energy events, they are vectors."

Cite NASA Speech, p. 48, Jun'66

Line- seieril

Line :

"Pure mathematics' axiomatic concepts of straight lines are completely invalid."

- Cite NASA Speech, p.42, Jun'66

Vec- . $\$ e < T^?S^1 \text{ Zfl}$)

Line:

"A line has two vertices with angles around each of its vertexial ends equal to 0°. "

- Cite OMNIDIRECTIONAL HALO, p. U6 , I960

Line:

"A line ie a tetrahedron of negligible rimMstaMi base dimension and significant altitude. • •

"There are no straight lines. . .

"All lines are the most economical vectorial interrelationships of non-simultaneous local event foci,"

"Potentially straight line relationships require instantaneity or actions in no-time, therefore straight lines are inoperative., . .

"All lines are complexedly curved.

"The vectorial lines of relationship are always most economical, ergo geodesic.

"All geodesic lines weave four dimensionally amongst one another, forever, without ever touching one another.

I4.net (2)

"Potential lines are straight; all realised relationships are geodesic and curved.

"All lines ultimately return into close proximity of themselves.

"No lines may occupy the same point at the same time.

"Whereas none of the geodesic lines of Universe touch one another, the lines approach one another, passing successively through regions of most critical proximity, and diverge from one another, passing successively through regions of most innocuous remoteness.

- Cite Ltr. to Collier's, pp.113-115, Oct'59

Line:

"R line is a tetrahedron of zerophase base."

- Cite PENNSYLVANIA TRIANGLE, p. 10, Nov*52

Lines: "Lines are inherently curved and must eventually meet or rejoin their ends."

. Cite Two (2), 10 Jan*50

Line;

"A sphere Is unit, but a line is not because the terminals of a line Bust represent arbitrary cut-offs. All lines, except when abstractly considered as •direction.¹ are somewhat curved, and all curved lines must eventually intersect--- no matter how remotely. Not even a graphed spiral is forever possible because the errors in a graphed line constantly dislocate the line and insist upon an ultimate intersecting contact."

- Citation 4 context at Curved Space. 193 d

Linear;

"Linear measurements represent the radial going-away accelerations or resultants of earlier or more remote events as well as of secondary restraints."

- Citation and context at Radial-Circumferential Modularity. Sec. 826.04, Sept'72

RBF DEFINITIONS

Linear:

' • All the time phenomena of physicists are linear.ⁿ

"All actions are spirals because they cannot go through themselves. .
."

- Cite RBF to EJA Beverly Hotel. New York Parch 7, 1971

Linear:

Radiation can be focused;
explosions can be linear."

- Cite RBF to EJA.
Sarasota, Florida
7 Feb 1971

- Citation & context at Radiation-Gravitation. 7 Feb*71

Linear Acceleration:

"In our XYZ coordinate system we take so many linear increments on X and Y and Z and we can see where it lie. We do everything on linears. All of the calculations are done linearly. We don't use angular even though we recognize that there is an ular acceleration, all the measurements are done linearly."

- Cite Oregon Lecture #4, p. 147. 6 Jul*62

Linear Acceleration:

See Acceleration: Angular & Linear No Linear Acceleration

p.ne Between Two Sphere Centers:

"Part of the problem lie that people think of the 180---degree-straight-line diameter rather than of the two radii that constitute the diameter--- the two radii of the two separate but tangent spheres, end-joined at the intertangency point between the two spheres. Both aspects are equally deceptive.

- Cite RBF holograph rewrite of EJA draft; Phila, PA, 22 Jun'75

"Spheres in closest pecking ere high-tide aspects of vertexes. It is easy to be misled into thinking that there are no lines Involved when you see two spheres in tangency, because the lines are hidden inside the spheres and between the points of tangency. And if you do realise that there is a force line between the two spheres¹ centers, you could assume that there is only one line between the two. This is where you see that unity is two, because the line breaks itself into radii of the two spheres."

- Cite SYNERGETICS text at Sec. 537.21; galley rewrite, 7 Nov'73

"You have to have division of the line to have frequency, ergo to have time."

- Citation A. context at Timeless. 12 Sep*71

"The word 'line'¹ is nondefinable: infinity. It MH is the axis of inter-tangency of unity as plural and minimum two.. The line becomes the axis of spin. Even two balls can exhibit both axial and circumferential degrees of freedom."

"It is very easy to be greatly misled when you see two spheres in tangency. There is only one line between the two. This is where you see that unity is two because the line breaks itself into radii of the two spheres."

- Citation & context at Tangency_f 31 May*71

See Axis of Intertangency Internuclear Vector Modulus Prime Vector
Radial Line as Tetra Edge Vector: Half Vectors

See Axis of Spin, 19 Jun'71* Bow Ties: Genesis Of 12 Sep`71 Cube:
Diagonal Of, 20 Dec'73 Isotropic Vector Matrix. 28 Feb'71 Pauling,
Linus, 7 Oct'7* Tangency, 31 May'71* Timeless, 12 Sep'71* Vector,
10 Nov'73

"All experiences are omni-directionally oriented. That is life!

"Special case experiences may appear (only locally) to be linear--
for all experimental observations of at first seemingly 'straight'
lines of experience (subjective) or of experiment (objective) when
projected are always discovered to be short increments of large omni-
directionally peregrinating curvilinear wave actions of discontinuous
events: stars--- in milky-way like 'linear' arrays."

Cite NASS Speech, p. 100_f Jun'66

FATTAH SIS'. 12

Un ear * curvilinear:

"Lines are inherently curved and must eventually meet or rejoin their ends,"

- Cite Two (2i, 10 Jan>50

See Chords & Arcs

Local Radius

Tetrahedron: Visible or Invisible Chordal Area

Linear to Curvilinear:

(2)

See Two (2)*

Unsafety of Hunting Mon?

See Air Space, May'65

: If it Exists

See Triangle, Jun*71

Line: Imaginary Straight Line:

In speaking of his ¹ purely imaginary straight line' the mathematician uses four words all of which were invented by man to accommodate his need to communicate his experiences to self or others: ⁿ¹ 'purely' comes from the relativity of man's experiences in relation to impurities or 'undesirable presences.'*

- Cite RBF to EJA Somerset Club, Boston, 22 April 1971

Imaginary Straight Line:

See SIMS, U. Kass, Amherst, 22 July '71, Talk 12, p. 29 et . seq.

Synergetics : Sec. 522.36

LAas.s Imaginary Straight. Line:

(1)

See Deliberately Nonetraight Line

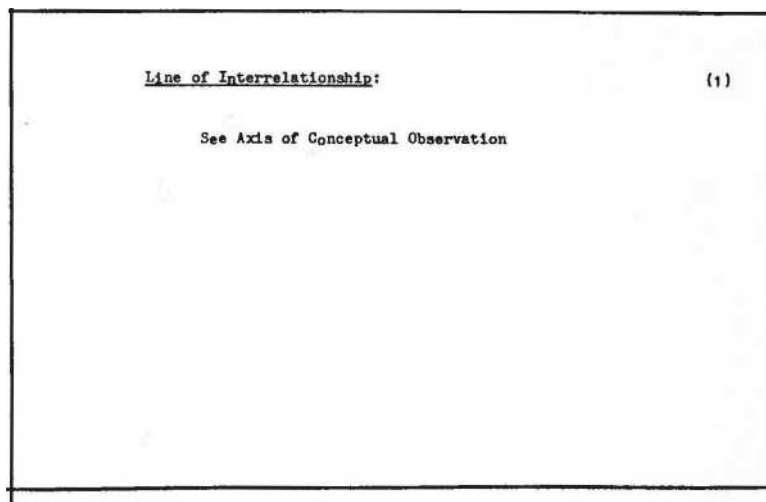
Sea Systematic Realization, 20 Dec'74 Generalization tc. Special Case, Nov¹?¹

Line of Interrelationship:

'•In minimum Awareness two points plus one area of nothingness have one inherent line of most economical interrelationship between the two points, which two points plus one area equal the number of lines: In this case 'one' plus Euler's abstractly accommodative two. (The line of interrelationship is another aspect of the prime vector.)"

- Citation *k* context at Minimum Awareness Model. (1), 9 Jyn'75
as rewritten for SYNERGETICS, 2nd. Ed. at Sec. 505.82.

29. Jun'75



See Self & Otherness: Four Minimal Aspects, 9 Jun*75 Thirty Minimum Topological Characteristics, (1) Soraethingness & Nothingness, 9 Jun'75

Line k Nonline: "In 1B a line; and out is nonlinear.*

- Citation & context at In k Out. 7 NOT'72

Ljnflftr xa«-PnuUdirftcti.QTflf

See Eternal & Temporal, 20 Feb*77

Human Beings at the Center, (1)(2)

> May'74

Feb'73

Linear va. Osmieabraclae:

Sea Synergetic Hierarchy, :

Eternal ft Temporal, 16

yg. °rfriyai:

**"...Linear... constitutes release from co-orbiting (or critical proximity orbiting)
into the generalised orbiting of all Universe."**

- Citation & context at Orbit. 14 Feb*73

See Radial vs. Orbital

One Way vs. Round Trip

Local Radius vs. Wide Arce

Orbital Feedback Circuitry vs. Critical Path

**See Frequency, 11 Mar*69 Generators, 19 Feb*72 Orbital Feedbacks,
10 Sep'74 Rectilinear Frame. 24 Sep*73 Specialization, 20 Aug'66
Umbilical Cord, 5 Jun'73 Orbit - Circuit, 10 Sep*74 Scrap Sorting &
Mongering (2)(3) Decentralize vs. Centralize, 1 Apr'49 Thinking, 10
Sep*75**

TEXT CITATIONS ₍₁₎

***0 Unea. Cannot, Go Through Sane Point At Sane Tina:**

Music of the New Life, U. or 0, pp. 66-67, 10 Dec*64

Mexico'63, p.23, 10 Oct'63

AAUW Journal, p.176, May'65

NASA Speech, pp.48-52, Jun'66

Ledgemenot lab, pp.12-13, 15 Oct'64

Oregon Lecture #3, p.87, 5 Jul'62

Oregon Lecture #4, p.115, 6 Jul'62

Lines Cannot Go Through the Same Point at the Same Time:

See Interference

**Tangential Avoidance Vectorial Near-miss Vertexial connections Twist
Vertex of Exit**

Lines Cannot Go Through the Same Point at the Same Time: (2)

**See Vectors & Tensors, 19 Oct'72 Nonsimultaneous. May'71 Critical
Proximity, May'71 Domains of Convergences, 7 Nov'73 Triangle, (a)
Zero Volume Tetrahedron, 10 Dec'75**

Linear Pointal Frequency:

"Arithmetical one dimensionality is identified geometrically with linear (trajectory) pointal frequency."

- Cite COLLIER'S as written in SYNERGETICS "Corollaries.
Sec. 240.42 and "Modelability, Powering," Sec. 771.1 1971

**"'I go for my honey' is linear, specialized, disintegrative Ideologies,
sovereign states, corporations, bureaucracies, bureaucrats--- all are
□□□□* linearly programmed, biased and competitive."**

- Citation and context at Ecology Sequence (F), 5 Jun'77
Linear Becomes the Second-power Rate of Growth;

See T Module, Jul'77

"And all the categories of creatures act individually as special case and may be linearly analyzed, but retrospectively it is discoverable that inadvertently they are all interaffecting one another synergetically as a spherical inter- precessionally regenerative tensegrity spherical Integrity, geodesic spheres demonstrate the compressionally discontinuous -- tensionally continuous integrity."

fol_A

- Cite SYNERGETICS draft at Sec. 1005. Sir, 16 Feb'73

Linear Sraiaetrv:

See Tetrakaidecahedron, 19 Feb*72

"A linear tetrahedron haa six relationships. Four unique frequencies (sizes) of entities, or particles, comprise the tetrahedron."

SEt ILLUSTRATION ,

- Cite OMNIDIRECTIONAL HALO, p. 139 1960

Linea • Trajectories:

See Trajectory, 22 Apr*71

See Bias on One Side of the Lino

Circuit

Constant Relative Abundance

Control Line of Nature

Cube: Diagonal of Cube as Wave Propagation Model

Deliberately Nonstraight Line

Domains of Lines

Embracing & Linear

Field Lines

Force Lines

Geodesic Lines

Interference

Line Between Two Sphere Centers

Loyalty

Nonradial Line

Radial Line

Straight-line. 180-degree Thinking

Straight-nothingness

Trail Making Sc, Trail Remembering

Trajectory

Vertexes, Faces &. Lines Nonintersecting Lines Acceleration; Angular & Linear Lines

See Vector

Wavilinear

One-dimensional Outline

Inline

Liaa: J-inw.: $<2^*$)

See Acceleration, 15 Feb*73

Boundary Condition, 26 Sep'73

Circuit, 25 Jan*72

Constant Relative Abundance, 29 Nov'72 Degrees of Freedom, 13 Dec*73 Domain, 11 Feb'73 Domains of Lines, 18 Jun'71* DNA-RNA, 16 Feb'73 Explosion, 7 Feb'71 Fear, 23 Feb'73 Gemometry of Reality, May'49 Individual: Theory of the Individual, May'65 Interference, Feb'72 Interrelationships. 1971* Meaningless. Oct'60 Metaphysical i Physical 1971 Metaphor, 16 Feb'73 Powering: Sixth Dimension, 29 Nov'72 Probability (1) Radiation: Speed Of, (C)(D)*

See Ring. 10 Jan*50 Specialisation (1) Temporal. 1t> Feb'?3 Truth, 16 Feb'73 Umbilical Cord, 4 May'73 Wave, 8 May'72 Wavilinear, 11 Oct'?1* Time. 8 Mar'71* Two (2)* Point, 20 Dec'73* "Out" as the Containing & the Contained, 5 May'74 Polyhedron, 1 Jan'75* Center, 21 Jan'75 Plane, 19 Feb'72 Systems & Nonsystema, 26 May'72 Thirty Minimum Topological Characteristics, (2) Somethingness & Nothingness, 9 Jun*75* Minimum Limit C_a se, 12 May'75 Curved Space, 1938* One-dimensional Polarity, 11 Sep*75 No Opposites, 12 Nov'75

See Microsystems, 22 Mar'76*

Crystallization, 29 Apr*77

Four-dimensional Reality, 30 Apr'77

Causality, Jan'77

Will, (D

See Linear Acceleration

Line Between Two Sphere Centere Linear & Curvilinear Linearity of Hunting Men Line: Imaginary Straight Line Line &. Nonline Linear vs. Omniembracing Linear vs. Orbital Lines Cannot Go Through the Same Point at the Same Time Linear Pointal Frequency Linear Programming Linear & Spherical Analysis Linear Symmetry Linear Tetrahedron Lines `` Trajectories Line of Interrelationship Line: If it Exists Linear ys. Omnidirectional

Linear becomes the Second-power Rate of Growth

LjFWUoUgg:

See Codes

Koryzybski Message: Message Contents

See Attraction Link-up

Chain Linkage

Chain Stronger than its Weakest Link Interlink Tetrahelix Gap Closer

See Carbon, 8 Jun'72

Local Entity, i960

Invisible Quantum as Tetrahelix Gap Closer.

23 May'75

HBF DEFINITIONS

Liquid;

"Double bonding provide# a hinge between the tetrahedra which are still flexible and forces being applied telegraph throughout the whole system. Liquids have this extraordinary quality of distributing forces. Yet liquids are noncompressible: you find that if you ut tetrahedra edge-to-edge that you cannot compress them any more. The coherence of the liquid's viscosity is twice that of the gases inherently."

- Cite Tape transcript HBF to EJA and BO'R, Chicago, 31 May 1971-

Liquid;

"The double bonded tetrahedron system is like an engineering hinge joint: it can rotate about an axis.

It characterizes the behavior of liquid."

(See Illustration #21.)

- Cite SYNERGETICS ILLUSTRATIONS, Caption #21 1967

Liquid ** Nonform;

See Ice, 29 Apr'77

See Scrap Sorting *Sc.* Mongering (4)

Plumbing, (1) Package, 31 Jan*75 Load Distribution, 17 Oct'77

Liquid Solid:

See Water, 12 Nov'75

See Chemical Bonds

Fluidity

Human Beings & Hard Machinery

Hydraulics

Load Distribution

Plasmics

Wave Pattern of a Stone Dropped in Liquid

Liquid vs. Solid

Water

Bivalence

See Incandescence, 5 Jun'73

Scrap Sorting k Mongering (3)(4)

Thermal, 6 Mar*73

Gibbs: Phase Rule, 26 Sep*73

Chemical Bonds: Double Bond, 19 Dec»73 Olfactoral, 22 Feb'77 Ice,
29 Apr'77*

Bubble Bursting, 20 Jan'78

Liat: Liats;

See Inventories Paired Concepts Trends

Listening:

"I'm not an influencer. If a man asks me something, he's listening. If I ask him to listen to me, he's not listening."

- RBF quoted by Lae Dembart, New York Post, 26 April 1971

Listen: Listening:

See Fuller, R.B: Crisis of 1927, (2)

Lite:

See Syte, 20 5ec*73

Literacy: "Literacy ie absolutely Number One priority. Tou have to know what your problem is. Rusela was able to go from under 10 percent literacy up to I think y2 percent in a little over a decade. That came from a ddep understanding that literacy was absolutely essential.

"Historically, men weren't literate. It's an absolutely extraordinary thing to have a world where people are literate and where people can read and communicate and information gets passed around the way it does today. It's a very new matter. But I don't expect miracles. As you become literate, more and more literal, you realize that we do start with a mind and that in the end it's going to be mind over matter. Pan has been operating with matter over mind right up to now.

"The guy who was strongest and toughest could get hold of a gold mine and say: Listen, you, you understand, that's mine. Pure right makes roeight. We're Just breaking out from that. Everybody had just accepted the idea of property. But there's nothing from God in those deeds. Nothing from Universe. It's simply from the strong man. So there's nothing in there about* logic or how to make the world work. It's simply an illiterate man who's very hungry and tough and big and how does he act." - Cite RBF to B. Fmarrell, Tape //7, Side A, p. 4; 16 Aug'70

See Design Science, Feb'72

Transnationalism vs. Colonialism, (4)

World-around Communication Transcends Politics, (2)

Everybody's Business. (1)

Human Unsettlement, (5)(6)

Buddha: Christ: Mohamed, (1)

See Generalisations: Mathematical ya. Literary Science: Gap
Between Science & the Humanities Snow, C.P

illssaa: iliSOELita:

(2)

See Algebra, 28 Oct*64 Conceptuality, 1965 Joyce, Janes, 1965 Mod-
elability, (1}{2) Aiken, Conrad, 14 Feb'72

LXW.atj *, XXX Iterate:

See Continuous Man (1)

IpdIYldMAL: MfiJV

See Bis Man va. Little Man Individual Economic Initiative

See Celestial Position Integrity, 24 Apr'71 God, 10 Feb'73 Gravity, 16
Feb'73 Kaleidoscope, May'49 Lever, (i) Inertia, 20 Dec'71 » ⁶ Nov*73
Limit, <93B Nature, 13 Feb'72 Nature's Subvisiole ^urder, (2) Percep-
tion, 24 Apr*67 Poverty, Kay*72 Relationship Analysis, (1) Resultant,
22 Jul'71 Spherical Sweepout, (1)(2) Industrialization, 1y46 Tragedy,
Feb'72 Trim Tab, 8 Jan*66 Trim Tab Sequence, (1)

See Design Science: Education For, 1 Feb*75 Orbital Escape from Crit-
ical Proximity, (2)(4) Everybody's Business, (1) Doing What Needs to
be Done, (A)

See Big t Little

See Thinking Out Loud, 1968

Live Shows:

Sea Stars as Live Shows Billions of Years Ago

LIYflslWQUragll:

See Invisible Architecture, (E)

Seo Dwelling Machine

UYIBK **Mashlaai**

See Rose, 1933

(2)

Living Rooms:

"Our living rooms are empty seven-esighths of the time.

~~- Cite Operating Manual for Spaceship Earth, 1969~~

- Citation and context at Empty_f May'70

MYIPE Room;

See Einpt y, Kay*70*

Living:

See Earning a Living Life

Right To Live Standard of Living

Livinxrv:

"Livlngjr inplenenta life; weaponry implements death."

Political Union, New Haven, 9 Dec*73 Dec*73

- Cite RBF address to Tale as expanded by RBF, 13

Livinerv:

"Llvlngrv inplenenta life."

- Cite RBF addreeo to Yale Political Union, New Haven, y Dec'73

Livingrv:

"Despite politic*! stratagems the prime wealth capability is . . . , es-
caping from its negative preoccupation in weaponry and killingry in
general to positive preoccupation in livinery for all humanity,"

- Cite THE AGE OF THE DOME, Jul*69

Livlngrv Science:

"Space research's imminent solution of closed
sanitary human metabolic circuitry— livingrv science}

-Bite PREVIEWS, I&I, p. 213, ¹ Apr'49

See Killingry

Weaponry

Weapon Technology

Dwelling Service Industry

See Artist-scientist, May*60

Buiding as Machines, (2)

Dwelling Service Industry, (1)(6) Industrialization: Curve Of, (1) Service Industry, 29 Aug'64 Wright Brothers, 10 Oct'63 Mobile Homes, 20 Sep'76 Dome House Grand Strategy: 1927-1977, (1)(2)

Load Distribution:

"The prime difference between humanity's thus-far-developed technology and that of nature's biological designing is that nature solves her compression problems by load-distributing hydraulics while humans solve compression problems only by non-load-distributing 'solid' crystalline substances."

- Cite RBF's "Introduction to Einar Thorsteinn's Book," Para 030, p.8; 17 Oct'77

"Th. crystallines are very poor at compression load distribution, in fact, they are approximately 'ml,' unlike the liquids and gases which distribute all compressional loads universally. In trees and human beings the crystallines are used only for teneional continuity at which

they excel, having threefold the integral atomic coherence capability of the gases and two fold the coherence of the liquids.. This is Just the opposite from the way we humans have been building our buildings. Humans have been using only omnlcrystalllne structuring in their fixed land buildings."

"The crystallines are very poor at load distribution, unlike the liquids and gases. In Xrees and human beings the crystallines are used only for tensions! continuity. This is just the opposite from the way we build our buildings."

- Cite RBF address to Tale Political Union, New Haven, 9 Dec'73

See Hydraulics

Geometry of Vectors Isotropic Vector Matrix Pneumatic-hydraulic
Tensegrity Trees

Liquid vs Solid

See Geometry of Vectors, 15 Jun'74

Safety Factor, 25 Sep'72

Human Beings & Hard Machinery, 20 Apr*72

Lobster:

See Marine Life Analogy of Humane, 20 Sep*76

Local;

"The complementarity of the octahedron with the vector equilibrium permits us to get down to the local and not be afraid of missing the rest of Universe, because we know the fundamental complementation of macro tetra and micro tetra."

RBF DEFINITIONS

Local;

"A system is a local phenomenon in the Universe.

- Citation and context at System. 26 Kay'72

Local:

'•There is no geometry of space--- only of local aggregates of principles, of special cases."

Local:

"Because of the tidal fluctuations of syntropy-entropy

Local environmentfl are forever altering themselves."

- galley--F«b!72

- Citation at Syntropy & Entropy, May'72

Local:

"All 'lines,* trajectories, are the most economical vectorial interrelationships of nonsimultaneous local event foci."

- Cite STNREBOETICS Corollaries, Sec. 22*0. 1971

Local:

"...Reality is the whole... playing the gme within actual physical experience. Not loca'

of reality . and arbitrary

- Citation and context at Cosmetry. 1 Oct'71

Local:

"You'll never see anything but the asymmetrical because we are so local. Our seeability is inherently local."

- Cite tape transcript RBF to EJA-and—BO* R, Chicago, 31 Nay, *7*

- Citation and context at Seeability, 31 May'71

Local:

"The word locally means locally in time and space.

By space we mean size-- a function of time.'*

- Cite RBF to EJA Somerset Club, Boston, 22 April 1971

Local;

"Infinity is local

And occurs within definite systems, As for instance

Following a great circle

Around a sphere..."

- Citation *k* context at Infinity (1), Oct'66

Local:

"Local is continually subdivisible."

- Cite Oregon Lecture #4, p. 158. 6 Jul'62

Local;

- Cite Synergetics Corollaries, Collier's. Oct'59

Local:

"Synergetics' six positive and six negative dimensional reference frames are reinitiated and regenerated in respect to specific local developments and interrelationships of Universe."

Citation and context at Powering: Six Dimensions. Oct'59-Jan'72

Local:

of scientific endeavor has been the fact that their success was local because it was won by excluding other considerations of universal result? - awkward complications always arose when the special local advantages were completely intersoelated." r z

Synergetic Principle er

- Citation and context at System: the Whole System (1), July'59

Local AlternblUy-

Sea Tetrahedron: Coordinate Symmetry to sax Atpanrx- "Symmetrical means having no local asymmetries. Oani- symmetrical permits local asyranetries. Universe is omnisymmetrical. A three-bladed propeller is dynamically symmetrical (three pear-shaped blades at 120° to each other Inscribed in an equilateral triangle). The propeller blade As l&gally, figyByetrlqal."

- Cite HBF to EJA, Blackstone Hotel, Chicago, 31 May 1971.

See Conformity, 10 Oct'63

Reverse Optimism, 10 Oct'63

Local Change:

See No Local Change

Local vs. Comprehensive:

"Relationships are local to pattern. Patterns are comprehensive to relationshippe."

- Citation at Pattern. 20 Dec'71

Local vs. Comprehensive; (1)

"I guess as a consequence of trends that I observe that we will always have a limited function, that we are meant to be ^a local function and not the comprehensive function. This is the nearest thing we've come to what we probably mean by the word 'god'; it's a great comprehensive integrity, the all-knowing integrity of the Universe.

"I discuss this in The Game of Life, Chapter 43 of NINE CHAINS TO THE MOON. (I took it out just before it got published because I was afraid it would be much too esoteric for people in the 1930's; I thought it might hurt the credibility of the rest of the book at that time.) In it I have god deciding to test his own infallibility, the real integrity of the Universe, himself; and we have a totality of the time which is for the moment expressed as a sphere, which looks like a circle; and we have then a dropout, an ego dropout, that's a tiny little section of arc of the enormous circle, so short that it looks like a straight line; and it thinks it's straight and breaks out and starts falling away.

"So at first there's a great big circle with this tiny little line dropping away from it; and as it gets further and further"

- Cite tape transcript, pp. 15—16; RBF to B. Brocks, 30 Apr'74

"away, it becomes more and more concerned with itself; and the big circle gets smaller and smaller, and finally gets to be a little dot above a little eye--- i--- and then it gets to be a big eye-- I--- and throws away the dot altogether. And from then on it's really in trouble.

"The god then takes all the cards and all the rules and the laws and everything and tears them all up in little bits and tries to throw them to smithereens-- and you've got to put the Universe together again and find out whether the integrity is really there.

"So we start in in World Game in trying to put it all together again. And this more or less matches the kind of evidence we have as a trial balance of Universe: How much of a mess can you really introduce and still come out of it? And the kind of mess that's going on right now on our planet is typical: So how do you pull out of this mess?

"The god would periodically, then, reject himself so that we might become part of the great all-knowingness again instead of being separated out as ego."

- Cite Tape transcript, p.16; RBF to B. Brooks, 30 Apr'74

See Embracing vs. Linear

Local Radius va. Wide Arc

total ya, $C_{\text{gra}} \cdot \text{as.n}_{\text{lyB}}$;

(2)

See Pattern, 20 Dec'71*

Einstein: General Theory & Special Theory, 4 Mar •73

Tensegrity, 14 Oct'?2

News & Evolution, (1)(2) locally Conceptual;

"What man has previously spoken of as 'infinite,' we must now speak of as 'finite' but 'nonconceptual,' and what he has spoken of as 'finite,* we must now speak of as 'definite,¹ i.e., 'locally conceptual.*"

- Cite Ltr. to Dr. Robt. W. Horne, 14 Feb '66, p. 5

See Conceptual Set

Definite

foment: Momentary

See Conceptuality, 22 Oct'72; Jun'66

local CQnawYftlQn r Coanlc $R_{\text{fgftMratlon}}$ •

"The excess_A of gravity over radiation equals the excess of cosmic integrative forces over cosmic disintegrative forces which is then syntropy over entropy, which conserved energy is invested in the constant transformative transpositioning of eternal regeneration of Universe."

(S'

5U.W, 9 May'?5

- Cite SYNERGETICS draft, 2nd. Ed. at Sec.

See Pattern Conservation

Local Conservation Cosmic Regeneration

See Pattern, 3 Oct'72

Regenerative. 15 Mar*71J 3 Oct*72

Dymaxlon Artifacts, (1)

See Cosmic Discontinuity & Local Continuity

"Nonsimultaneous Universe is finite but conceptually indefinable; local systems are definable. We discover that Universe is finite and a local system is definite; every definite local system has inherent, always and only co-occur ring twoness of polar axis spinnability and twoness of concave-convex complementary disparity of energy interaction behavior (concave concentrates radiation; convex diffuses radiation), plus two invisible tetrahedra (or two unities), altogether adding together as equal finitely fourfold symmetry Universe. The difference between Universe and any local system (HI is always two invisible tetrahedra. Every local system may be subdivided into whole tetrahedra."

- Cite SYNERGETICS TEXT AT Sec. 535.02, Nov'71

Lasallr i-'egen'iorit:

Sec Gestation, 4 ftr'73

local Dlchappiyi

See Compression, Dec'71

toaLBxlas¹

See Entropy, Jan*72

Local Energy:

See Vector, 22 Jun'72

Entity:

"The locally definable entity is not complete for it does not exist by itself. All experiments show that local entities are inherently both entropic and antientropic; i.e., all local systems are always intimately linked with the rest of Universe by measurable import and export pattern transactions.

- Citation & context at Definable, (p.135) 1y60
RBF DEFINITIONS

"The local environment is a system. A line is always formed by «*»waIteration of the local environment by another system. 'Lines' are the pattern of Consequence of one system altering another system, either by adding to it, or by taking away from it. The event leaves some kind of tracery ..."

- CUE
ltqg».
‘QoneepEua 1IXV t -TncerrfarrTce’
- **Citation & context at Line. 25 Apr*71**
Local Environment:

See Big System, 5 Jun'73 Syntropy d Entropy, (A)

Local Events:

"All local events of universe may be calculatively anticipated by inaugurating calculation with a local vector equilibrium frame and identifying the disturbance initiating point, direction, and energy of introduced action."

- Citation at Vector EouilFrame, Oct¹
Local Event:
(1)

See Local Change Newton's First Law of Motion

See Frame of Reference: Six Schemata, 28 Oct*73

How Little I Know. 1968

In & Out, *k* May'57

Newton's First Law of Motion: RBF Restatement Of, *k* May'57

Synergetics, 1959

Synergetics Calculation, 1971; 30 Oct'72

Tetrahedral Dynamics, (2)

Tetrahedron: Coordinate Symmetry, Nov*71

Transformation Event, 21 Oct'65

Twelve Universal Degrees of Freedom, Dec'61

Environmental Inventory, 28 Apr*77

Local Evolutionary Transformation Event;

See Design Science, 13 Far'73

Facai Afipct?

See Plane, 19 Feb'72

Local Fy:

"... Four dimensionality allows local fixities without in any way locking or blocking the rest of the system's omnimotioning of intertransforming."

- Citation and context at Powering: Fourth and Fiftha Dimensions.
966.07, 18 Nov'72

See Awareness, 10 Feb*73

Prime Number Inherency *k* CRA: Principle Of, 1959 Unsettling vs. Settlements. 20 Sep'76 Environmental Inventory, 2b Apr'77

~~HAMM~~UL Fatterne:

(1)

See Holding Patterns of Energy

See Atomic Computer Complex, (8)

Tetrahedral Dynamics, (2)

See No Local Identifications

Locality:

Mechanically and chemically, a steerable rocket embraces a complex of internal and external events* Both airplanes and steerable rockets are complexes of internal and external energy event transactions and omni-interacting resultant motions in Universe transcendental to Earth motions, where the observerarticulator is extraterrestrially positioned. Since the Earth is moving as a dependent motion-complex in respect to the Sun's and other planets' motions; and since the Sun is engaged in a plurality of internal and external motions in respect to the galactic system; and since the galactic system is a complex of motions in respect to other galaxies and supergalaxies, and so on; and since the whole set of motion events are nonsimultaneous and of uniquely variant durations; and since the intereffects of the events vary vastly in respect to aeons of time, it is obvious that any thinkably meaningful conceptual coordination of event interrelationships by the meager lifetime limits of humans is inherently limited to a relatively local set within Universe and within a time sense, and the relationships may only be measured in respect to the angle and frequency magnitude characteristics of any one subsystem of the totality."

- Cite SYNERGETICS draft At Sec. 512, May'71

Locality: Localities:

See Fourth Dimension, 29 Nov*72 Nonpolar Points, 29 Nov'72

fowl infinity:

See Engineering. 15 Feb'66 Local, Oct'06

See Human beings 4c Complex Universe (7)

local Informallon-nonalong Devin.,,:
See Eternal Instantaneity, (1)

Local Integrity?

See Atom, 15 Oct'64

local. Jnt«X«rsn<a:

ID

See Critical Proximity

Precession Tensegrity: Vertexial Connections

See Motion, 27 May*72

Local Irreversibility:

See Intellect: Equation Of, 22 Apr*71

IrQCal toot?

See Intuition, 1 Feb'75

See Reductio ad Absurdim, Nov'71

Lpfifl LQfla«

See Annihilation, 6 Nov'73

ISsaLMMItSE:

**See Man as Local Problem Solver Man as Local Universe Technology
Man as a Function of Universe**

See Metabilical Cord (2)

Mind, 31 May'74

Monitor, Feb'73

Problem, 2 Jun'71

Principle (1)

**Sweepout: Spherical Sweepout (2) Teleology, 15 Jun*74 Self-
discipline, 28 Far'77 Womb of Permitted Ignorance, (1)**

Local Orbit: ipgal. Orbiting:

(1)

See Local Radius

Orbiting Magnitudes

Sea Critical Proximity, Jun'71 Halo Concept, Jun'y!

Jasal Order:

See Design Science, 13 Mar'73

See World Pattern vs. Local Pattern

See Order, 1971 Metaphysical Wave Patterns. 6 Nov'73 General Systems Theory, (2}

**See Avogadro: Generalised System,
Synergetic Integral, i960**

1959

Local Pattern Conservation;

See local Conservation

Local Periodicity;

See Gravity, 11 Feb'76

Aocal Znvmory of Physical Rgaourcgg:

See Things, 19 Feb'72

Localised Thickening of Pointe:

See Pattern Generalization, (1)

Jasal_Problem Solver:

tl)

See Antientropy

Kan as a Function of Universe Han as Local Problem Solver

Prgbltn stiver¹

See Christ, 7 Oct*71

'Critical proximity crimping-in is realised by local wave coil spring contractions of the little system's diameter by the big system, but local radius is always a wavilinear short-section arc of a greater system passing through it in pure generalized eternal principle,"

1009.57, 14 Feb'73

- Cite SYNERGETICS draft at Sec.

See Orbiting Magnitudes

Local vs. Comprehensive

Orbital Feedback Circuitry vs. Wide Arcs Radial vs. Orbital

lasal faalv.a ya. «lla*r.c

(2)

See Universal Integrity: Principle Of, 24 Mar*71 Orbital Escape from Critical Proximity, (3) Gravity, 12 May*75 Spiralinearity, Nov'71

See Chords & Arcs Big System k Little System Linear k Curvilinear

"Discontinuous man.,, dying without comprehension of aught but the local limitations and inadequacies of his infinitely surrounded and apparently exclusive local reality.*

- Citation 4 context at Artifacts. 1963

See Building, 10 Sep'74

.Lassi Hegauree:

See Independence of Local Resource

Local Set:

See Conditioning, 14 Feb'72

"I said we like monology and the one reason you seem to like cubes is that you can fill a lot of space with them, so these are the propensities of men. He got into quite a little trouble in a sense with his cube and square because he couldn't square the Earth. I drive across the country quite frequently, and I just drove across coming here, and you come into any one town and there is squareness locally, but the surveyors don't meet up with with the square in the other

town because it is a sphere and not a cube that we are on, so you are always having these lot lines that come to an end of the line at the road turns at a right angle and goes here

and accommodates and comes into the web of the next town. We really pay very little attention to this kind of inadequacy of our working assumptions."

- Citation at Monological, 9 Jul'62

Vetul Squareness¹

See Two-way Rectilinear Grid

Grid: Criescross Right-angle Grid

Lgcal Stiff oners:

See Tensegrlty: Interstabilization of Local Stiffeners Cartilage vs. Bono

See Deesign Coverlablee: Principle *Or.* 1959

Barth, 1965 *

local SYntrppY-

Seo Helpless: Humans Born Helplees, 13 Dec'73

LOSEl SYStOfffl-

"All local systems are conceptual."

- Citation and context at Science Opened the Wrong Door. 30 Dec'73

HBf DEFINITIONS

Local Systems:

"The phenomenon of entropy, in which all local systems lose energy, means that every local system in

giving off its energy gave it off to the environment and therefore ordered the environment. All local systems are continually generating change and have periodicity. Local systems all have patterns that do not correspond with other systems, and they are unique. While each is regular and orderly as it gives off its energies, these do not necessarily mesh, and they seem to be disorderly with regard to the rest of the system."

-Cite COFKITktNT TO HUMAN ITY, p. 29 f May-June'70

LgCaj Sy\$m:

"Each local system has its own orbiting and its own frequencies, and so forth, . . ."

- Citation and context at Relative Asymmetry Sequence (1), Jun'69

Local System:

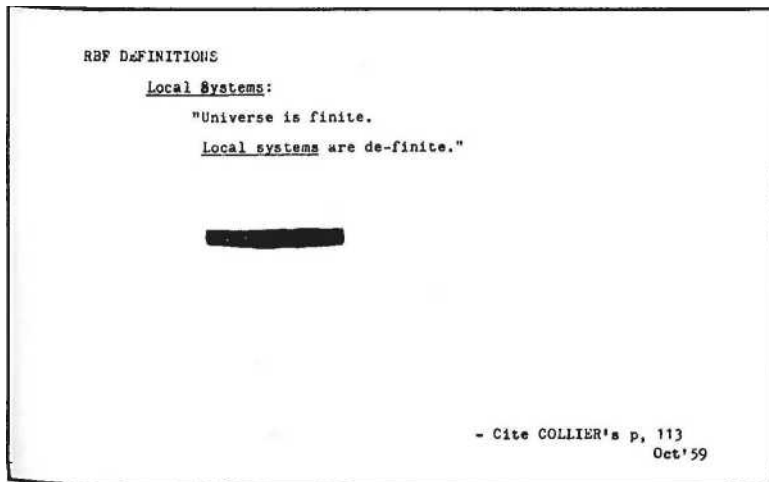
"So I find that you and I and the lamppost and its lamp are basic subdivisions of Universe* You and I and complex it are either all of the Universe that is inside, all of the Universe that is outside, or all the remaining Universe, which comprises a given recognisable system or set. The residual constellation to be reconsidered constitutes a local conceptual system.*'

« Cite NASA Speech, p.41. Jun • 66

Local Systems:

"The locally definable entity is not complete, for it does not exist by itself. All experiments show that local entities are inherently both entropic and anti-entropic, that is, all local systems are always intimately linked with the rest of universe by measurable import and export pattern transactions. Definable entities are uniquely functioning components of Universe."

- Citation at Definable. 1960



12fal_£msB>‘

(1)

See Big Systems k Little Systems De-finite

See Definable. 1960*

Conceptuality, Jun'66

Ecology Sequence (A)

Energy, Jun'66

Entropy, 19 Mar*6\$

Invisible Hole, 16 Jun'72

Package, 23 Sep'73

Relative Asyranetry Sequence (1)

Science Opened the Wrong Door, 30 Dec*73*

Positive t Negative: Four Kinds, 10 Nov'74 Finite 4. De-finite, Nov'71

See Front, Robert, 25 Hay'72

See Vertexial Connections

See Twelve Universal Degrees of Freedom, 10 Jul'62 Me Ball, 21 Jan'75

See Building, 10 Sep'74
Eternal Designing Capability, 2 Jun'71
Milky Way, May'72
Fertilization, 27 Dec'74
Self-discipline, 28 Mar*77
See Radiation-gravitation, 11 Feb'76
.Local VgctQr

"Where all the local vectors' frequency modulations are approximately equal, we have a potentially local vector equilibrium . but the operative vector frequency complexity has the inherent qualities of accommodating both proximity and remoteness in respect to any locally initiated actions, ergo a complex of relative frequencies and velocities of realization lags are accommodated."

- Cite galley correction to SYNERGETICS at Sec. 425.01, 2 Nov'73
Local *vssisr*. Equillfirlfll:
ID

See Exchange Agent of Universe Grand Central Station of Universe

Local Vector Equillbrluia:

See Vector Equilibrium, Oct*59

Local:

(1)

See Convex k Concave Localness

Cosmic Discontinuity k Local Continuity Cosmic k Local Experiences
as Local Instances Icosahedron as Local Shunting Circuit Independence of Any Local Resource Limitation Local vs. Comprehensive Locus γ ian as Local Universe Technology Nonlocal Omnilocal

Rearrange Locally

Proximity k Remoteness

Symmetrical Local Subsidence □/orld Pattern vs. Local Pattern Sun as
Local Gas Station Nothingness Local No Local Change

local: (2A)

See Black Hole (2) Change, 12 Jul'62 Compression, Spring'71 Cosmic,
3 Oct'72 Cosmetry. 1 Oct'71* Energy, 6 May'48 Gestalt, 1960 Infinity
(1)□ Particle (1 J Pattern. 20 Dec'71* Seeability, 31 May'71* Ship (1)
Start, 29 Dec'58 Structure. 29 Dec'58; 19 Jun'71 Syntropy t Entropy,
5 May'74; May'72* Rubber Glove, 23 May*72* System, 26 May'72*
Powering: Six Dimensions. Oct'59* System: '///hole System; Principle
Of (1)* Tension, 4 Oct'72

See Trigonometric Limit, 22 Jun¹72*

Twelve Universal Degrees of Freedom, 6 Mar*73

Rest of Universe, 3 Feb'73

Universe, 4 May'57

Velocity, 9 Jul'62

XYZ Coordinate System (A)

Synergetic Integral, i960

Vision vs. Speech, 21 Sep'74

Spherical Triangle, 23 Jan'75

Tunability, 22 Oct*72

Acceleration & Deceleration, 20 May*75

Symmetry & Asymmetry, Dec'71

Scenario vs. Absolute Symmetry, 11 Dec'75

Real Estate, 20 Sep'76

Human Unsettlement, (3)

Enough to Go Around, (2)

(3A)

See Local *hssfaKta&aSi* Alterability

Local Asymmetry

Local Bias

Local Change

Local Conceptuality

Local Conservation

Local Continuity

Locally Dependent

Local Dichotomy

Local Energy Content

Local Environment

Local Events

Local Evolutionary Transformation Events

Local Facet Aspect

Local Fixity

Local Focus

Local Holding Patterns

Local vs. Comprehensive

Local Entity

See Local Identifications

Locality

Locally Infinite

Local Information-sensing Devices

Local Interaction
Local Interference
Local Integrity
Local Inventory of Physical Resources
Local Irreversibility
Local Monitor
Local Order
Local Pattern
Local Patterning Aspects
Local Pattern Conservation
Local Problem Solver
Local Radius
Local Reality
Loc-1 Roots
Local Resource
Local Set
Local Regeneration

Local;
(3C)

See Local Squareness Local Structure Local Syntropy Local Systems
Local Truth Local Twist Local Universe Local Vector Equilibrium Local
Knot Local Stiffeners Local Loss Local Orbit Local Logic Local Defin-
ability Local Periodicity Local Variables Local Information Gatherer

Locked Kies:

See Tensegrity: Vertexial Connections: Locked Kiss

Locking & Blocking:

See Goar Train: Locking & Blocking

Number: Even & Odd Numbers

tacKlra 4 PIQsUPK:

(2)

See Powering: Fourth *ft* Fifth Dimeanions, 18 Nov'72

Radiation, Jun'66

Necklace, (1)

See Flight: Fixed Formation Flight Interlocking Gear-locked

Locomotion: Radius of Harps Locomotion:

"Before 1985...we will have eliminated 70 percent of local commuting while vastly increasing long-distance travel."

- Citation k context at Office Buildings: Conversion to Apartments, 20 Sep'70

tagflgMon s RadJ._U3_pf Man's Locomotion: < 1)

"As man has become knowledgeable, ha haa tranalated the principles discovered in Universe into abetting hie quickness and mobility. The physical effect of this translation has been demonstrated in important degree only within this past half century. Born with legs and not with roots, man is in principle mobile. Prior to World War I man's locomotion was primarily accomplished by his legs. He rode in vehicles only about 300 miles per year. Oft-repeated Army surveys show that man has always walked an average of 1300 miles per year, and probably always will.

"In 1919, it was evidenced that the species 'man*' had changed. Man had become an invention which moved about primarily by mechanical means. In the United States he to and fro-ed, in 1919 about 1600 miles mechanically. He continued walking 1300 miles per year, but instead of sitting in rocking chairs, he was sitting in moving automobiles. Thus he totalled 2900 miles in 1919. At the beginning of World War II, the average man was moving mechanically 6000 miles per annum; however, he continued walking an additional 1300 miles per annum, for a total of 7300 miles per year. The U.S. behavior curve in this respect is a pilot or 'tendrill*' curve of the 'world curve' to accomplishment"

- Cite PRcVIERf OF BUILDING, I&I, P.200, 1 Apr'49

RBF DEFINITIONS

Locemotion: Radius of Man's Locomotion:

(2)

"of equivalent mechanical acceleration per capita. The world-man curve is now visibly rising toward ultimate coincidence with U.S. man's curve,"

- Cite PREVIEW OF BUILDING, I&I, p.200, 1 Apr*49

TEXT CITATIONS

Locemotion: Radius of Kan's Locomotion:

MEXICO '63, p. 1, 10 Oct '63

LQgppiotlpn: -Radius of Man's Locomotion:

See Deployment: Man's Increasing Deployment Pattern Human Sense Ranging &. Information Gathering Sweepout Travel Mobility North-south Mobility of World Man Travel in a Human Lifetime World Pattern vs. Local Pattern

See Automation of Metabolic & Regenerative Processes. May*65

Walking, 2y Jan'75

Orbital Escape from Critical Proximity, (4)

Human Unsettlement, (5)

Office Buildings: Conversion to Apartments,

20 Sep'76

$L_{p,g}QBQ, tIY, g =$

See Doppler Effect, 2 Far'68

LQfiug F:

"... Without insidenesa or outsideness there la only a locus fix.... A locus fix constitutes conceptual genesis that may be realized in time."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 519.02, 6 Nov'73

"For every event-fixed Iocub in Universe, there are six uniquely and exclusively operative vectors."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 519.30, 6 Nov'73

See Conceptual Genesis Event Embryo Point

3«e Thirty Minimum Topological Characteristics, (2)

Locu» of Inflection:

See Point, 6 Nov'73

See Annihilation

He dr a

See Point, 20 Feb*73

See Isotropic Vector Matrix, 9 Mar'73

Omnitopology, 19 Dec*73

Point, 17 Feb'73: 20 Feb*73

Time-angle-sise Aspects, 30 Apr'77

Loeb, Arthur L:

See Entropy, Modules: Science:

(1)(2)

1960

A 4c B Quanta Modules, Sep'67

Gap Between Science and the Humanities

See Bio-logic

Boolean Algebra

Geometry of Thinking Metaphysical Synergy Philosophy

Reductio ad Absurdum Thinking

Conceptioning Local Logic

Hierarchy of Patterns. 1954 See Industrial Lag, 22 Jul'71 Industrial
Man, Oct'63 Logistics, 10 Dec'63 Scarcity, May'70 Comprehensibility
of Systems, 26 May'72 Communications Hierarchy, (4)

RoF DEFINITIONS

Logistics:

Logos* is the logic of logistics. It is communication: design. Logistics:
how many words does it have in it? (We must find out how many words
are in other words.) It is 2 tetrahedral: N - N." 2

- Cits RBF to Yale students at Berkely College breakfast 10 Dec'73

See Nature's Logistics

Flyable Logistics

Rocketable Logistics

Electromagnetically Transmittable Logistics

See Prestressed Concrete Sequence, <3)

Social Problems: Tetrahedral Coordination Of, 4 May*57

Airspace Technology, 20 Sep'76

Lamj-joiimunlcatlon:

See Dla-logue, 14 Feb'72

See Logistics, 10 Dec'7J

LoneiinacE; L-onc-Xincgg*

See Concrete Poetry, 28 May'72

See Length, 21 Dec'71

Four-dimeneional Reality, JO Apr'77

Fourth Dimension: V[®] at^s Fourth-dime anion Model, 22 Jun'77

Longing:

See Fear & Longing

kook: Looking:

See World Looke at Itself

Lard-Va. Pr^ayer:

"I came out of a world where the Lord's Prayer was being very generally used. I simply said I thought it has come to us through so many translations from so many languages, and we don't even know who.., it probably was a composite of thousands of mens' thinking. It no longer possibly meant what those who did the thinking meant to say.

"For instance, I said that I don't think it's logical for... to ask God to make a bargain; that you're going to forgive somebody over here—and therefore God's got to forgive you.

I said, I don't think you have to ask God anything, certainly don't have to have any proselytizers for God. God is God. God doesn't need any advocates. God is God and there is really nothing that little human beings can tell God that God doesn't already know,

"So I came to a completely different kind of feeling... I felt that the Lord's Prayer was a catalyst to make me think."

- Cite HBF taping by Dr. Michael Bruwer; Chicago, IL; 16 Feb'78

Lord's Prayer:

See Amen, 9 Sep'74

Artist, 24 Jan'72

Heaven, 23 May'72

"Retrospective awareness of losses can bring overpreoccupation with self which blinds self to recognition of the synergetic gains potentially accruing to the •separation* or 'cancellation' events which, by virtue of the second-power law, have brought group advantage gains in which the individual has attained fourth-power continuance potential often way offsetting individual freedom losses, particularly in view of the group's discovery that, as a group, it can enjoy all the original freedoms Individually lost, but never realised by the Individual to exist; ergo unemployable consciously by the individual who was more a 'viatlm' or burdened carrier of the unknown freedoms than an enjoyer of them.

"Only as spontaneous group structuring loomingly occurs, do the discovered cosmic freedoms become consciously employable as they are employable effectively only for all and not for self. When, however, this exclusively retrospective discovering of potentially advantageous freedoms is made by the grouped-In Individual, and he selfishly persists in trying to employ the freedoms exclu-

sively for self, or only for an exclusive subdivision of the group, then his attempts become inherently unfulfillable and scheduled for ultimate defeat. failure."

-SFC *mi.-zo*

Hff.it

Cite RBF rewrite of 7 Nov'72 entry; 3200 Idaho, 14 Dec'73

"It 1b * basic principle that you only discover what you had by virtue of losing it. Due to our subconscious organic coordination, you don't know what you're losing until you lose it. Naught can be so advantageous as thoughtfully considered loss and resolve to employ the principles thereby discovered for others. You don't know how much you have to give until you start trying to give. The more you try to give effectively to advantage others, the more you will possess to give, and vice versa."

- Cite SYNERGETICS text at Sec. 411.20; RBF galley rewrite of 2 Nov'73

IfiAfi: PIBCgTOFY Through-

"Retrospective awareness of losses can bring preoccupation with self to blinding self to recognition or the synergetic gains which, by virtue of the second-power law, has brought group advantage gains in which the individual has attained fourth-power continuance potential."

- Cite RBF to EJA, 3200 Idaho, WashDC, 7 Nov'72
sec, UH. 21}

"The only-retrospectively-discoverable degree of freedom occasioned by its loss is a completely synergetic disclosure where no feature of the self part predicted the successive behaviors of the whole and the individual part freedoms were only mutually disclosed by their subsequently realised loss."

- Cite RBF to EJA, 3200 Idaho, incorporated in SYNERGETICS draft at Sec. 411.3/9 Nov'72 pa

law Such Lose In the Beginning;
See Sea: The Sea, 1972

See Local Loss Lost Energies Quanta Loss

Loot Energies:

"Just as the chemists found when they separated atoms out, or molecules out, of compounds, that the separate parts never explained the associated behaviors; there seemed to be 'lost' energies. The lost energies were the lost synergeti interstabilizations."

(Synergetics: 108.03)

- Citation t context at Synergy. Nov*71

Lost Energies:

See Death: Weighing of People as they Die, 21 Jun*77

"...An unbounded loose set of 10 irregular and dissimilar somethings was not recognisable by numbers in one glance: it was a lot."

- Citation and context at Hand. 5 Mar'73

Love:

"Love is the integral of gravity and radiation."

- Cite RBF to EJA; 3200 Idaho, Wash. X; 23 Oct'77

"Love is an aspect of self and otherness, an aspect of the whole: synergy,"

- Cite RBF to EJA, Michael Deneny t Arthur Morey at Belnont Stakes restaurant breakfast, NYC, 3 Apr'75

kiXA-

"There is no question but that there is a love that goes on between humans that is quite different from the physical, baby-making love."

- Cite RBF in Penn. Bell studios videotaping, Philadelphia PA., 1 Feb'75

"That* what it's all about. Truth.... Youth.,. Love... A monkey wrench can't make love to another monkey wrench.

- Cite RBF windup of address "Humans in Universe," to Dag Haramerskjold College, Columbia MD, 17 Oct'72

Love:

"People want to be either symmetric or asymmetric. They love bias but they don't like isosceles, the fence-straddler. Real love is isosceles: inclusive but not exclusive. What people seem to mean by love is that they want the other to join them: scalene. The real love includes the other; it is omni-inclusive, semisymmetric, isosceles."

- Citation and context at Semisymmetric. 15 Oct'72
RBF DEFINITIONS

Love;

"Love

Is omni-inclusive, Progressively exquisite, Understanding and tender
And compassionately attuned To other than self."

- Cite LOVE, p.175 Kay *72

Love:

"It's not that we love (MB one more than the other.
Love is not quantitative. You du or you don't."

- Cite KBF to EJA, 3200 Idaho, DC, 21 Feb '72 (After visit of i-tichael ben~c.li)

KBF DLFINIT10KS

Love:

"So the fact that truth is spontaneous is equally mysterious as the fact of mass attraction and gravity cohering our Universe; as is the phenomenon love. We experience so much of It we tend to take it very much for granted.^{1'}

at SIIIS, U. J-Utest, Amherst, 23 July *?1, ToBt 42-t---

- Citation and context at Spontaneous Truth of Childhood, 22 Jul'71

Love:

"I share your sadness and shock over the vacuum surrounding you in respect to that non-negotiable phenomena--- love and friendship."

- Cite RBF Ltr. to Gene Fowler, 30 Nov. *60.

19JA k Hajj:

"Love is plural and pro-life;

Hate is singular and pro-death."

- Cite undated holograph in RBF briefcase, Oct'71

See Fall in Love Cosmic Synergy Kissing Rocks Don't Love Survival Sequence: Love Truth & Love Youth Truth, & Love Sex

See Conceptual Totality, May*72

Fuller, R.B: Modus Operandi, Feb'72

Fuller, R.B: What I am Trying To Do, Feb*73

Gravity, 16 Feb*73

Semi symmetric. 15 Oct'72*

Precession: Analogy of Precession Ac Social Behavior,
May*72

Spontaneous Truth of Childhood, 22 Jul*71*

Mind vs. Energy, 19 May*75

Individuality & Degrees of Freedom, (2)

Belief, 6 Jul*75

Abstractions, 1964

Human Beings, 22 Jun*77

I<QW Fraaucacyj

See Frequency: High *it Low*

See Rational Whole Numbers

Prime Numbers: First Four Primes

Limit, Oct*71

Synergetics, 29 Nov'72; 10 Jul'62

Frequency, Jun'6b

Powering: Fifth &. Eighth Powering, 11 Dec*75;

25 Jan'76

XfM. Order Prime ^NWb_{gre}: **Hierarchy Of:**

See Synergetics, 29 Nov'72

tow Praaanra v». Poaitivaa:

See Trim Tab Sequence, {2}

,PQW Pflgrlty ^Arta:

See Building

Low Tide:

See Tidal

See Higher & Lower Highs &. Lows

Loyalty;

Deception and lying all became part of protecting others like forts.

Loyalty rationalises lying. • • But when you no longer have acarcity

lying becomes obsolete.*

- Citation at Lying. 3 Oct*73

Loyalty:

'*Loyalty permits lying.*

--- Said in the context of a discussion of the futility of politics and local political loyalties.

~~Other Lecture "The Function of Man in
Town Hall, New York, 26 Feb 1971~~

am?

- Citation at Lying. 26 Feb'71

RBF DEFINITIONS

Loyalty:

"The Greeks' concept of the geometrical, bound-area of their triangle--- or their circle--- lay demonstrable on only one bound-area side of the line. As a consequence of such fundamental schooling world society became historically biased about everything. Continually facing survival strategy choices society assumed that it must always choose between two or more political or religious •sides.' Thus developed the seeming nobility of loyalties.

Society has been educated to look for logic and reliability only on one side of a line hoping the side chosen, on one hand or the other of indeterminately largelines, may be on the inside of the line. This logic is at the head of our reflexively conditioned biases."

- Cite SYNIHGETICS, "Operational Fathematics, One Spherical Triangle Considered as Four." 1971

Loyalty:

"Loyalty, which is powerfully one-sided, has come to be rated as a noble attribute. Loyalty can take outright lies in its stride. It thinks nothing of defending a fallacy. <> . "

- Citation and context at UP and Down Sequence (3), 13 Nov *69

See Blae on One Side of the Line Lying

Lovaltv:

(2)

See Rationalization Sequence, (3)

Up it Down Sequence, (3)*

Mricapta;

"Men think superficially only of lubricants and mechanically fitting tolerances whereas--- focused at the proper magnitude of conceptuality--- what goes on in the affairs of lubricants and bearings discloses discrete geometrical relationships where no event ever makes absolute contact with another. There are simply orbital interferences, where the mass attractions will always be just a little more powerful than the fundamental disintegrative tendencies."

- Cite SYNERGETICS draft at Sec. 1009.31, 10 Feb'73

Mtbrlgantg:

See Colloidal Chemistry Hydraulics

Luce. Henry:

See Inexorability, 11 Aug*70

large Patterns, (1)-(3)

Lucid: Lucidity:

See Relevant: Lucidly Relevant Set Zone of Lucidity

See Fear, 1936

Lumber:

"For example, a man takes part of a tree and shapes it into an axe handle with which he chops down trees in order to concentrate lumber from those trees so densely as to shed him from the rain."

- Citation and context at Tools. 5 May*67

Lumber:

"Umlber is lugubrious,"

- Cite RBF holograph on N.I. State Insltttte of Housing Meeting, Hotel
Pennsylvania, NT, 3 Jun'4S

Lumbers

See Trees

Wood

Lunatic;

"Lunatic means 'touching ths Moon.'"

- Cite RBF remarks at Design Science Institute press conference N.T.,
28 Jun'72

Lunch: Let'e Have Lunch:

See Idea Stealing, Fay'70

S«e Automation of Metabolic & Regenerative Processes

Kan: Automated Metabolism of Man

See Automation, Jun'69 Epistemology, 8 Jan'66

Lying:

"When there was not enough to go around lying had been legitimiaed
as a tool for survival."

- Cite RBF videotapinf, Penn Bell Studios, Phila. PA, 22 Jan'75

RBF DEFINITIONS

Lying:

"Lying is intolerable."

- Citation and context at War. 13 Dec*73

Lvinz;

"Lying is a suicidal phenomenon in a Universe that operates only on truth."

- Cite RBF address to Yale Political Union, New Haven, 9 Dec'73 as rewritten by RBF at 3200 Idaho, Wash DC, 13 Dec'73

"Lying is a suicidal phenomenon in Universe that operates on truth,"

Lying:

- Cite RBF address to Yale Political Union, New Haven, 9 Dec'73

Lvin:

"Deception and lying all became part of protecting others, like for example. Loyalty rationalises lying. . . But when you no longer have scarcity lying becomes obsolete,"

- Cite RBF in Johns Hopkins Lecture, 3 Oct'73

Lying:

"Loyalty permits lying."

- Said in the context of a discussion of the futility of politics and local political loyalties.

- Cite Lecture "The Function of Man in Universe Town Hall, New York, 26 Feb 1971.

See Bias on One Side of the Line Loyalty Watergate Truth I tiituiigan Polygraph

See Child Sequence, (2)(3) Fear, 193S Possession, 10 Jun'74 War, 13 Dec'73*

M

Mach, Ernst: 1836-1916):

See Environment Events Hierarchy, (5)(6) Physics, Jun 1966

Machinery:

"Machinery becomes obsolete almost overnight, ergo is unattractive as a continuing property and must be written off the books in five years. But machinery can be melted and reworked to ever higher earning effectiveness only by ever improving know-how."

- Citation & context at Transnational. Capital! sm & Export
Qf. Knmfrtotf, 5o Sep'76

KBF DEFINITIONS

Machines;

"The three perpendicular bisectors of an equilateral triangle cross each other at the triangle's center of gravity, dividing the total triangle into six right triangles, of which three are positive and three are negative. So there are six fundamentals of the triangle which makes possible dynamic symmetry. . . Each corner is balanced by its positive and negative--- like a street corner, this is called dynamic balance. Literally all machinery is dynamically balanced in this manner."

- Citation and context at Dynamic Symmetry. 31 May'71

- tive erpe <ii insfigxpc HDF tw L\~and Bu*n, uni«i*gw_r jl kay

Machine! :

"Machines are integral systems

Which intertransform energies

In complex but orderly

Angle and frequency sequences."

"Though humans at present

Are not in the habit

Of identifying themselves- as machines That is just what humans are

And what our planet Earth is

And what each of the living entities Aboard planet Earth are."

- CITE RBF Draft, BRAIN t MIND, pencil 1970

Machines;

"Energy intertransforming gygtemg

Conceived by the mind Are identified a* machines.

Machines consisting of energy as matter Process either matter in radiation Or MMV radiation into matter.

All biological phenomena Which are machines

Convert radiation into matter.

And all non-biological machines Convert matter into radiation while realizing other transformative work."

- Cite RBF Draft, BRAIN & MIND, pencil 1970

HBF DKFIN'ITibKS

t-'achine :

'The physical Universe is a machine--- in fact, Universe is the minimum and only perpetual motion machine»

- ~~r-LT* -1 HLTfi ! |g; HZ 11, p !L -1.1~~
- Citation & context at Univeree, 10 Dec'64

See Bullets: Synchronization of Bullets through Airplane

Propeller Blades

Tetrahedron of Interferences

Machines vs. Structures:

"...The frequency rates are the separate static frame rates of Inspection and are recognised by humans' brains as mechanics when the frequency of inspection by humans synchronizes with the cinema frames' running. The difference between structures and machinery is the same as the difference between 'moving' and 'static' pictures as both relate to human information comprehending. This is the grand strategy."

- Citation & context at Nature in a Corner. 13 Nov'75

Machina vs. Structures:

See Buildings as Machines

Machine Tools:

See Generalize, 9 Feb'76

See Baby-making Machine

Buildings as Machines

Dwelling Machines

Engine

Environment-modifying Machines Human Beings & Hard Machinery
 Humans as Machines
 Intelligence Machines
 Lever Complexes
 Living Machines
 Man vs. Machines
 Machines vs. Structures
 Mechanics
 Pattern-processing Machines
 Perpetual Motion Machine Slave-eliminating Machine Tools
 Energy Environment-harvesting Machines Ghana Dome: Self-chilling
 Machine
 See Artifacts, 15 Jun*74
 Artificial (1)(2)
 Breakwater, 15 Jun'74
 Dynamic Symmetry, 31 Kay'71*
 Technology, 28 Apr'71
 Universe, 10 Dec'74*
 Efficiency, 22 Jan'75
 Transnational Capitalism k Export of Know-how.
 (1)(2)*
 Human Unsettlement, (1)-(4)
 building Industry, (1)
 Universe is Technology, (2)
Macrocosm:

"Kacrocosmically speaking Experience teaches Both the fading away
Of remote yesterdays And the unseeability Of far forward events."

LOVE,

- Cite ttOK, p.175 May '72

KacrggflSffi: ttacrocoBmlc:

See Volumetric Awareness, 20 Feb'73

Macro-medio-mjcro:

See Medio: Macro-medio-micro

HBF DEFINITIONS

Macro-Micro:

"Macro is not opposite to micro: these are opposed, inward-
and-outward, explosive-contractive, intertransformative accommo-
dations, such as that displayed by the eight-triangular- cammed,
perimeter tangent, contact-driven, involuting-evoluting, rubber
doughnut jitterbug.

"kacro and micro are not opposed: they are the poles of inward-
outward considerations of experience."

(Sec. 465.42; 2nd. Ed.)

- Citation & context at No Opposites. 12 Nov'75

EWP-MAsrg:

"It requires a minimum of four points to definitively differentiate cos-
mic insideness for cosmic outsideness, i.e., to differentiate macro-
cosm from microcosm, and both of them from here and now."

- Citation and context at Prime Enclosure. 17 Feb'73

Mag_{rg}-Mj_{crQ};

"Events impinge upon individuals from both outside and inside themselves. Those of internal microcosmic origin usually impinge subconsciously. Most of these events of external

macrocosmic origin also impinge subconsciously."

- Citation and context at Universal Requirements of a Dwelling Advantage (1), Dec '72

CHMMMB Macro-Micro:

"It takes a minimum of six interweaving trajectories to isolate inside-ness from outsideness, ergo, to divide all Universe systematically into two parts--- macrocosm and microcosm."

- Cite SYNfiKGhTICS Corollaries, Sec. 240, by RBF 11 Oct. *71. Haverford, Penna.

REF DEFINITIONS

Macro-micro:

"Men of yesterday looked outward self-helplessly to the macrocosm, praying for miraculous salvation; today they look inwardly self-disciplinedly to the nuclear microcosm for vast sources of reliable physical power. What men thought they understood yesterday of their local experiences seemed, regular, orderly, and logical; what they did not comprehend, extending outward macrocosm and inward to the microcosm, they thought of as turbulent, random, and chaotic."

- Citation & context at New York City. (11); 1964

Macro-Micro:

"• . . The positive-negative, convex-concave tetrahedra

constitute only the minimum functional dichotomy of finite universe, resulting in a minimum portion of the universe disposed in the micro-cosm and a maximum portion of universe assigned to the macrocosm.'*

- Cite ukN I DIRECTION AL HALO, p. U1 , i960

Macro-Micro:

'*. • • Circumferential micro- or macro- being finite, and radial being infinite. Compression is micro and tension is macro.'

- Citation and context at Nuclear and Nebular Zonal Waves, 1955

Macro-micro Otherness:

See Energetic Functions, 8 Aug'77

(i)

See Between Stage of Universe Considerable Set Cosm

Man as Halfway in Range of Size of All Creatures Medio: Macro-medio-micro Middle

Min-max

Prime Dichotomy

Self-now

Tunability: Intra & Ultra

Twilight Zone

Circumferential - Macro or Micro

Invisibility of Macro*- and Micro- Resolutions Astro & Nucleic Cosmic & Local

Nuclear A-. Nebular: Nucleus &. Galaxies Orbiting Magnitudes

See Allspaca Filling: Octa t VE, 22 Jun'72 Awareness, 31 May*71
A Priori intellect, (1) Boats at Anchor Retard the River's Flow, i960
Communicating. (2) Considerable Set, 1959 Constellar, 3 Oct'72 Dy-
namic Frame of Reference, (6) Entropy, 5 Mar'55 Environment, (1)(2);
29 Mar*77 Everyday, May*49 Environment Events Hierarchy, (2) Fre-
quency, 1970 Halo Concept, 22 Feb*72 In, Out & Around. 1968 Jit-
terbug, 4 Oct*72 Insideness i Outsideness, 11 Oct'71

See Fan vs. Hunanity, Oct'70

Mass, 29 Dec'58

Minimum Set, 18 Nov'72

Minimum Structural System. 25 Feb'73

Motion Apprehension, 1968

Middle. Feb'73

Newton's First Law of Motion: RBF Restatement Of.

4 Fay'57

Nuclear Sphere. 16 Dec'73

Patterning, 19o0

Point, 20 Feb'73

Pluaj lljL, 5 Far'55 - Plurality

Positive t Negative: Four Kinds, 10 Nov'74

Prime Enclosure, 17 Feb'73*

Spherical Triangle Sequence, (iv)

System, 29 Dec'58

Stature, 20 Feb'73

Tensional Integrity, 1970

Trees. (I) *

Tunability: 19 Oct'72; 1959

Thinking, 6 Nov'73

Magro.-ftlcrq:

(2C)

See Treepassing: Not Trespassing, (2)

Twenty Questions, (2)

Universal Requirements of a Dwelling Advantage, (1)*

Zoned System: Zone Limits, 1954

Fertilization, 27 Dec'74

Prospects for Humanity, 1 Feb'75

Convex & Concave: Law Of, 27 May* 72

of Syeteme, (1)

Thirty Minimum Topological Characteristics, (1)(2)

Twilight Zone, 22 J_un'75

Energy Involvement of 92 Elements, (1)

No Opposites, 12 Nov'75*

Irrelevancies: Dismissal Of, 8 Feb*76

New York City, (11)*

Fourfold Twoness, 10 Nov'74

Children as Only Pure Scietists, (2)

Sensings & Eventings, 28 Apr'77

Greater Intellect, (2)

Human Beings &. Complex Universe, (5) (7) (8)

HBF DEFINITIONS

Mcro-> Micrg:

**"Humanity being a macro-> micro Universe unfolding eventualion is
physically irreversible yet eternally integrated with Universe."**

Citation and context at Universe, 24 Mar*71

Macro«» Micro:

"i<acro-> ml c» doe a not equal macro."

"KAMI / MIMA"

**- Cite RBF Holograph on Sheraton-Blackstone paper. Chicago, 24
larch 1971**

frjaSFQ.-fraUrO t Micro~>macro:

See Macro->kicro, 24 Mar'71

See General Systems Theory

Starting with Universe

Synergetic Advantage: Principle Of

Synergetic Strategy of Commencing with Totality

Synergy: Corollary of Synergy: Principle of the Whole System

**See Dynamic Frame of Reference (6) Humana, Oct*71 Humanity, jo
Oct'73 Intuition, Jun'66 Irreversibiliyt. 25 Mar*71 Man as Ixjcal Uni-
verse Technology, 24 Mar'71 Plurality, 5 Mar'55 Synergy: Degrees Of
(2) Universe, 24 Mar'71* World Game (1)(2) Convex A Concave, 16
May'75**

Macrophotography:

See Invisibility of Macro- and Micro- Resolutions, (2)

Macrosystem:

See Area, 9 Jun*75

See Stark, 29 May'72

Hunan Tolerance Limits, (5)

FAjlfgn Aygnwo:

"The Madison Avenue of the Gay 90's meant the area between Madison Square and 42nd Street, dominated by the J.P. Morgan residence at 38th and Madison, Madison Avenue of the first half of the 20th century referred to the shopping section from 12nd Street to 22nd Street, dominated at its base by Brooks Brothers, the Biltmore Hotel, and the Roosevelt Hotel. So attractive did the Madison Avenue vantage appear to so many corporate newcomers that they, in effect, have pulled down all the old buildings and thus terminated all the old enterprises that constituted Madison Avenue. They have built a new canyon in the Universe whose preoccupation with the abstract function of shaping men's conditioned reflexes, through advertising, has caused the words 'Madison Avenue' to hold an entirely new meaning---having nothing to do with a physical avenue itself, but with their 'corporate image'--- the collective archpropagandist, proselytiser, inducer, and seducer.**

- Citation 4 context at New York City, (5)(6); 1964

Madison Avenue:

See Beatnik, 1961

Promote: I Don't Promote, 2 Jun*74 Lunch: Let's Have Lunch

See Balls Coming Together Mother Womb

See A Priori Environment, May*72

Maelstrom;

See Universal Maelstrom

Magic:

Reality is 99.9 per cent invisible."

"Everything is magic.

- Cite RBF Quoted by Joseph Gelmis in Newsday.Canada in Itr. from Morley Markson, 1b Nov'76

MaU:

"We have no experimental proof of magic, ergo, there is no connotation of magic in the word 'metaphysics' as i use it."

- Cite NASA Speech, p. 32. Jun '66

Magic Numbers;

"Then there is the Magic Number twentyness in the relative cosmic abundances of all the atomic element isotopes, which Magic Numbers we have now identified with mathematical exactitude as constituting a hierarchy of symmetrical, geometrical patterns occurring in mathematical sequence and manifest in the icosahedron-tetrahedron shell frequency symmetry relationships. (See Synergetics Illustration *76.)"

- Cite SYNERGETICS draft Sec. 1055.4, 2 Oct'72

Magic Numbers:

"The magic numbers are the high abundance points in the atomic isotope occurrences. They are 2, 20, 50, 82 and 126 ! For every non-polar vertex of a tetrahedron there are three vector edges in every triangulated structural system. The magic numbers are the non-polar vertices."

Cite KBF undated holograph on three-page sketches of
SFC. showing • p one-frequency through six-frequency tetrahedra. 196?

RBF DEFINITIONS

Magic Numbers:

"In the structure of atomic nuclei there are certain numbers of neutrons and protons which correspond to states of increased stability. These numbers are known as the magic numbers and have the following values: 2, 8, 20, 50, 82, and 126. A vector model is proposed

to account for these numbers based on combinations of the three fundamental omni-triangulated structures: the tetrahedron, octahedron and icosahedron. In this system all vectors have a value of one third. The magic numbers are accounted for by summing the total number of vectors in each set and multiplying the total by 1/3."

- Cite ILLUSTRATION // 76, caption. 1967

Ji 3

sec j—

tonic Numbers: Isotopal Magic Numbers:

"The eightness of being nucleic may also relate to the relative abundance of isotopal magic numbers which reads 2, 8, 20, 50, 82, 126 !".

__ Cite SYNERGETICS draft at Sec. 415.33, 28/2 May'72

Magic Numbers;

"... There has emerged an impressive pattern of special and fairly regularly positioned behaviors of the relative abundances of isotones of all the known atoms of the known universe. (SEE ILLUSTRATION .)

"Looking like a picture of a mountainside ski run in which there are a series of sharp upwardly-pointing peaks in the overall descent of this relative abundance of atomic isotopes curve which originates at its highest abundance in lowest atomic number elemental isotones. These peaks are known as the magic numbers. The peaks are approximately congruent with the atoms of highest structural stability.

"The magic numbers are: 2, 8, 20, 82, and 126 I

"... We identify those numbers in an absolute synergetic hierarchy which must transcend any derogatory suggestion of pure coincidence alone, for the coincidence reoccurs with mathematical regularity symmetry and structural logic which identifies it elegantly as the node for the magic numbers."

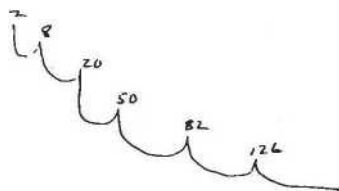
_____ "Cite NASA Speech, pp.104-105, Jun'66

WHSrtJ* *sec* qjx 02?\

RSF DEFINITIONS

Numbers: isotone . agic Numbers :

"//here the inventory of relative abundance of all the known isotopes of all the atoms identified and quantified as present in Universe show a reverse peak in the otherwise descending curve of relative abundance; it being evidenced that the lowest order of number isotopes are the most abundant: "



- Cite RBF holograph, undated, with papers left behind, Aril, '72.

Hf < t*«Rs 7

Magic Numbers Model: I cot, opal Magic Numbers:

Add as a "Discovery of Synergetics:

"A vectorial model for the magic numbers which identifies the structural logic of the atomic isotopes in a symmetrical synergetic hierarchy."

- Cite SYNERGETICS text at Sec. 251.28, approved by RBF to EJA, 29 May*?2

Mazie Numbers: JgflfcQpfl fr'-AglC^NWlb<?rg:

See Atomic Computer Complex, (J)

Closest Packing of Spheres Sequence, (2)

Pauling, Linus, Jun'66

Twenty, Oct'

Quantum Mechanics: Minimum Geometrical Fourness

(4)

Magic:

See No Magic No Magic Unirerae

Mftglnot^Lina:

See Fortress Mentality, 12 May*77

Macnaslw

See Hite aa 1'odel for Quark, 3 May'77

Magnetic. Field:

"The becoming one of both the finity inward with the finity outward indicates a sensibility of experience preoccupying man as a superficial reality which only occurs at middling dimensions of Universe and appears schematically as a magnetic field. Its flux patterns, like two tangent balls, include every size of particle, as their hour-glass-like tangentially linked inwardness, displays both inwardly and outwardly mingled sets of fountain and reverse fountain flows--- concurrently at both ends--- and through the middle. Periodically, the whole double-bulbed dynamic flux contracts axially, as the two bulbs of dynamic

flow merge progressively and then merge completely, and again separate axially. It is obvious that inasmuch as the whole system was always in flow, that the new bulbs of flux are of necessity new and are therefore only identifiable in principle with the previous comprehensive duality of shapes. The system has inherent yet empty twoness.'

- Citation and context at Reciprocity (2) + (3) > May'49

Magnetism:

"The universe is cohered only by the continuous tensional Integrity which is sometimes magnetical. sometimes gravitational, and sometimes produced by forces as yet unexplained by experimental science."

- Cite GODDESSES, Sat Review 2 Feb 63

Magnet.: tagnetism:

See Electric Motor Electromagnetic Energetic Functions

See Mass Attraction, 6 Mar*73

Electric Motor, 2J Jan'72

Magnifying Glass:

See Enantiodromia, 28 Jan'76

Magnitude:

"... Magnitude vanishes; only principles endure." The fantastic, being purely of superficial magnitude, vanishes in the face of principle."

- Citation at Principle, Kay'49

Magnitude Awareness:

"Not only can there be no awareness until there is otherness to be aware of, but there can be no magnitude awareness with only one otherness. You need two othernesses with an interval between them in order to have a sense of distance; otherwise you might just be looking at yourself in a mirror."

- Cite SYNERGETICS draft at Sec.1023.17, 20 Feb'73

Magnitude ignorance:

See DgHsr-B1UA= \$200 Billion One-Dollar Bin.

OIESllne Around EarThT?T

See Capital Worth of U.S.

Energy Magnitudes Equi-magnitude Phases Frequency 4 Magnitude
Gross World Product Heartbeat Magnitude Sequence Hierarchies Microtude

Orbiting Magnitudes

Proximity 4 Magnitude Relationship Scrutability: Magnitude of
Scrutability Time-size Unit Magnitude Rates &. Magnitudes Big 4
Little Multimagnitude

Magittudg: (2)

See Frequency, Jun'66

Nature, Dec'72

Relativity, May'49

Principle, May'49*

Synergetic Hierarchy, Oct'75

Primitive Dimensionality, 1 Mar'76

Kahariahi Mahesh Yogi:

See Intuition Sequence (1)

"We're going out from the conserved energy, the storage battery energy of the fossil fuels and nature-impounding energy force, the food, which is simply a battery. • • We're getting to the point where we finally have the knowledge to get on to the main engines of Universe.

Your storage batteries just get yourself started to get your main engine going to be regenerated."

- Cite RBF MXC address at Dubuque, IA, 15 Dec. '71
p. 23.

See Energy Income

Self-starter

See Biosphere, (3) Boltzmann Sequence, (3) Will, 20 Apr'78

See Religion as Make-believe

Maka-wpr.k •

(1)

See Inspectors of Inspectors Uneconomic Inveneted Jobs

See Uneconomic. 25 Sep`73

Earning a Living, 30 Mar'70

Mln* ths world ^ork: (i)

"The university student, having attained his first freedom of initiative, his optimum level of metabolic efficiency, bodily coordination, and general outlook, finds that his idealism is concurrently exposed to an awareness of powerful intellectual and technical disciplines. At

the same time he is the recipient of fluent science-technology breakthrough news, such as the under-the-pole ice passages of atomic submarines and new achievements in rocketry and electronics. He also receives an overabundance of news concerning world wars and political stresses that break into ever more frequent crises.

"Logically, the student becomes exasperated and says, 'Why can't we make the world work? All the negative nonsense is the consequence of outworn, ignorant biases of the old-timers. Let's join forces and set things to rights.* Parading in multitudes, students demand that their political leaders take steps to bring about peace and plenty. The fallacy of this lies in their mistaken, age-old assumption that the problem is one of political reform. The fact is that the politicians are faced with a vacuum and you can't reform a vacuum. The vacuum is the apparent world condition of not enough to go around--- not enough for even a majority of mankind to survive more than half

- Cite THE PROSPECT FOR HUMANITY, Sat Review, 29 Aug'64
EaJ Ong th? , W9rId _W2r: (2)

"of its potential life span. It is a 'you or me to the death' situation that leads from impasse to ultimate showdown by arms. Thus more and more students around the world are learning of the new and surprising alternative to politics--- the design science revolution, which alone can solve the problem.

"The students are thrilled to realize that it is themselves they must turn to in order to make the world work. through practical use of their university science and technology resources and their laboratory-supported design-science capabilities. The students know that they need no more license to invent the tools that will make the world work than the Wright brothers needed a license to invent one of the most needed more-with-less tools--- the airplane. The students'

task is clear-cut. It is to increase the overall efficiency of the world's mechanical devices from their present four percent to an overall efficiency of 12 percent. This is easy, since overall efficiencies * up to 80 percent are now feasible. The students know that if they invent the right tools, the tools will be used, given the right emergency. And they know that their design science revolution is bound to work because the"

- Citec THE PROSPECT FOR HUKANITY, Sat Review, 29 Aug'64

RBF DEFIHITOHS

` ` emergencies to footer Its realisation ere already here. Their revolution Is bloodless revolution that brings peace In the only way it may ever become effective-- by

elimination of the physical wants that always underlie war."

- Cite THE PROSPECTS FOR HUMANITY, Bat. Review, 29 Aug'64

See Competition: Elimination Of Doing What Needs to be Done Nature: What Nature Needs to be Done Utopia or Oblivion City Management Concept of World Government One-world Management Design Revolution

See Literacy, 16 Aug*70 Induatrialisation, (A) Synergetics, 7 Apr*75 Self-education, 1974

falfi ft ffinalg-

"Of course, the male is not always the hunter. There Is much in legend about the female as huntress. Diana and so forth. The male is not the seed. The ovary is the seed. The male just pollinates. No one is purely male or fenale,

"Of course there are differences. The female can stay in cold water much longer: what makes her soft makes her better insulated. There are physical differences, some impeding, some advantaging. The v[®]man is a wave phenomenon: a puller. The male, the penis works as a pusher. They are designed that way: she to be attractive, he to be the aggressor-- but the intereffects are much more complex than this oversimplification.

"When nature wants to stop pro paction she changes the way men and women look at one another."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb*75

bale & FBM1 fl:

"In the sex act the female folds In; the female is tensive but I don't see any pure males or pure females in human beings. Males can become very attractive too. This la an aspect of dissimilar and non-mirror-image complementarity.

- Cite RBF at Penn Bell videotaping session. Philadelphia.

21 Jan'75

"Male is convex; J system; i spin; i quantum.

"Female is concave; £ system; J spin; i quantum.

"Engendering is a special case phenomenon that requires fertilization. Fertilization is the sAemic differentiation out of Universe which produces conceptdaily local Universe marrying the macrocosm to the microcosm, which realizes a new special case system event with its own set of insideness-out- sideness topological characteristics."

. Cite SYNERGETICS, 2nd. Ed. at Sec. 1076.12, 27 Dec'74

"The Maori also look* at males and females

In the reverse primacy of the land-estranged Western culture Seventy-five percent of the planet is covered by the sea. The sea is normal.

The male is the sailor.

The male is normal.

The penis of the normal sea

Intrudes into the female land.

The bay is a penis of the sea.

The females dwell upon the land.

To the landsman the peninsula or penis Juts out into the ocean.

- Cite SYNERGETICS galley at 'Numerology', 12 Jan '74

RBF Of FIMTIONL

"I said females are tensive and males are compressive. I've got the compression islands. They're islanded. I want you to notice that in the human beings the female is continuous and the new life comes out of her ovaries, and out of the ovary comes the new life. She's continually opening up.

She's continuous. Female is continuous; male is discontinuous. He's islanded. Ovaries don't come out of him. & I want you to feel the consistency of this designing in Universe.'*

- Cite Univ, of Alaska Address, pp.22-23, 20 Apr '72

Mm & U_*.rgjaig:

"Woman Is tension: embracing. Man Is Islanded, the hunter, discontinuous. Women are continually studying how to hold the energy values--- to skin It or milk It. They are the gains consolidator. Women Invented Industry, like weaving; a differentiation function. Breeding for big udders. It all changes when hunting becomes obsolete."

- Cite RBF to EJA, 3200 Id, Washington DC., 19 Dec. >71,

RBF DEFINITIONS

SHMBB Male &. Female:

"Woman's nature is attractive. She employs tension, playing her male fish as does a trout angler, on a long invisibly thin, flexible line whose slackening allows the male to play himself out while gradually being reeled in."

- Cite RBF quoted in Queen, May '70

Male k Female Turbining Hubs;

See Octet Truss, 1959

Male **k** Fepalc:

See Yin-yang

**See Assembly: Law Of, 10 Dec¹73 Fish: Playing on a Reel. 20 Apr'72
Hammering Sheet I'etal, 30 Dec'73 Redundancy: Reduction Of. 22
Apr'71 Virgin, 8 Aor'75 Naga, (3)**

See Daddy

Male <k Fenale

Man

(2)

Man, 19 Dec` 71

laithus:

"Kalthus had all the secret information of the East India Company. The first world-scale look at things. His two books on population growth rate came out in 1798 and 1810."

- Cite RBF at Corcoran Gallery of Art, 'ashington DC 2J Feb '72

RBF DEFINITIONS

Malthus: Thomas Robert: (1766-1834)

"Malthus . . . was the first economist dealing with total data from the whole Earth seen as a closed system."

Feb'

- Cite RBF in Barry Farrell Playboy Interview, 1972 - Draft, p. 22.

See Acceleration of Change (2)

Design Revolution: Pulling the Bottom Up (1) Fuller, R.B: His Admission of Error, 1 Mar*72 Leaders Can Yield to the Computer, 4 Mar'69
Marx, Karl. 7 Aug¹70

More With Less: Sea Technology (3)(4) Pirates: Great Pirates (4)(5)

Mammalian-vegetation Interchange of Gases:

See A Priori Intellect. 11. Ecology Sequence. (DJ Hierarchies. 16 Jun'72 Trees, (iii)(iv)

Man:

"I decided that man as designed was designed to be an extraordinary success; his characteristics were just magnificent..

- Cite RBF quoted by Cam Smith In RBF TO CHILDREN OF EARTH, Dec'72

R8F DEFINITIONS

ban:

"ban is metaphysical mind. No mind: no communication:

no man."

- Cits RBF Intro, to Gene Youngblood's EXPANDED CINEMA p.26
Oct*70

Man;

"...The more we think of it the more astonishing it is that we identify man only as the clothes-bedecked chemistry complex through which metaphysical subconsciousness communicates to consciousness of self or others."

- Citation & context at Democritus, 6 Jun¹69

Fan:

"Each such member is

A metabolically regenerative

Ninety-nine percent automated, Individually unique,

Abstract pattern-integrity system, Whose input-output energy involvement And control capability

Must continually expand, extend, relay, rebuild And maintain as 'operative,'

An interior-exterior bi-partite tool complex Beginning with an integrally centralized organic set Which is subsequently extended into

An extracorporeally decentralized organic set.

"Both of which interior and exterior sets consist of Progressively interchangeable and intertransformable Chemical, hydraulic, pneumatic, Electromagnetic, thermodynamic, Molecular and anatomical, Structural patterning processes."

- Cite HOW LITTLE, p. 1\$. Oct'66

"I don't know any man who really knows anything about himself. I don't think any man in this room can stand up and tell me what he's doing with his luncheon. And no one can stand up and say that he's consciously pushing each of his hairs out of his head in preferred shapes

and colors, and I doubt that anyone even knows why he has hair. In fact, I don't know anybody who really knows anything. But it's very important to recognize what we don't know, and to realize that so far man has been moderately successful in his environment despite his ignorance."

- Cite Calvin Tomkins, The New Yorker, 8 Jan. '66., p. 62.

Man; Automated Metabolism of Man:

(1)

**See Automation of Metabolic i Regenerative Processes Metabolic
Flow Hair: Pushing Hair out of one's Head Lunch: You Don't Know
what Your're Doing With Your Lunch**

See Universe is Technology, (1)(2)

Man's Conscious Participation in Evolution:

"As man becomes less of a subconscious functorTrn

the Universe, which he has been, and consciously employs his faculty to differentiate experiences and to reasshciate them in preferred ways, he will become more and more effective. By becoming more conscious and developing more and more orderliness, he simply discovers more facets of the Universe. Neither he nor the Universe are getting more complex. As he learns more, man is becoming more orderly, more understanding, and more understandable. I don't find life less coordinatable. It is the increasing degree of man's conscious participation in the evolutionary events of the Universe that is important."

(The question was; "Jo you belive the world is getting more complex?")

- Cite A A IM JOURNAL, Fay 1965, P. 176

•Kan, in degrees beyond all other creatures known to him, consciously participates-- albeit meagerly--- in the selective mutations and accelerations of his own evolution."

- Citation & context at Free Will, Fay'49

See Determinism

Responsibility

Subconscious Coordinate Functioning Human Mind & Physical Evolution

See Automation of Metabolic & Regenerative Processes.

(pp. 158-159). Dec'69

Capability, 27 Dec'73

Fuller, R.f.: 'That I am Trying To Do, {1}

Epistemology, y May'62

Free Will, May'49*

Industrialization, 1960

RBF DEFINITIONS

"By recourse to fundamental principles man may... realize comprehensive advantage for his species... as a responsible anticipatory designer of his own evolutionary mutations."

- Citation & context at Charting Alternating Experiences of
Man's Degrees of Freedom of Action:

"Man's degrees of freedom of action

And magnitude of Universe penetrations,

And velocity of information harvesting

Have become ever regeneratively amplified."

- Citation and context at GENERALIZED PRINCIPLES, p.3, 28 Jan'69

Man's Degrees of Freedom of Action:

See Wealth, 28 Jan*75

If th? FQCUfl:

See Environment, Feb'73

Humanity is "taking its final examination. According to my calculations, we have about eight years in which to make it on this planet. . . . We do have the option.

"I do want you to understand that I do know what I'm talking about. This is a very critical period. Nature is trying very hard to make us succeed, but nature does not depend on us. We are not the only experiment.

"Within 10 years, using only proven techniques, and using only metals already mined and in circulation, we could have all of humanity living at a standard never known. We could phase out all fossil fuels and all nuclear fuels and live on our energy income. ... We have come to an extraordinary moment when it doesn't have to be 'you or me' anymore. There is enough for all. We need not operate competitively any longer.

"Human beings have enough knowledge now to succeed. And just possibly there are enough of the right kind of people around to see that they do. Nature is raising a new crop. I go to the schools and each year I see the young people getting to be more and more clear in their thinking: less exploitable.... or it could be curtains; if we make it, it will be because of youth and truth and love,"

- Cite HBF to Larry Batson, i-»inr.ea polls Tribune; 30 Apr'78

"Man is one way of Universe checking up with its own principles while it can aberrate."

- Citation & context at Center, 21 Jan*75

•'You do not have the right to eliminate yourself... You do not belong to you. You and all men are here for the sake of other men. You belong to the Universe.'*

- Cite RBF in interview with George J. Barmann, Plain Dealer Cleveland, 4 July*72.

"Recognition of Humanity's Unique Functioning in Universe; Humanity's unique anti-entropic functioning in Universe is as a metaphysically advantaged problem-solver. Universe needs man's intellectual capability which discovers some of the eternal laws operating in total Universe and applies them to local problem solving. That is our only meaning to each other."

Cite World-AHOUD PROBLEMS THAT HAVE TO BE SOLVED BY BLOODLESS DESIGN SCIENCE REVOLUTION, NY Times, 29 Jun'72

RBF DEFINITIONS

'Humans have the unique function in Universe
Of coping comprehendingly and objectively

With the subjectively apprehended metaphysical problems Occurring locally

Whose local solution is mandatory To eternally regenerative Universe
'The Show must go on.'

Humans are essential functions of Universe."

- Cite c.VOLU'1 IuNmRY 1972-1975 ABOARD SPACE VEHICLE EARTH
Jan. Q2, p. 4.

Man As A Function of Universe: (1)

"To really commit yourself to your subject, find out the functioning of man in Universe--- which I`m sure is to be a metaphysical problem solver. In order for the Universe to be eternal--- rather than finite as the physicist finds it--- it is continually transforming. Therefore, it is a minimum perpetual motion machine. It is a minimum self-regenerative system: no energy created and no energy lost. In a regenerative Universe where man learns more, we have the intellectual factor--- the metaphysical part of the Universe coming into awareness of the complexity of a system which has 92 regenerative chemical elements and has all the mass attraction and all the different principles operating.

"We have to be local problem solvers where Universe needs man's intellectual capability which knows about some of the eternal laws operating in total Universe; and to be able to apply them locally, to local situations. The regeneration of Universe requires the presence of a literally total design capability of Universe, locally available, to handle some very complicated problems .MMMt What we all are familiar with, everything common to anybody everywhere, is problems. And for every problem that you solve you know

- Cite RBF at ILXC address, Dubuque, IA, 15 Dec.

Man as a Function of Universe: (2)

"that you really come up with more problems. In fact, if you're a better problem-solver, you're going to get more and more big problems. But man is here in the Universe to be a local problem solver and a metaphysical problem solver. Once you begin to realize that is so, then we can begin to think about what you're going to be able to do: to find man's function. That's our only meaning to each other. So you commit yourself to how to help man become more and more capable as a local Universe metaphysical problem solver.

You experiment in how you can fortify your own self development inspired always by the needs of other men. We're not here just to be amused, but really we're needed by Universe.

A sense of worthwhileness is generated."

- Cite RBF MXC Address, Dubuque, IA, 1\$ Dec. '71.

RBF DEFINITIONS

Man: Function of Man in Universe:

"When you try to understand whetheinan has a function or not, you start by observing Universe, not man."

- Cite RBF in Barry Farrell Playboy Interview, Draft, p. 11

30. Oct'71

Man; Function of Man in Universe:

". . The huran mind nay be part of the requirement of

having a regenerative Universe that never runs down. Just as all the biological life forms on Earth are antientropic . . . His function in Universe is to do certain sortings that need to be done in order to nalntain the total integrity of Universe. His sorting, information-gathering and rearranging capability is greater than that of any other such capability demonstrable in Universe. . . Experience also teaches us that when Universe has important functions to fulfill she provides for the regeneration of those functions."

- Cite RBF in Barry Farrell Playboy Interview. 19?2 - Draft, p. 14.

30 Oct»71

'•What we all ought to be doing, is saying what needs to be done? And what do I need to know in order to be able to do it? V/hat needs to be done then, how would I learn about that? I'd have to have some understanding of whether man has a function in Universe. Are we

just theater-goers, as Shakespeare suggested, to be pleased or displeased? I know a gnat many human beings who did look upon life as something to be pleased or displeased about, as if the Universe ought to be pleasing them. And I came gradually to an awareness of what I think is our function in the Universe."

- Cite RBF at SIMS seminar, U.Mass, Amherst, Talk j⁷1J, 22 Jul'71

HBh Da* TUITIONS

Man: Function of Man In Universe:

'•Inevitable, important local problems develop in maintaining the comprehensive integrity of the omniregenerative Universal design. I think it probable that humans are designed to provide such a local Universe function. A mind may be operative el< sewhere throughout Universe in other than human organisms, But we humans have through de-selfed thought fleeting awareness of some of the eternal principles.

. . . Heaver physically minuscule man may be, the

integrity of 'transformational transactions everywhere governing local universe regeneration with discrete omni-interaccommodative design logic apparently requires the presence of a little bit of the eternal designing capability available as metaphysical mind, operating through human organisms, to be aboard planet Earth as the complex local problem processor, to offset the gamut of non-thinking conditioned reflexes of BBl all biological systems. . .

- Cite Museums . /note Address Denver, pp. 13-14. 2 Jun*71

"What humanity does locally on this planet

With its discovery of the a priori

Automated technology Universe

And its vast variety of local-option

Inexorably transformative realizations

Kay be misemployed ignorantly, short-sightedly, Or fortuitiously, i llusionally, to produce Momentarily favorable local conditions

(But inadvertently destructive in the larger context.)

"Humanity's unique

Local, complex, problem solving capability Constitutes a functioning essential to Universe. Humans are integral function* Of Universe

"Only life's temporary vehicles

Can be destroyed."

- Cite Dreyfus Preface, "Decease of Meaning" 28 April 1971, pp. 2, 3.

` ` I've come to my own working conclusion that the human does have a function; and that he is to be the most effective metaphysical orderer, comprehender, employer of information to be employed in different ways to nake the world even more orderly--- and to do so without undue wasting of energy.

Energy is supposed to be collected here. Therefore man can learn how to employ the energy patterns of Universe to do work. His job as metaphysical orderer has antientropic force or capability. His job is to rearrange the scenery continually to rearrange the somewhat random receipts of the stardust, and so forth, and to keep rearranging them in more effective ways and certainly for the regeneration of life itself.

' 'Part of this great orderliness is to try to understand that there is this function of understanding in the Universe. Man seems to be the prime, the only, manifestation we have of it; other than the a priori Greater Understanding, and I would think that our functioning is in every way to make that functioning successful aboard this spaceship Earth."

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69, Saturn Film transcript f/327, pp.16-17.

Man as a Function of Universe (*)

"I've been asking some large questions-- when you are a generalist you learn to look towards big patterns--- and I ask myself the question,'Does man have a function in the Universe?' and I am now confident that we can discover that man does have a function in the Universe. And we discover his function in the Universe in the following manner.

"Our nuclear physicists have now disclosed to us that every fundamental patterning in relation to the atom and its nucleus, every energy behavior, has its opposite. The electron has its positron, the neutron its proton, and so forth. But having discovered in our physical experiments several centuries ago regarding energy, that every local system loses energy, we have the scientists in our own era discovering that the energies are always accountable.

"The energies do not get out of Universe. Energy is finite. Je have, however, all the local systems that are continually giving off energies: as they give them off all in continual transformation and all in great motions, the giving off is in a very diffuse way, so that it's considered disorderly, and"

- Cite RBF 'The Listener' transcript by John Donat, 26 Sep'68

"it's called by the mathematicians' law of the increase of the random element. So we have a physical Universe which is locally everywhere becoming more and more disorderly. There must, by my inference of what scientists have found out about fundamental structure, be some kind of complementarity to this coming apart in a disorderly way. Because, by coming apart in this disorderly way. it of course takes up more room. Therefore it's an expanding Universe and it becomes inferred that there must be some phase of the Universe where the phenomena are contracting and becoming increasingly orderly. And if we look for that, we shall see that all the stars which are observable are light objects, and therefore they represent that energy

being given off in a diffuse and disorderly way. And we look for some black body where energy may be collected. We only find one that we know anything about and that's our spaceship, Earth. Our spaceship Earth we discovered in the Geophysical Year is receiving approximately 100,000 tons of stardust daily. We're very much increasing our avoirdupois: the Universe is collecting here. And we find, then, life being regenerated on our Earth.

°In order to have life regenerated, more energy must be taken on

- Cite RBF 'The Listener' transcript by John Donat, 26 Sep'68 **"than is given off. And the energies are impounded by the green vegetation on the dry land, which is a quarter of the Earth, and by the algae in the sea— this is done by photosynthesis, and photosynthesis is an extraordinary process where beautiful molecules are built; and these beautiful molecules become orderly structures. This is the first transition from this increasing disorderliness, where the disorderliness has been picked up as random radiation and suddenly put into orderly form. In fact all the biologicals are developing beautiful orderly structures. And amongst all the biologicals we find by far the most interesting to us is the human being, with this drive to apprehend and comprehend and order and sort out and rearrange in more favorable ways, the same fundamental drive toward what we call antientropy. And we find the human being to have this capability of the mind over the brain, and find that the brain then is physical and it's weighable, and it dies with the man. But what is unique to each of those lives is its weightless mind, then, metaphysical, and the metaphysical's function apparently is to apprehend, comprehend, the physical disorder and to bring it back towards order."**

- Cite RBF in 'The Listener,' transcript by John Donat, 26 Sep'68

Man ag a Fungfrjgn of, Unj.yerse: (D)

"We have it manifested at this little tiny point in our space travel in the great heavens. And we have Einstein, as intellect, metaphysically taking the measure of the physical and writing the most extraordinarily economical equation that has ever been written, making the most economic statement that has ever been made. I think in 100

years Einstein will be called a great poet of the 20th century. He said the most important things in the most simple way when he wrote his equation $E = mc^2$. We have here, then, intellect as metaphysical taking the measure and mastering the physical. We have nothing in any of our experience to suggest that this is reversible--- that energy will ever write equations of intellect. I am very confident that human beings have this very extraordinary metaphysical function in the Universe, and we find that if this is their function, then they are absolutely essential to the Universe."

- Cite RBF 'The Listener*' transcript by John D6nat, 26 Sep'68

"Man's function in Universe is metaphysical and antientropic. He is essential to the Conservation of Universe, which is in itself an intellectual conception,"

- Citation t context at Conservation: Principle of Finite Universe Conservation,. 20 Jun»66

See Accidental Theatergoer

Amused: We Are Not Here To Be Amused

Antientropy

Error: Pullout from Error

Local Monitor

Manifests

Prognostications About Future of Man

Survival Sequence: Love

Nature Trying to Make Man a Success

Humanity's Final Cosmic Exam

See Artist-scientists, 13 Mar*73 Charting Alternate Experiences of Man It, Nature (1) Coral Reef, May'65 Cosmic Fish Sequence (2) Design Science 13 Mar'73 Evolution, Feb*72 Intellect: Equation Of (2) Local vs. Comprehensive (1) Sorting, May'o5 Sweepout: Spherical

Sweepout (1)(2} Verb: I Seem to be a Verb 16 Aug'70 Extraterrestrial Humans, 23 Aug'70 Pattern Integrity, 9 Jul'62 Desovereignization Sequence, (7) Humane City, (1)(2) Self-discipline, 28 "ar*77 Psychiatry, (5) Interrelatedness vs. L'ames, (1) {2) Hunan beings ic Complex Universe, (8)

Man as Halfway in Range of Size of All Creature³:

"As humans are physically situate halfway between the largest and smallest known bio-organisms, they are also halfway between the astro-largest and nuclear-smallest physical phenomena;,... humans are in the middle of the cosmic scheme metaphysically."

- Citation &. context at Truth. 22 Jun'75

See Between Stage of Universe

Middle: Middleness

Me: Bigger than Me: Littler than Me

Human B_eings at the Center

Sae Berry Picking, (D)

Human Beings. 10 Dec'73

Middle, Feb*73 Industrialization, (A) Truth, 22 J_un*75*

Human Mind t Physical Evolution, (1)

OS Man vB. Humanity:

' • Fan is a self-contained micro-communicating system.

Humanity is a macro-communicating system."

- RBF Introduction to Gene Youngblood's EXPANDED CINEMA. p.26, Oct ` 70

"Goldy's account differed fundamentally from the prime evolutionary concepts fostered by humanity's scholars at the beginning of the last quarter of what Earthians speak of as the 20th century. For an instance, Goldy explained, that the design sequence and assemblage of humanity's complex- edly associated atomic elements assembled into molecules going into cells, all complexedly assembled and behaviorally programmed by chromosomic proclivities as a functioning organism, as well as the designs for progressively assembling all the other members of the Earthian ecology team, were radio-beam, program-transmitted from elsewhere in Universe to exact locations on Planet Earth. These specific species and individual design control program beamings scheduled the relative quantities of the requisite elemental atoms and the sequence of their sub-associations and general organic assemblies. These cosmically-originated, electromagnetic, photosynthetic programmings are exactly the same morphological WK control codings as those of the complexedly and uniquely intervariable sequences of the guanine-cytosine, thymine-adenine of the DNA-RNA tetrahelix assemblage programming codes and of their subsequent operational proclivities which structural and behavioral programmings (as Goldy explained"

- Cite GOLDDLOCKS, p.K5, Q Jun'75
RBF DEFINITIONS

"earlier) were recently discovered to be governing the unique design not only of all the biological species, but of all individuals within the species--- all the requisite chemical constituents for exactly complying with the coded design instruction are or were present on planet Earth at the time of the original electromagnetic wave reception at the terrestrial loci of species' inceptions, which are predetermined by the unique electromagnetic environment's complex tunability existing only at those loci. Many of the requisite chemical elements

for tunably satisfying those cosmically originated species programs had arrived on Earth at earlier times, coming as stardust or as comet plume fallouts. Goldy explained that the chemical atoms are all physical; whereas the phenomenon life is utterly metaphysical. Life is the fourth, now-you- see-it-now-you-don't, quantum. The metaphysical mind employs these organically regenerative, subjectively interacting, sensing, storing, and intuiting devices as well as all the organism's unique, objectively articulate facilities to harvest critically relevant information.

"Goldy points out to the bears that what has not been understood thus far by human scientists regarding the transmittal of energy"

- Cite GOLDSLOCKS, p.K6, 9 Jun'75

"from the Sun to support biological life on planet Earth as accomplished through the photosynthesis of Sun radiation to produce hydrocarbon molecules by terrestrial vegetation and algae, is that in addition to its heat-transmitting properties, the radiation is also a yes-no, frequency-programmed, information carrier--- which precessionally transforms the three tetrahedral quanta of radiation into the four-quanta octahedral crystals in the atomic formation of the hydrocarbon molecules. Photosynthesis is meaningful communication whereby metaphysics rules the physical (like the Federal reserve bank) by issuing or withdrawing complex coding-identified 'quanta' currency from the overall, cosmic, transforming and transaction system's accounting."

RBF UEFIINTIONS

"... The vector equilibrium is how you get from one sphere to another, from Earth to Mars."

- Citation &. context at Icosahedron as Local Shunting Circuit. 22 Jun'72

"Humans will learn how to concentrate Evermore minuscule packages of energy To impel human travelers--- So that when the time comes, Millions of years hence, For the Earth concentrated energies To become an energy reradiating star, The humans will have migrated Safely elsewhere in Universe To perpetuate its supreme syntropic functioning In Scenario Universe As the ultimate sorting, Rearranging, compacting And logic-employing local monitor Of the syntropic phases of regenerative Universe.

"It is also possible

That whatever our abstract

Metaphysical beings may be

Their complex weightless organic pattern integrity Might also be transmittable By electromagnetic waves,

Whereby humans may already have been

Or Earthians may sometime become

Beamed consciously and purposefully

To elsewhere in Universe

Traveling at seven hundred million miles per hour, Rather than at the ponderously slow rate Of twenty thousand miles per hour to which Our present Larthian rocketing is confined."

"Because humans consist of a myriad of atoms and because atoms are themselves electromagnetic frequency event phenomena--- not things--- it is theoretically possible that the complex frequencies of which human^{arH} constituted, together with their angular interpositioning, could be scanningly unraveled and transmitted beamwise into the celestial void to be received some time, some where in Universe, having traveled at 700 million miles per hpur,

which is approximately 100 thousand times faster than the speed of our moon rockets a minute after blast-off. It is not theoretically impossible in terms of the total physical data that humans may have been transmitted to Earth in the past from vast distances."

- Cite RBF Intro, to Gene Youngblood's EXPANDING CINEMA, p. 30. Oct'70

Man: Interstellar Transmission af _Nan:

"Universe is inherently complex and inherently interaccommodative. But man is no more complex than his Universe. So it's no more unreasonable to assume man a priori as a complex of principles than it is to assume Universe. Therefore, I would assume man arriving on board the planet in some way, and the more we study the fact that we are galaxies of frequencies and patterns of behaviors, and not things... it would be perfectly possible to pick up any of these frequencies and radio broadcast them. I could beam Hans from here to there. We'll do such things in due course.

"This planet is a low pressure area for gathering the Universe together again. And I can see man arriving here as part of that function. So we're a gathering point; and every time a gathering point gets to the place where it needs the mental capability of man on board, man arrives. I see him as something complete.

- Cite Tape transcript Tape #4, Side B, p.23; RBF to Barry Farrell; Bear Island, 14 Aug'70

"The biological corpus

Is not strictly 'animate*' at any point.

Given that 'ordering*

Of the corpus design

Is accomplished through such codings as DNA/RNA

Which are essentially angle and frequency modulation.

Then we may go on to suggest

That 'life' as we customarily define it

Could be effected at a distance—

"The gravitation and radiation effects

Could modulate the DNA/RNA

Angle and frequency instructions

At astronomical remoteness—

Life could be 'sent on.'

"Within the order of evolution as usually drawn

Life 'occurred' as a series

Of fortuitous probabilities in the primeval sea.

It could have been sent or 'radiated' there.

That is, the prime code

Or angle and frequency modulated signal

Could have been transmitted

- Citation *tc* context at Pattern Integrity_f (2)-(4); Oct'66

Man: Interstellar Transmission of Man; (2)

"From a remote stellar location

Not as primal cell, but as

A fully articulated high order being.

Possibly as the synergetic totality

Of all the gravitation

And radiation effects

Of all the stars

In or galaxy."

- Citation & context at Pattern Integrity Oct*66

ton. Interstellar Transmission of ton,

"For how many cycles of relative experience timing shall we go in each angular direction before we change the angle of direction of any unique describing operations ?

Now that we understand this much, we may understand how man, consisting of a vast yet always inherently orderly complex of wave angles and line frequencies might be transmitted from any here to any there by radio?"

* - Cite NASA Speech, pp. 103-104. Also as a footnote to SYNERGETICS (Frequency) Jun'66 ; Sec. 515«13.)

- Citation & context at Angle & Frequency Design Control. Jul¹71
See Cosmic Transmission

Electromagnetic Transmission of Human Organisms

Electromagnetic Transmission: Subjective &.

Conscious

Extraorganic Travel

Extraterrestrial Humans

Eye-beamed Thoughts

Planets: Probable Myriads of Consciously Operated Planets

Space Travel

Scan-transmission of Pattern Integrities

See Continuous Fan, 1y71

Darwin, Nay*70

Early Man, (1)(2)

Icosahedron as Local Shunting Circuit, 22 Jun'72*

Invisible Circuitry, (1 H2)

Life, Oct'6t>

Pattern Integrity, (2)-(4)*

Spaceship, (2)

You k I as Pattern Integrity, 22 Jan'75

Human Design, 5 Jun'75

Angle k Frequency Design Control, Jul'71*

"The invention of an utterly ignorant

Helpless, naked, multibillion-part,

Energy importing, processing, and exporting,

Self-buikiing and regulating organism

Consisting primarily of water

And operating at a constant temperature of 98.6 Fahrenheit

Requires also the co-invention by Universe

Of complementary environmental conditions

Which operate spontaneously

To look out for the helpless organism

In the most exquisitely detailed electrochemical manner.

Human mothers do Hot know how to invent their milk-giving breasts

Nor the air which the child must breathe.

These environmental support features

Are predesignedly provided."

- Cite NO RACta- NO CLASS, 1 Aug'72

Man as an Invention:

"Man was invented a mobile device and process. He has survived through his ability to advance or retreat as his mortal requirements have dictated. Of his two primary faculties, quickness is of great importance but intellect is first.

"He recognizes that vital quickness may be momentary reflex, but that satisfactory continuities are proportional to his degree of comprehension of the consequences of his initiative. Degree of comprehension he measures in terms of the $\square\square\square\square$ complex integration of all individuals' all-time experience, as processed by Intellectual integrity. His quickness would be a spontaneous servant to that integrity."

- Cite PREVIEW OF BUILDING, I&I, p.199, 1 Apr'49

TEXT CITATION

>lan as an Invention:

Total Thinking, I&I, pp, 229-230, May'49

See Humans as Machines

(2)

ftp ^an inrgnUgiu

See Cosmic Accounting Sequence, (3) Design, 1970 Religion, (1) Supreme Intellect, 3 Nov'64

Man an l/QCfrl Problem Solver: (1)

"The one comon experience of all humanity ie the challenge of problems. Problems are metaphysical entropy. Humans are here to function syntropically as solvers of problems as guided by mind-discovered cosmic principles. No other known creature of Universe has this recourse to the eternal weightless verities than which there ie nadught more powerful in problem solving. Eternally regenerative complex Universe with its vast variety of locally unique phenomena Involves complex local problems which can only be solved metaphysically by the principles discoverable only by the human mind. Here is humanity's function in Universe.

"None of the inventory of generalized cosmic principles is contradictory to one another. They are all interaccommodative. Some of them interaccommodate others synergetically with exponential rates of relative vantage gain. Altogether the known inventory of generalized principles discloses a priori, abstract, eternal Integrity of cosmic design. The cosmic integrity inadvertently discovered through my 1927 commitment to comprehensive responsibility of the designer, thus led to design integrities which conserve and abet the regeneration*

- Cite RBF in Michael Ben-Eli interview, AD, Dec'72

Man as Local Problem Solver:

(2)

"of life aboard our planet and accommodate the function of humans as metaphysically syntropic local evolution monitors--- to 'field' as we call it in baseball. The progressive recognition of ever more important and universal problems; and--- as in baseball 'fielding'¹ means to successfully intercept the random event and convert it to orderly advantage.

"Moral and aesthetic problems are the abstract kind in the solution of which, to the best of our knowledge, worms, palm trees, and cows, cannot consciously participate."

- Cite RBF in Michael Ben-Eli interview, AD, Dec'72

"I think unquestionably that humans are designed to be the most extraordinary information processing and problem solving capabilities locally available at this particular planetary point in Universe to handle very complex local problems. This Universe is quite clearly a regenerative phenomenon where no energies are known to have been created no energies are known to have been lost in which the energies are conserved; a self-reger-ating Universe that is continually evolving."

- Cite Museums Keynote Address Denver, pp. 8-9. 2 <Jun'7t

"Inevitable, important local problems develop in maintaining the comprehensive integrity of the omniregenerative Universal design. I think it probable that humans are designed to tea provide such a local Universe function. A mind may be operative elsewhere throughout Universe in other than human organisms, but we humans have through de-selfed thought, fleeting awareness of some of the eternal principles, . . . "

- Cite Museums Keynote Address Denver, pp. 1J-H. 2 Jun'71

See Antientropy

Local Monitor

Problem Solving Local Information Gatherer

See Change, 2 Nov*73

Teleology, 15 Jun'74

Prospects for Humanity, 1 Feb*75

Desovereignization Sequence, (5) Christ. 7 Oct*71

Human Beings & Complex Universe, (7), (9)

"Man is unique as the comprehensive comprehender and co-ordinator of local Universe affairs." "Mind is the weightless and uniquely human faculty that surveys the even-larger inventory of special-case experiences stored in the brain bank. We are the most complex problem-solving part of the Universe with the job of sorting and rearranging, to do continuously more with less. When man's not doing that he's anti-Universe."

- Cite RBF quoted by Tina Jeffrey in Newport News Dally Press 1 Apr'73

Man as Local Universe Technology:

"However physically minuscule man may be, the integrity of transformational transactions everywhere governing local Universe regeneration with discrete omni-interaccommodative design logic, apparently requires the presenc

of a little bit of the eternal designing capability available as metaphysical mind, operating through human organisms, to be aboard planet Earth as the complex local problem processor to offset the gamut of non-thinking conditioned reflexes of all biological systems. . . "

Cite Mu sma ms Keynote Address Denver., pp. 13-14. 2 Jun*?1

"Of all the complexes we know of in our Universe there is no organic complex which in any way compares with that of the human being. We have only one counterpart of total complexity, and that is the Universe itself. Each f us seems to be a miniature Universe. That such a complex miniature Universes found to be present on this planet, and that it is born absolutely ignorant, is part of the manifowld of design integrities."

- • • $r_1 \cdot v^{h*} r_{iv}^{rk} 7^r j \sim T^t |', \sim ? rH,$

- Citation at Human Being, 2 Jun*71

RBF DEFINITIONS

MO Man as Local Universe Technology:

"Human organisms are Universe's most complex local technologies."

- Cite Dreyfuss Preface, "Decease of Meaning " 28 April 1971 . P. 2.

"Universe is the aggregate of eternal generalized principles whose non-unitarily conceptual scenario is unfoldingly manifest in a variety of special-case in local time-space transformative evolutionary events. Humans are each one a special-case unfoldment integrity of the complex aggregate of abstract weightless omni-interaccommodative maximally synergetic non-sensorial universe

of eternal timeless principles. Humanity being a macros micro universe unfolding eventuation is physically irreversible yet eternally integrated with universe. Humanity cannot shrink and return into the womb and revert to as-yet unfertilized ova."

• we*?* *TtN*

- Cite RBF Holograph on Mw*B*-Blackstone paper.

Chicago, Illinois, 24 March 1971.

Man vs. Machines:

See Eccentricity, 7 Feb*71

Man As Pattern Integrity;

"Man is a complex of patterns or processes. We speak of our circulatory system, our respiratory system, our digestive system, and so it goes. Man is not weight.

He isn't the vegetables he eats, for example, because he'll eat seven tons of vegetables in his life. He is the result of his own pattern integrity."

- Cite I SEEM TO BE A VERS, Bantam, 1970

Man^{as} Pattern Integrity

**•••`the metabolic flow that passes through a man and is not the man: some hundred tons of solids, liquids and gases serving to render a single man corporeal during the 70 years he persists, a pattern integrity, a knot through which pass the swift strands of simultaneous ecological cycles, recycling transformations of solar energy. At any given moment the knotted materials weigh perhaps 160 pounds."

- Cite RBF lecturing at University of California, Santa Barbara, December 1967; quoted by Hugh Kenner in "The Rope in the Knot," Kentucky Review, Autumn, 196b.

Man as Pattern Integrity

"Man is not alone the physical machine he appears to be. He is not merely the food he consumes, the water he drinks or the air he breathes. His physical processing is only an automated aspect of a total human experience which transcends the physical. As a knot in a series of spliced ropes of manila, cotton, nylon, etc., may be progressively slipped through all the material changes of thickness and texture along the length yet remain an identifiable pattern configuration, so man is an abstract pattern integrity which is sustained through all the physical changes and processing."

Citation and context at Population Sequence (4), Feb*67

See Metabolic Flow

· Relative Abundance of Chemical Elements in Man and Universe;

••I suddenly saw that man matched only one thing and he matched universe. He matched universe beautifully. He has apparently the same relative abundance of the chemical elements.

"Not only can he inhibit them all but they amount that they could be inhibited, and their co-occurrence, because you could build up the theoretical man out of this data that I am giving you, out of all the inhibitability, and the amount that he would have, each one of them, would correspond and relate 100 per cent how much he would have of each.

"There would be only one pattern that would match at all and that would be universe as a unit pattern that we keep getting time and again when we take how much of each of the elements there are in each of the stars and make a total inventory, It was very interesting that man seemed to be a miniature universe."

- Cite OREGON Lecture #5 - pp. 170-171. 9 July 1962

"I began to ponder on ways of looking at the human being as a complex of patterns and I began to look at the inventorying being done by the physicist, particularly the astro&sicists, when they began to look at some relatively large patterns of what they call the relative abundance of the chemical elements occurring in the different local systems of universe. . .

"I began to play a game of looking at relative total abundances of various patterns in various systems and looking at a daisy and looking at a tortoise and looking at a waste basket, and I found that the relative abundance of the fundamental patterns called chemical elements vary greatly. . .

"What began to interest me very much was the fact that human beings have many more chemical elements or patterns in their total relative abundance of all the patterns. They have many more patterns than you have in the daisy or tortoise and they have many more than you have in the Sun. . .

"What do I find that in any way looks like the fundamental inventory of relative abundance of patterns called chemical elements in man? What does he match if he doesn't match

- Cite Orgg&n Lecture #5, Jul'62

£>§11: Relative Abundance of Chemical Elements in Man &. Universe: (2)

"tiger? If he doesn't match salmon? And I would like to match him? I suddenly saw that he matched only one thing, and he matched Universe. He matched Universe beautifully. He has apparently the same relative abundance of the chemical elements."

- Cite Opergon Lecture #5, pp. 167-170, 9 Jul'62

(T)

See Individual Universes

Miniature Universes

See Inhibit, 9 Jul'62

Hunan Being, 30 Oct'73

Metaphysical Independent of Inbreeding, (2)

Relative Abundance, 9 Jul'62

Man: Interstellar Transmission of Man, (A)

See Real, 20 Apr'72

Kan as Son of God;

“Man as the Son of God is man as the local Universe

Problem Solver»”

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec

Man AB One Wav Universe Might Have Come Out:

"I am now giving you my working theory which is that than is an a priori pattern integrity of really very great importance. This could have something to do with the thinking of men who have done great thinking in making great discoveries long ago, before us, who have been prophets. So when we are talking about man now I am not talking about man as the touchable thing,--- me-- anymore than I am talking about the wave being molasses or water. Be sure you don't mix that up. To define man then as one way in which the universe could have come out.

Each individual doesn't seem to be in any way mathematically inconsistent. The thoughts I have just given to you I have given to men who were experts in the relative abundance of the chemical elements in human beings and so forth and they find no fault with what I am saying. I have many, many individual scientists who will go along with me when I am in his area, when he feels that it is not preposterous for him ... to appraise the value of what I am saying. . . so I am talking to you in terms of a great many separate validations."

-Cite OREGON Lecture </5 - pp. 173,174 , 9 Jul'62

Man as One Way Universe Hight Have Corr.e Out:

(U

See Individual Universe

Individual Life as One Way Universe Could Have Turned Out

See Darwin: Evolution May Be Going the Other Way.

9. Jul'62

Early Man, (1)(2)

How Little I Know. 1 Feb'75

Human Mind & Physical Evolution, (4)

If, 1947

Resources &. Principle, 1947

See Sweepout

Human Sense Rangining & Information Gathering

Man¹³ Unlvgrae Penetrations;

12)

See Man's Degrees of Freedom of Action, 28 Jan*6y Periodic Experience, (9)

See Average Man

Charting Alternating Experiences of Man 4 Nature Continuous Man

Male

Discontinuous Man Evolution: Man as Evolution Modifier Externalization of Man's Functions

Future: Man Backs Into his Future Hunan eing' Humans Individual

Industrial Man

Human Beings 4. Hard Machinery Little Individual: Little Man

Metabolic Flow

Prognostication about Future of Man Temperature of the Human Body
Tools as Part of the Pattern Man Unit Man World Man

(IB)

See Integral Functions of Kan Metabolic Flow / Man Human Organism
Cultivated Man Local Information Gatherer

See Death, 20 Jun'66

Integration & Differentiation, 10 Dec*64

Middle, Feb'73

Monitor, Feb'73

Pattern Integrity, Feb'67 Space Technology. (5) System. 29 Dec` 58

Democritus, 6 Jun'69*

See Man: Automated Metabolism Of

Man's Conscious Participation in Evolution

Man's Degrees of Freedom of Action

Man Designs Himself

Man is the Focus

Man as a Function of Universe

Man as Halfway in Range of Site of all Creatures

Man: How do you really Serve Man?

Man vs. Humanity

Kan: Interstellar Transmission Of

Man as an Invention

Man as Local Problem Solver

Nan as Local Universe Technology

Man as Pattern Integrity

I'an: Relative Abundance of Chemical Elements In

Man & Universe

Man as Son of God

Man as One • • ay Universe might have Come Out

Ian's Universe Penetrations

Kan vs. Machines

Management •

See One World Management

City Management Concept of World Government

See Done Over Manhattan

Population Density: Manhattan Cocktail Party Population Density:
Manhattan Jet Dispersal New York City

Kanifeata:

"As the prime energy impounder,

The vegetation on the land has to have roots in order to get enough
cooling water So that it will not be dehydrated

While it photosynthesises the radiant energy of the Sun into the beautiful
molecular structures

That provide the metabolic energy exchange means of terrestrial life
support.

The algae floating in the sea Are automatically watercooled.

All this is relevant to our search for an understanding of humanity's
functioning in Universe

For sumtotally Earth manifests what we first sought, A moving locus
in Universe where syntropy reigns.

Thus we intuit excitedly that

The photosynthesis process of orderly molecule production constitutes elegant scientific disclosure That our planet Earth indeed may be One such moving locus in Universe 'There energy is accumulating syntropically Being thereby conserved in a variety"

- Cite BiMih & i-irn), paper, pp. 123-124, 1y73

S71

rtuf ever more compactly and orderly patterned

Biological crystalline,

Liquid, and gaseous substances —

As cosmic complementation of the entropic disorder Ever more mysteriously manifest

By the omniexporting star centers of Universe."

- Cite BhAm & HihU, paper, p,124, 173

Manifests :

"Inasmuch as We set out to discover Whether man had a function in Universe And inasmuch as We only know of Man As a passenger aboard Planet Earth We sought first to discover Whether Earth had a function in Universe And if this could be found

Then we might find what constituent functions Of Earth Planet's Universal function ton might, uniquely, be performing.

Within the teal complementary scheme Of Universal'regeneration."

-cite HBF Draft BRAIN & MIND, 1.0B (19)

1970 1.8C (20)

KBF uLFihuIUfto

manifest: One:

"As already noted, manifest number one That our planet Earth is just such a syntropic locus is the constant terrestrial acquisition of energies Around Earth's spherical surface As provided by both stardust and cosmic radiation. Note that the cosmic radiation, including the sun's is not reflectively redistributed back outward to Universe, As does a mirrored ball reflectively reject radiation, instead, earth is measurably impounding the radiation By progressive angular refractions which separate The originally lethal radiation dosages into nonlethal fractions And progressively shunt those frequency differentialized radiations From perpendicular to circumferential terrestrial travel Within the biosphere's concentric mantles."

Manifests: One and Two:

"First manifest, is the constant agglomeration of surface matter Provided by the star dust and cosmic radiation Which latter including the sun's

Is not reflectively re-distributed to Universe
By an absolutely reflective
Mirrored ball, but
But is instead inundated by
The progressive refractions
Of the biosphere's concentric mantles.
This mathematically orderly refraction
Of the Sun's radiation into separately discrete frequencies
As it is witnessed in a rainbow
Constitutes manifest number two
Of our sought-for anti-entropic energy concentrating
Mobile local of Universe."

- Cite RBF Draft Brain i Mind 1970

manifest: Two:

"This xarthian biosphere's refraction of radiation .anifests matnematically orderly,
angular sorting uf the bun's radiation
into separately discrete frequencies.

mis is witnessable, for instance in a rainbow, ur m the twilight sky's
Ked, orange, yellow, green, blue, and violet Horizontal stratifications.
This relay system of angle and frequency modulating ana biosphere
refractioning Constitutes Manifest iiumber iWo uf our sought-for func-
tional identity of tARTH As a syntropic, orderly, energy concentrating,
mobile locus m universe."

rtBF DbFIKITIOhS

manifest: Three:

"i-iamfest Three that our Earth is a traveling locus of syntropic en-
ergy concentration in Universe is the demonstrable fact already noted
That all the biologicals are continually multiplying Their orderly cellu-
lar, molecular, and atomic, structurings which metabolic conservation
functioning completes l` he comprehensive pattern integrity equation
Governing orderly cosmic energy export-import balancing."

- Cite BKAIN & I'liifd, paper, p.127, 1973

'Manifest number three

Of our Earth being a local

'//here energies are being collected

And as radiation C

All the biologicals are continually increasing

Their beautiful cellular, molecular and atonic Orderliness of aggrega-
tion. On-board Earth is

A fantastically large activity of

Increasing order

Of the biologicals— the third manifest of anti-entropy.

-1.BA £1.8B

Nature has invented

The green vegetation on the dry lands-- rfhich is only a nuarter of earth's surface-- And the algae around the three quarters of the Earth rfhich is water enclosed.

These two impond the sun radiation

By photosynthesis

Aftiich provide our prime energy intake.

The vegetation on the land has to have roots

Manifests: Three: (2)

"In order to get enough water to cool itself While it transforms the dehydrating energy Into beautiful molecular structures.

The algae floating in the sea

Is automatically watercooled.

The photosynthesis process

Is the third manifest

Of orderly molecule structuring

ff the kind of patterning

We are seeking in Universe—

A pattern of agglomeration, sorting, concentration,

And orderly structural conservation.”

- Cite RBF BRAIN &. MIND, draft , 1970

1-amfest: Four:

"Manifest Four that our planet Earth is surely The first known syn-tropic centering of Universe is its star-dusted, chemically regenera-tive topsoiling.

- Cite BRAIN & MINu, PAPER, p.127, 1y?3

Manifests: Four:

"We have thus far found three manifests Of Planet Earth's functionaries Within the total complementary scheme Of Universal regeneration.

"Two more such manifests of Earth's
Unique celestial scheme functionaries
Are discoverable

Number Four being the impoundment
Of star energy radiation

As left in both the atmosphere
And in the hydrosphere

Which in turn provide the weather
Ocean current and critical temperatures
For the Botanicals' photosynthesis
And their chemical feed back exchanges

With the Zoologicals

As they altogether multiply

The biological proliferation Of orderly hydro-carbon Cellular structures."

- Cite HBF Draft BRAIN 4 MIND 1 ,8C (20) ,1970

KBF DEFINITIONS

Manifest: Five:

"Fifth J-'anifest is the spherical enmantling of biological residues
As hydrocarbons are pressure transformed into coal and petroleum
Which as fossil fuels stably store the cosmic energy harvest."

Manifests: Five:

"Manifest Number Five

Is that of the geological burying

Of the hydrocarbon (energy ?) concentrates Ever more deeply

And at increasing pressures

To produce and store

Rigid, liquid or gaseous fossil fuels."

1

- Cite RBF Draft BRAIN & MIND, 1.8D (21) † 1970

Manifest: Five:

See Fossil Fuels, 1973

"Having set out to discover evolutionary experience clues As to whether humans have an essential cosmic function--- Despite mis-assumption of exclusively self-eminent roles Only as audiences or actors in the Earthian drama 'Life' --- rfe sought first to learn whether the Earth planet itself Had its essential function in the Universe. Saying to ourselves that if Earth's cosmic system function could be found Then we might differentiate out its subsystem functions Thereby to unc&rer which of Earth's universal functionings Humans might be uniquely performing.

We have thus far found a hierarchy of Five Manifest aZ" Clearly confirmatory of planet Earth's functioning As the only Known traveling focus of syntropic reconcentrations Uf the physical energies of eternally regenerative Universe.

"This powerfully reinforces our initial assumption That we had first to find such a syntropic traveling locus Within the total complementary scheme Uf universal Eegeneratiofl."

- Cite BRAIN & I.I.U, paper, pp. 128-129, 1973

Manifests: First Five:

(1)

"All five manifests are anti-entropic.

They combine to demonstrate

That Planet Earth

Is indeed one of the energy collecting, concentrating and conserving,

Mobile and reliably interorbiting

Locals of Universe

For which we were seeking

as a celestially invisible complementary to the Optically obvious energy distributing Radiant stars.

"Thus it is evidenced

That Earth's energy concentrating

Will culminate /sic?

Millions of years hence

In Earth's becoming a star.

Thus we witness a celestial confirmation

Of Boltzmann's Law

Which states in modernized effect

That within a closed system

There are oscillations, evolutions Between high and low energy Concentrations and diffusions

yanUma- First FAW

(2)

"New lows concentrate and become highs

By exhausting yesterday's highs

As yesterday's exhausted highs
 Become today's lows.
 Boltzmann made his finding
 While checking Avogadro's discovery
 That under identical conditions of energy--
 As heat or pressure—
 All gases will disclose the same number of molecules
 Per given volume.
 Boltzmann's law has been found to hold true
 Outside the gaseous microcosmic
 In which he found it.
 It explains, for instance, the weather—
 The highs and lows of our biosphere;
 And now we find it explaining
 Earth's function in the Macrocosm.”
 - Cite RBF BRAIN & MIND draft, 1.8 D&E, 22, 23, 1970

Manifest: Six:

”A Sixth Manifest of Earth's

Unique celestial functioning in this syntropic manner ./as the
 'Geophysical-fear' scientists' discovery of the impoundment of star-
 energy radiation in both the Earth's atmosphere and hydrosphere,
 which power, temperature, and pressure the weather and ocean
 currents

And maintain the critical local microenvironments

Within which the biological proliferation of photosynthesis And sub-
 sequent organic transformations occur As metabolically fed-back
 chemical exchanges,"

- Cite BRAIN 4. MIND, paper, p.129, 1971

****We now come to man's unique function Aboard the energy storing planet Earth As distinctly differentiated From the first five manifests.**

Man's mind-over-mattering
Is distinguishable as Manifest Number Six.”

- Cite RBF Draft BRAIN & MIND, 1.8F (23) 1970

Manifest: Seven:

See Fossil Fuels, 1973

”Thus we come to man’s own unique functioning
Aboard the energy-st on ng planet Earth,
As distinctly differentiated out
And contrasted to the first seven lanifests

Of Earth's cosmic syntropic concentration function Within this moving planetary locus of Universe.

Thus man's mind-over-mattering distinguishes itself As cosmic function i-.anifest Number Eight.

Over and above its syntropic
Physical sorting and rearranging
Cerebrally reflexed planetary capabilities
We find humanity's metaphysical problem-solving capability
To be uniquely and exclusively referenced
To the complex of eternal principles.”
- Cite BKAIK & i-uND, paper, p.1j6, 1973

See Focal Manifest Omnimanifest Potential vs. Manifest

See Fossil Fuele, Jul*72 Temperature of the Human Body, (Bj

See Telefactory, 1938

Unsettling va. Settlements, 20 Sep'76

See Excrement: Excrements 1 Functions

See Good & Evil Sequence (1)

Organic Model, Oct'66

a>nrHte£g=

See Tunability, 1959

Maori

See Island, Sep'72

Mao Tae-tuni::

See Franklin, Ben, 22 Jan'73

i-ia p: rapping:

See Cartography: Cartographic Projections

External Mapping

Flat-out World lap Projection

Dymaxion Airocean World Transformational Projection

Nada Leaf;

See Member, 9 Nov'73

"Using marine life analogies, human life was graduating from its barnacle and coral era and was entering into its heavily armed, crab and lobster crawling-about stage—but here and there graduating into its fre-swimming age."

- Citation 4. context at Human Unsettlement, (4); 20 Sep*76

See Coral Reef

Social Breakout from Barnacle to Salmon

"When you're dealing directly with Universe--- with triangle and tetrahedron as Imit case--- then you don't need anyone to mark your paper."

- Cite RBF at Penn. Bell videotaping session. Philadelphia. PA., 20 Jan`75

terk ^yQUT Own Paper- Nobody to Kark Your Paper:

"I am my own navigator--- but there's nobody out there to mark my paper."

- Cite RBF to EJA, late '70

See Thinking: Doing My Own Thinking

See Doing What Needs to be Done, 26 Jan*75 Education, 1 Feb*75
Prospect for Humanity, 2 Feb*75 Thinking, (II)(III) Limit, 2? Jun»75
Nature in a Corner, 6 Nov*75

See Wedding

Relativity: Marriage of Social & Natural Law

See Fertilization, 27 Dec ` 74 Air Space, May'65

Mara;

See No Country Doctor on Mars

Martini CQrtfrall:

See Fluidity, 18 Jun*46

KBF DEFINITIONS

Marx. Karl:

'•Karl Marx assumed the scientific validity of both Malthus and Darwin with their combined `fundamental inadequacy of popular life support' and 'survival only of the fittest.' He assumed that the working masses were the fittest because, though dumb, they Instinctively understood how to cultivate agriculture, husband animals, and work the craft tools.

Wherefore the great pirates, the nobility, and the bourgeoisie who serviced the nobility, were parasites and must perish. Marx also assumed that the genetic difference between the nobility and the masses was valid; ergo his fundamental class warfare inherent in the economic

inadequacy to support both. He also assumed the necessity of downgrading standards in order to stretch support systems to serve all; and he assumed minority-party rule by dogmatic adherence to nonindividualistic code, and annihilation of the treacherous 'other class.*"

- Cite Fragment on RACE, 7 Aug'70 'Marx, as a philosopher-scientist (in the first place a scientist is a man of very great integrity) did his thinking at the time when the leading physicist was Dalton. Dalton was then at the mental stage of the interpretation of the experimental phenomena where he thought they really had found the smallest thing, the atom. ^xhere was no nucleus, just atoms. They were not broken up into protons or anything else. It was just atoms and they thought they actually had found what Democritus had talked about. It was invisible, below sight, but there it was. . . Marx then as a philosopher of the highest integrity dealing with the latest information of the physicists, was convinced that there really was a hard core thing. He was convinced that the strong armed man was always going to get ahold of the hard things and that the people were going to suffer. There was no question about his conviction. I am convinced that if Marx were alive today he would be excited about the discovery that there is no smallest thing. There is nothing that the tough man can get ahold of."

- Cite Oregon Lecture #4, p. 123. Jul'62

"If Marx were examining the present data he would form an entirely new kind of philosophic interpretation and he would see that everybody was really protected by the fact that the only way you could get on here would be to learn about principles and that they are completely abstract and that society was about to emerge into an entirely new era. It was really being emancipated.

He would not have developed his dialectical materialism. That would not have been in his conclusions."

- cite Oregon Lecture #4, p. 124. 6 Jul'62

Marx. A&rl: Epitaph:

See Philosophy, 1y28; 1y46

Marx, Karl:

See Continuous Man. (5)

**Design Revolution: Pulling the Bottom Up, (2)(4)(8) Philosophy, 1946
Race, (3)**

See Game of Masks and Monuments

Maaes Hallowe'en tasks'.

See Thinkable You, (2)

(2)

RUF DEFINITIONS

EUA:

"Kass is a statement of relative volumetric frequency and interval.

"For example, there may be something too massive for me to put my finger through because it has too high a frequency or because my finger has too high a frequency to go through it."

- Cite RBF to EJA, J200 Idaho Ave, N*.7; was, DC; 12 Kay'77

Mass:

"In Einstein's $E = Mc^2$, M is volume-to-spherical-wave ratio of the system considered. Mass is the integration of weight and volume. What Einstein saw was that the same volume could be reduced and still have the same energy mass. Einstein M is partially identified with volume and partly with relative energy compactment within that spherical wave's volume. There are then relative concentration modifiers of the volume before the third powering occurs."

- Citation and context at Synergetic Constant (1), 14 May'73

Mass;

"The Mass is the consequence of the angular acceleration®, c or G` of linear acceleration of the same unit inventory of forever regeneratively finite physical Universe ever intertransfonning and transacting in association (angular) or disassociation (linear) interaccelerations."

GO

- Cite SYNERGETICS text at Sec. 962.**, 16 Nov'72

bass:

"Newton's interinass-attraction increases at the second power as the time-distance between is halved. Newton deals only with mass and frequency to the second power. Einstein deals only with mass and frequency to the second power. Their masses are relatively variable. In one. mass is acceleratingly expended and in the other, mass is acceleratingly collected."

- Cite SYNERGETICS draft at Sec. 960.12, 16 Nov*72

to as:

"Compression is always a tangency of mass to mass."

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun'72

Mass ;

^WN° mass: No compression.**

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun'72

RBF DEFINITIONS

Mass:

Vectors, being the product of physical energy constituents, are 'real,' having velocity multiplied by mass operating in a specific direction; velocity being a product of time and site modules; and mass being a volume-weight relationship. On impact, mass at velocity transforms into heat and work..."

Kass :

"Lj,n stein said any phenomenon which seems to be a mass is some kind of energy self-entanglement wheee the energy is running into interference with itself and the energy operation will be at 186,000 miles per second, but it is running into something so it is getting shunted inwardly, so it is going around in circles, by running into itself from other patterns. . . . all you and I see is this ball rolling along, and it doesn't seem to be rolling very fast but within the ball everything is going around at 186,600 miles per second. . . einstein said the amount of weight, how tight you package this thing up, will give you a clue to how much energy there is in it."

- Cite Oregon Lecture #3, pp.78-79, 5 Jul* '62

. M (mass) means: all the universe's selfinterfering complexes having concentrically selfprecessing, local-focal-holding patterns resulting in locally regenerative constellar associabilities as positive-outside-in structures."

Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p. 126, 1959

Ma 88:

"In Einstein's formula mass constitutes all the patterns of precessionally self-interfered and concentrically shunted, ergo locally articulated and locally and periodically regenerative holding patterns of energy. This is also to say that M equals all the locally complex, concentric, self-associative, unique holding patterns of aHJenergy. . . ."

Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p. 124, 1959

Mass:

"Mass is a word of inherently synergetic connotation. It is a behaviorist word popularly mistaken and used as a static word. Mass recognizes and inherent plurality of unique consequences resultant upon any infra- or ultra-sensorial recognizable, i.e., timable, collection of regenerative systems of precessionally self-associative energy-vector events. All the atoms and stars, as well as all the macro-remote astronomical cluster nebulas and remote micro-molecules, are such unique synergetically regenerative, infra-ultra-sensorial, unique multi-atomic mass clusters."

- Citation and context at Radome Sequence (2), 29 Dec'5#

Massage: Distortion Massaged to the Center;

See Internal Control of Distortion, 29 Apr'43

Mass Attraction:

"Mass Attraction is always involved in bonding. You may not have a bond without attraction, mass or magnetic (integral or induced), all of which are precessional effects As the Sun's pull on the Earth produces orbiting, orbiting electrons produce directional field pulls."

- Citation and context at Chhmiral Bonds. 6 Mar'73

"Ask the scientist who discovers mass attraction, What is mass attraction?" He doesn't have the slightest idea.

He only knows it does it. It is a relationship, not a thing. The why of it is an absolute mystery. . . We don't have any disclosure and never will have of what the a priori mystery is."

- Cite KBF in Barry Parrel¹ Playboy Interview, 1972, Draft, p. 5.

"hass attraction is always involved in bonding. You may not have a bond without mass attraction."

Cite Synergetics draft, Sec. 839., August 1971/

"If we had Isaac Newton here and we asked him what mass attraction is, he'd say I cannot tell you because there is nothing in one of the bodies which indicates it's going to attract or be attracted by. It is a behavior between and not of. Now this is to say that science at its beginnings, starts with a priori absolute mystery, within which absolute mystery there looms these beautiful behaviors of physical Universe where the reliabilities are eternal,"

- Citation A- context at A Priori My₉terv_t 22 Jul'71

S&i Talk.

RBF DfINITIUKS

Pass Attraction:

"Pass attraction is to precession

As a single note is to music.

Precession is angularly accelerating fgeneratively progressive

Pass attraction."

- Cite IK'HJITI?:. Vaft Hee 70, p. 7a

"Nothing could be more fundamental to all of science than the phenomenon 'mass attraction,' which Newton was able to formalize. For instance we hang two masses or spheres from the ceiling and measure the distance between the centers of gravity of them spheres. • We find that they are closer together not only from the points where they were hung, which could be accounted for just by the fact that we are on a sphere and the radii of a sphere are divergent, but they are closer than □ that. If you move one of them halfway toward the other and measure the distance between the centers of gravity, you will find that it has moved in much closer. If you keep moving in progressively, halving the distances, you discover as Newton did, that the

relative attraction is in terms of the second power of the relative proximity. When you halve the distance between the two spheres you do not double the attraction; you forfold it. So as you get in very close, as atoms are close to one another, you begin to have things with very extraordinary kinds of coherences."

- Cite RBF Address to National Conference for Philosophy of Creativity at SIU, Carbondale, Ill., 16 Oct. '69 - p. 9.

See Chemical Bonds

Gravity

Gravity 1 Bonding

Interattraction

Orbiting

Synergey Sequence: Two Massive Spheres

Precession

Newton's Second Law of Motion

See Bonding Hierarchies, 19 Dec'73

Motion, 27 May'72

Mystery, 10 Dec'73; 13 Dec'73 Quantum Wave Phenomena Sequence
(1) Radome Sequence (2)*

Synergetic Constant (1)*

Why: The Unanswerable Why, 8 Mar'73 A Priori Mystery, 22 Jul'71*
Critical Proximity, Jun'?1

See Universal Integrity: Second-power Congruence of Kadiational &
Gravitational Constants, 9 Jan'74

See Vectorial Expression of Mass ft Frequency

"In these emergencies humanity reorganizes

The physical environment

In naturally permitted ways Which turn energy as matter Into a myriad
of wheel-mounted levers And shunt energy

As radiation-induced flows

To impinge upon those levers, Thereby to do the gamut of tasks Con-
ceived by the human mind To be most productively efficient And req-
uisite to the immediate survival emergencies Thereby inducing hu-
manity's Inadvertent acquisition

Of the subsequently and peacefully employable mass production ca-
pability, 'This could have been acquired

At fractions of the cost in lives and goods Had they been undertaken
peacefully At the time that they were introduced By the intuitive in-
ventors, scientists, artists."

- Cite INTUITION, pp.71-72 Pay «?

Mass Production:

"When we reach man's mass reproduction of his inventions

then the spontaneous aesthetic satisfaction comes occasionally to a
halt. The halt occurs when the harmonic adequacy and complex com-
patibility of the invention is too limited. We may conclude that the
more universally compatible, then the more aesthetically and last-
ingly satisfying is the phenomenon.

- Cite GENERALIZED LAWS OF DESIGN, p.4, 22 Apr'68

See Dwelling Service Industry Aesthetics of Uniformity Industriali sat
i on Lilhour Production Regenerative Design: lav Of Reproducible

See Earning A Living Sequence, (1)

Individuality, 1947

Leonardo Type, 20 Apr'72 Radome Sequence, (A(C) Tooling of Domes,
(1)(2) Mobile Homes, (1)

Now House, (1) _t

Dome House Grand Strategy: 1927-1977, (1)-(3) Building Industry,
(4)

Politicians A. Defense Budgets, 20 Sep'76

See Matter

Vectorial Expression of Mass _t Frequency

Weight

Surface-Bass Ratios

Critical Mass

See Critical Proximity, 6 Mar'73

Einstein. 16 Nov'7*

Energy, i960

Gravity, 1948

Nothingness, 16 Nov*72

Powering: Fourth Powering, 15 Oct*72

Radome Sequence (2)*

Synergetics Constant (1)

Vector, 26 May^f72

Time, 27 May»72*

KBF DEF1WIT1UKS

l<-ast in the Eartp

"I find that man has thought structurally in what I would call inefficient compressional logic whereby he piled stone on stone to make a building. He could also dig a hole and have planted the base of a pole and have rigged tension stays from its top to three or more anchors in the ground. This is the way he put a rigid, solid mast in a rigid, solidly framed and planed ship. In traditional land building tension is only a secondary helper and compression the employed primary structural logic. This is to say that I find most of the world's peoples thinking spontaneously only in compressional structural might-makes-right logic.*'

- Cite Tel Aviv Address, Dec '6?

"Man has tended to think of structure as being built solid in the Earth. He made a hole in the solid Earth and put a solid mast in it. In order to keep the wind from getting hold of the top of the mast and breaking it, he then put a tension member in the direction of the various winds, acting at the end of the lever to keep it from being pulled over.

In this way tension became the helper. We found that he built what he thought was a solid boat, and then put in a solid mast, and then added on tension helpers as shrouds. Tension has been secondary in all man's building and compression has been primary for he has always thought of the compression as solid, Man must now break out of that habit and learn to play at nature's game where tension is primary and where tension explains the coherence of the whole. Compression is convenient, yes, very convenient, but always secondary and discontinuous."

- Cite OREGON Lecture #5 - p. 159, 9 Jul'62

TfUSJHj * - **SC** Ct¹/ **9.30**

tost in the r-arth: mHfSHMBHRESHB

'•If I wanted to have a mast on the face of the Earth it would take me a minimum of three legs and a tension member to hold those legs down so it takes four members. I can have one compression member and three tension members or three compression members and one tension.

It always comes out four. I can put the hole in the ground and we will find that it still comes out four. We might have the mast bending over and it would take two tension members to hold it up, that is called a gin pole, and then it takes a fourth member of gravity to pull the other end down so there are four members operating. You could do that with two compression legs-- sometimes called a Jack in the Navy, and one tension member, and gravity-- four members every time. So there are four degrees of freedom and the local twist you will remember which gives us twelve. I began to see then that we would always have these kinds of fournesses operative."

- Cite Oregon Lecture z/6, p. 201. 10 Jul'62

See Four Vectors Define Minimum System Gin Pole

See Twelve Universal Degrees of Freedom. 10 Jul¹62 Walking, 31 May'71

See Tensegrity: Miniature Tensegrity Masts Mechanical Service Core

See Horizontal vs. Vertical, 196?

Wichita House, (1)

Dome House Grand Strategy; {1}(2)

Hastens:

See Invisible Masters

See Procreatively Sterile

See Abstraction, 24 Feb'72

See Eddington's Proof of Irreversibility

See Orbiting, (2)

Material:

"... All progressions are from naterial to abstract .

- Citation and context at

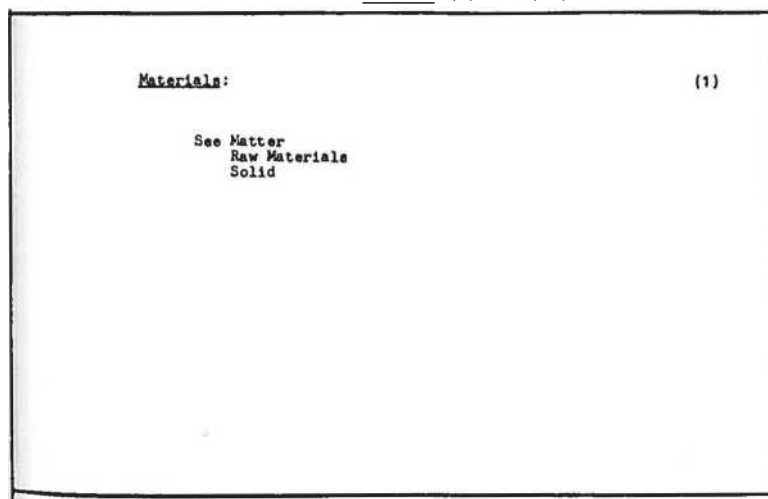
Baafc'38

Materials:

"First, let me say that there is nothing in nature but structure. Still, I find in engineering and architecture schools with all of their specialization that there are always courses in materials. In these courses it is taught that buildings are built out of materials, but I find from my experience that this is not the case. What we in fact do is to build visible module structures out of invisible module structures. . .

"There are no 'solids', Just as there are no 'materials.' but there are sufficient relative proximities of these masses which are enough to cohere. . . "

- Citation and context at Trees (I) + (II), 7 Nov'67



See Ephemera Illation, 1930* Treea,

'The whole integrity of universe... the essence of why there is consciousness... starts with absolute a priori mystery, within which a priori mystery there suddenly is a lucidly apprehensible mathematical behavior.

- Citation & context at Whole Systems,. 16 Jun'72

Mathematics:

"Mathematics is the science of structure and pattern in general."

- Citation 4, context at Structure. NOT'71

KBF DEFINITIONS

Mathematics:

. Both the pure science analysis of the subjectively acquired data and the applied science employment of the relationships involves mathematically patterned identification of the pertinent special-case use data in respect to a universally coordinate dimensioning system and a transformational frame of reference.. . .**

- mw iwr iluliiJU .LUU. Uuvwlv lto_m_t WewTorTr_f 1t Sgpt. 1971-.

- Citation & context at Science: Pure & Applied. 14 Sep'71

**« . . Conventional mathematics is based upon 'axioms'¹

that were imaginatively conceived and inconsiderate of information progressively harvested through microscopes, telescopes and electronic probings of the non-sensorially tunable ranges of the electromagnetic spectrum."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

I atheinatica:

"Nature has mathematic behaviors."

- Cite RBF taping OHARAS script 14 larch 1971

Mathematics:

"Even the development of eete derives from experience because mathematics is generalisation - - and generalisation itself is sequitur to experience. • •

'The mathematicians talk of 'pure imaginary numbers' on the false assumption that mathematics could be a priori to experience."

- Cite RBF to EJA

Beverly Hotel] New fork 13 March 1971

NOHBEX — S&Z.03 f (*tar stflrrvcie'l*

Mathematics:

"Mathematics is metaphysical.

"My definition of Universe embraces both the physical and the metaphysical, the latter being all the weightless experiences of thought which include all the mathematics and the organization of tfee data regarding all physical experiments, science, both first and last, being metaphysical, *

- Citation t context at HataBtaaical 1. Physical, 20 Jun'66

Mathematical

"Mathematics. • • embraces MHMBO the fundamental communications systems of all the sciences. . □ It is also the most generalized of all the scienmmtific disciplines. It is both the most comprehensive and abstract of the sciences and tends to evolve less rapidly than physics or chemistry. Mathematics generalizes all sciences and all other sciences must use it."

"Mathematics • • • is, in fact, the science of structure and pattern in general."

- Citation and context at MIT Sequence (2) (3), 1965

Mathematica;

"I was fortunately not as consumed with negativism in respect to professional mathematics as with a positive urge to explore the possibility that nature might employ a comprehensive coordinate system governing all her associative and disassociative nonsimultaneous, usually dissynchronous but sometimes synchronous transformative transactions. I felt certain that nature did not have separate departments of physics, chemistry, biology, cryogenics, crystallography, Mathematics et al., between whose department heads' compromises were-mass concluded in order to expedite nature's awkward and ever urgent demands.

"I conjectured that we could think conceptually in generalized principles in contradistinction to special case empirics and that we might logically hypothesize either (a) that mathematics was entirely physical or (b) that the physical was in reality" pure abstract principle; that you could play the game either way--- both were valid, but not simultaneously--- that there certainly were not two absolutely separate and independently operating Universes the abstract Universe of the mathematician and the energetic Universe of the physio-chemist."

- RBF inaugural address, pp.5/2-5/3: First International Congress for Stereology. Proceedings. Vienna. 18 Apr'63

Mathematics:

' ` When Euler introduced topology he for the first time made the beginning of the return to conceptuality out of seemingly complete abstract mathematics , where you would come into completely empty sets you thought, where you could have complete substitution of symbols for numbers and you could just play the game of symbols. Euler said, we are dealing in pattern. Mathematics is pattern, he said and there are irreducible aspects of pattern. . . "

- Citation & context at Euler (1), 11 Jul*62

Mathematics:

"Mathematics, which most people think of as dealing solely with number, is in fact the science of structure and pattern in general."

(Also Third Lecture

- Citation & context at Structure_t 5 JuT*62

mathematics:

"mathematics contains all the great generalizations and there are not really many generalizations.**

- Cite OREGON Lecture §2 - p. 55 > 2 Jul'62

Mathematics:

"... Wisdom initiates new mathematical hypotheses.

Mathematics implements man's calculations within minutes regarding energy action requiring eons of time, man's intellect masters energy's fastest behaviors."

- For citation and context see Intellections 1960

Mathematics:

"I believe that about 90 percent of all mathematics relates to games that have no valid relationship to real physical experience."

RBF DEFINITIONS

"... I felt justified now in switching our argument to the very highest and most incisive level of scientific

argument— that is, to the mathematical level."

(Ij-rJ (Q, -FT}

* Cite/to Jim Fitzgibbon (?), Geodesics, Inc, Raleigh\unclated.

See Generalization: Second Degree, 1959 Synergetics, 1959

MfrfrhgnatlCfl Bfihpylgr:

See Event, 26 Jan*72

fathflMtlgfl Explanation of

See Trinity: Equation Of, 1938

Mathematlce - Cen«r«lH»tlon:

See Mathematics, 13 Mar* 71

Mathematics - Pattern:

See Mathematics, 11 Jul*62

"Mathematicians . . . erroneously thought that they had attained utter abstraction, or utter nonconceptuality--- ergo, 'pure* non-sensoriality--- by employing a series of algebraic symbols substituted for by calculus symbols and substituted for again by 'empty set' symbols. They overlooked that even their symbols themselves were conceptual patterns and only recognisable that way and that all pattern?, for instance numbers, or phonetic letters consist of physical ingredients and physical experience recalls. The physical ingredients consist inherently of event-paired quanta and the latter's six-vectored, positive and negative actions, reactions and resultants, else they would not have become employable by the deluding, experience-immersed •purists."

- Cite NASA Speech, p. 5S« Jun'66
See Teleology: Bow Tie Symbol
Symbols: Synergetics Symbols

Equals

See Communications, 13 Mar*73

Space ae Nontuned Angle 4 Frequency Information,
22 Feb¹77

Metaphysical 4 Physical, 22 Jun'77

TEXT CITATIONS Mathematics: Push-Button tothematics: RBF Ltr. to Colliers
(full text) Pp, 5-6, July¹59

Calculus

See Arithmetic

Babylonian Mathematics Constanta

Equations

Generalizations: Mathematical vs. Literary General Systems¹ Mathe-
matical Control Matrix Geomathematical

Geometry

Life: Mathematical Explanations of Life MIT Sequence Number

Operational Geometry

Operational Mathematics

Pattern: Hierarchy of Patterns Proofs

Scientific Generalization

Secrecy of Mathematical Knowledge Conceptual Mathematics Expe-
riential Mathematics Fourth-dimensional Synergetics Mathematics
Equations: Mathematical Equations

See Abstraction, 24 Feb'72

Axiom, undated*

Computer (A)

Conceptuality Independent of Size k Time, 2 Jun'74*

Ephemerization, 1938

Euler (1)*

Generalization, 26 Aug'66

Intellect: Intellections. I960*

Life-support Systems, May'72

Metaphysics Jun'66

Metaphysical &. Physical 20 Jun'66*; 13 Nov'75

MIT Sequence (2}(3)*

Principle, 9 Jul'62

Probability, 17 Feb'72

Eodelability (2)

Science: Pure & Applied, 14 Sep*71*

Stark, Apr'44

Structural Patter. (p.J3) undated

Structure, 5 Jul'62*; Nov'?1* r/hole Systems, 16 Jun'72*

See Angular Topology: Principle Of, 14 Feb'66

Comprehensibility of Systems, 26 May'72

Progressions, May'49

Quantum Sequence, (1)(2)

Generalized Principles. 22 Jun'75

Communications Hierarchy, (4)

Proofs, 7 Oct'75

Topology, 11 Dec'75

Ghana Dome: Self-chilling Machine, (1)

See Mathematical Accounting Mathematical Behavior Mathematical
Explanation of Life Mathematics - Generalisation Mathematics " Pat-
tern Mathematical Symbols Mathematics: Bush-button Mathematics

Mathematicians;

"So long as mathematicians can impose up and down semantics upon students while trafficking personally in the non-up- and-down advantages of their concise statements, they can impose upon the ignorance of man a monopoly of access to accurate processing of information and can fool even themselves by thought habits governing the becoming behavior of professional specialists, by disclaiming the necessity of or reeponsibillty for, comprehensive adjustment of the a priori thought to total reality of universal principles."

- Cite TOTAL THINKING, I&I, p.234, May*49

(1)

See Wliard

See Euler, 18 Apr'63

Now Necessity, 10 Jan*50

Matrix:

"A matrix is an interpatterning of multidimensional events, such as bees' honeycomb, or a candy- cohered, pop-corn ball."

- Cite NEHRU Speech, P. 23, 13 Nov'69

Matrix of You it I:

See Invisible Hole, 16 Jun'72

See Cosmic Event Matrix

Cosmic Middle Ground

General Systems' Mathematical-control Matrix Isotropic Vector Matrix Octet Truss

Omni dimensional ttjfh-fi iiquiiii/ Light Matrix Random Matrix Coordinate System Field

Grid

Omnirational Control Matrix Hex-pent Matrix XYZ Coordinate System Lattice

See Conaciuuanesa. 1971

Cube. 6 Nov'72

Field, 2 Nov'72

Science, (2)

Sphere, (p.150), 1960

Tetrahedral Coordination of Nature, 1965 Convergent vs. Parallel Perception, 13 Nov'75 Model of Toothpicks & Semi-dried Peas, (1)

Matter:

"The knot... is a form of interference wave where the wave comes back on Itself, and as a consequence of any tension in it, the knot gets tighter. This is one of the ways in which the energy-mass patterns begin to tighten up. It is selftightening. This is the essence of 'matter' as a consequence of two circles of 720 degrees tending to annihilate or lose one's self."

- Citation & context at Knot, 7 Nov*?!

KfiF DEFINITIONS

Watter;

"... Kxcroconstellations ouch as natter In general granite, cheese, flesh, water, and atomic nuclei."

- Citation and context at Constellar. 3 Oct'72

KBF DEFINITIONS

Matter;

"Critical proximity is a threshold; the absolute threshold--- a vector equilibrium threshold. If it persists, we call it ¹matter.»"

• ~~Qite JtBP IvWA, Bwvfrly Hrrfinl, Naw Xm'k~~

• Citation and context at Critical Proximity Threshold. 19 Jun'71

Matter:

"Critical proximity accounts for the whole Universe as we observe it, the collections of things and matter and noncontiguous space intervals."

- Cite RBF insert to SYNERGETICS (Conceptuality. Critical Proximity), Chicago, 1 June <971.

KBF DEFINITIONS

Matter:

. the wave and frequency patterning® of the crystalline, liquid and gaseous states of energy known

superficially (and misleadingly) as matter."

• Citation & context at Environment Events Hierarchy (1), Jun'66

Matter:

"Sconce states that the entire physical Universe is energy. $E = mc^2$. Some of the energy is operative in associative patterns--- as matter. The associative energy as matter is organised in leverage systems to do work."

Cite HOW TO MAINTAIN MAN AS
A SUCCESS, 18 Mar*65 P. 229

Matter:

"When the end of one energy action comes over the middle of another energy vector there is a processional effect, a tensional effect. One energy event gets angularly precessed and the next energy event goes by the center of another mass and each one of them are interaffecting the other. It is a basketry interweaving where each one precesses the other angularly so that they hold together very much as a cotton ball. This is just what Einstein was working on in his $E = MC^2$ trying to explain a given mass and the way it interfered with itself to give itself this local uniqueness of relative concentration, because these precessions can give you angular changes and it gets tighter and tighter which will give you unique frequencies and every one of our chemical elements has these unique frequencies and you can actually pick them out on the electromagnetic spectrum by a plurality of MH usually four unique frequencies characterizing each of the elements."

- Cite Oregon Lecture #5 - pp. 164-165. 9 Jul»62 f A/ fRtfy- CvrriT ~sec. 5 n"r£/
RBF DEFINITIONS

Matter:

- • Matter ... is energy as gravitation."

"Energy flows around the Universe and is then shunted and canalled into valvability upon the ends of the levers we make out of the physical energies interactive in patterns which we call matter."

- Cite DESIGNERS AND POLITICIANS (I&I) p. 303 1962

Ma.tter.jfc AntMttr •

"Clearly it is seen that the metaphysical is to the physical as antimatter is to matter; i.e. as the electron is to the positron.**

- Citation k context at Metaphysical & Physical, 20 Jun'66

Seo Might Makes Right

Mind-Over-Matter

ID

Hattar-BYtr-Hlndi

<2)

See Society: Control Of, 1y3S

Ekmr ya* Radiation:

*Lines cannot return into themselves. Therefore matter is cyclic self-interfering knotting; whereas radiation's waves are non-self-interfering spirals.

matter - knots

radiation coils

Which reads: matter is to radiation as knots of rope are to coils of rope."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 529.04, 7 Nov'73

BO'R MEMORANDUM

MatterTvs. Radiation:

"The discussion here turned to the notion of the gravitational always enclosing the radiational and he indicated thatIt was in the way that this occurred that matter was created. There really is very little matter in Universe and it comes about by virtue of the fact that the gravitational is always 'just barely' faster than the radiational." "'Tensegrity is how it works, because of radiation and gravitation tying up to make matter appear.'" (Direct quote from RBF.)

- Cite BO'R memorandum of conversation with RBF, Kent, Ohio
23 May'72

- . Energy . . . consists of two main behavior phases--- its associative phase as the matter with which we fashion the physical advantage producing tools such as levers and electric generators; and its disassociative phase as the free positive and negative energies of radiation and gravity may be focused to impinge on the ends of levers to power the tools to do physical work for men."

~~_____~~
~~_____~~

- Citation at Energy Jun'66

→ pi f Jun'66

See Association & Disassociation

Atoms vs. Radiation

Tensegrity Model of Self-interference of Energy Latent vs. Radiant

See Conservation of Energy, 18 Mar*65

Octahedron and Annihilation Model, 8 Mar*75

Gravity, 6 Apr'75

Environment, 29 Mar*77

T Quanta Module, (1)(2)

See Antimatter

Energy Package Energy-as-matter Matter 4 Antimatter Material: Material
Mind-over-matter Reality Netive Matter Positive Matter Solids
Energetic Functions Thing

Matter;

(2)

See Behavioral States. May'72

Constellar, 3 Oct'72*

Critical Proximity Threshold, 19 Jun'71*

Energy, Apr'68; 18 Mar'65; Jun'66*

Environment Events Hierarchy, (1)*

Event, 26 Jan'72

Metaphysical Ac Physical, 20 Jun'66

Nouns, 15 Sep'71

Pattern Strip Aggregate Wrapabilities, 19 Dec'73

Simplex, 1965

Stardust. (2)

Knot, 7 Nov'73*

Conceptual Physics, (1)(2)

Matterlessness:

"Gravity is matterlessness. . .

- Citation and context at Gravity. 22 Jun'72

See Pyramid Technology Religious Edifices

See Afterlife, 20 Apr'72

Life Is Not Physical, 29 Jun'72 Buddha: Christ: Mohamed, (1)

See Aberration Limit

"Disorder attains and passes through maximum asymmetry

- Cite Pendulum Model VS Scenario Model. 23 Dec'68

See Wows The Last Wow Zerophaae

See Trigonometric Limit, 22 Jun'72

Maximum Limit Case:

See Trilacontrahedron: Great Circles Or, 27 Anr'77;

3 May'77

See Min-max: Min-max Limits

MaxAnuffl Pgfflotioncgg:

See Vector Equilibrium as Empty Set Tetrahedron

2 Nov* 73

Mftxljama complexity:

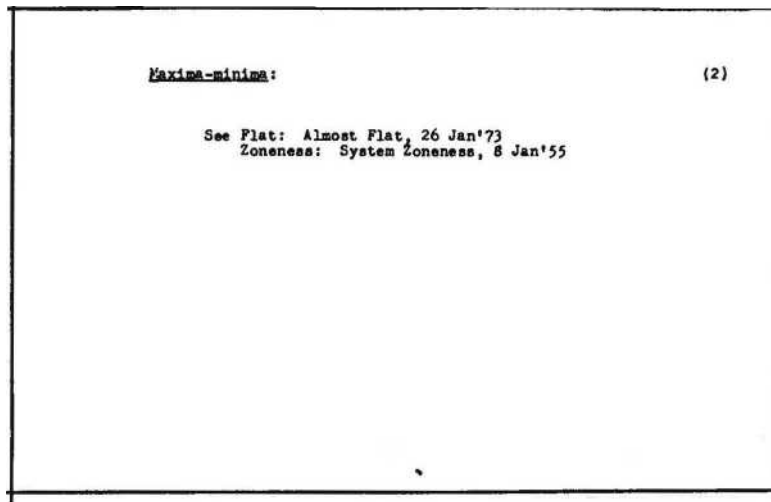
See General Syeteme Theory (1) Unity: Complex 4 Simplex, 16
Oct*72

Maxima-minima:

"Finite maxima and finite minima do exist because flat is a confined triangle phenomenon. The flat occurs at the inflection point between inside-outings and vice versa."

- Citation & context at Dynamic. 1950

See Min-max



See Bare Maximum

Limit

Kin-Max

Spherical Maximum No Maximum Limits

Maximum: Maxima:

See Dynamic, 1950

Synergy of Synergies, May*72

Maxwall. James Clerk?

203.08

Kassall, Juts Clark! (1831-1879)

See Algebra, 28 Oct*64

McLuhan, Marshall:

"Marshall McLuhan told me the first day he met me--- on one of the early Doxldis cruises--- 'I am your disciple.* Ha held up copies of 'No More Secondhand God' and 'Nine Chains to the Moon' and said to me: 'I've joined your conspiracy!'"*

*McLuhan has never made any bones about his indebtedness to me as the original source of most of his ideas. The 'Global Village' indeed was my concept. I don't think he has an original idea. Not one. McLuhan says so himself. He's really a very great enthusiast, a marvelous populariser and teacher. He has an irrepressible sense of the histrionic, like no one I've known other than Frank Lloyd Wright.

"My idea of 'Man backing up into his future,' appears in his books as 'Rear-Mirrorism.'

"My concept of the 'Mechanical extensions of man' is the basis for his talk of the 'Electrical Extensions' of man.

"What McLuhan is is most of that breed, phenomenal memories a Professor of English literature and, like a very fast reader. He has one of the most I've ever run into. McLuhan felt that there"

- Cite KBF to EJA, 31B, 200 Locust, Phila., 10 Jul»73

McLuhan. Marshall;

(2)

"were many things being written of great cogency but which society was missing altogether. This is the source of his missionary zeal and fervor.

After dinner on the Doxiadis ship we used to dance and Marshall would dance with his wife all over the place, so much so that he took up the whole dance floor. He thought we had all stopped to marvel at his and his wife's performance, but that wasn't it; the way he was dancing there wasn't room for the rest of us and we had to leave the floor.

"And I remember one time on a live television panel at a P.E.N. meeting in Canada when McLuhan's critics were really giving McLuhan a pretty rough time. He relished in it and would infuriate the critics by completely ignoring their most telling attacks. I started taking up for him and coming to his support, but I abandoned this as soon as I realised that it was Just all a big game to him.

"McLuhan has always been the first to say 'Bucky is my master. I am only his disciple.'" - Cite RBF to EJA, 31B, 200 Locust, Phila., 10 Jul'73

See Medium is the Message

See Fuller, R.B: Hie Writing Style, 1 Feb'75

Me;

"The real me... is the thinking me."

- Citation & context at Fuller, RE: The Thinking Me. 18 Dec*76

Me:

"The old semantics which permitted common-sense acceptance of such a sentence as 'A man pounds the table,' wherein a noun verbs a noun or a subject verbs a predicate, I found it necessary to change this form to a complex of events identified as me, which must be identified as a verb. The complex verb me observed another event complex ignorantly as a 'table,* I disciplined myself to communicate exclusively with verbs...."

- Citation & context at Verbs: No 'Where's. No 'What's, Only 'When's. 28 Oct'73

Me:

"The old semantics which permitted common-sense acceptance of such a sentence as 'A man pounds the table,¹ wherein a noun verbs a noun, or a subject verbs a predicate. I found it necessary to change to a complex of events identified as me must be identified as a Verb

and the complex verb me observed another event complex ignorantly called a 'man,' wKIch event complex developed a complex interference pattern with another complex of events identified again ignorantly as a'table.**

"I disciplined myself to communicate exclusively with verbs verbing verbs."

(N.B. Unfortunately, the above version did not survive in SYNERfTICS text at Sec. 250.32.- eja.)

- Cite RBF marginalia at SYNERGETICS draft Sec. MM 250.04, 26 Jan*72

Me:

"To each of us environment must be

All that isn't me.

To each of us Universe must be

All that isn't me plus me."

~ A-Utti lnltl nn p l__

* Citation 4 context at Environment. 28 Sep'71

Me:

"The only real difference between Universe and environment is me."

- Citation & context at Environment, Feb¹73

Mfl:

"In a sense, my glasses--- I'm very farsighted and have been wearing glasses since I was four years old--- have become a part of me. I recall being invited in 1930 to speak at Dartmouth College, in what they call Dartmouth Hall. Seventeen years later, in 1947, I was asked to speak at Dartmouth again--- and again spoke in Dartmouth Hall. After being introduced as having been there 17 years before. I stood up

and said that while I didn't like to be contradictory, actually I hadn't been there before. My host looked a little surprised, and I pointed out that in the interim Dartmouth Hall had burned down and they had rebuilt it. Moreover, in that 17 years, all my flesh had completely changed--- there was none of the 1930 flesh left. In fact, the only important physical evidence that *I' had been there 17 years before were my eyeglasses: they were the same ones as before. But nothing else about me was the same. Quite interesting to discover that part of the function 'me' was really more permanent than, yet not of, my integral flesh."

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

Me:

"Life, and the Universe that goes with it, begins with two spheres: you and me. . « and you are always prior to me."

- Citation at Life. 19 Jun'71

Me Ball:

"In the me_ ball 12 rods are necessary to eliminate all the degrees of freedom, because the initial four restraints are connected to the surface of the sphere and not the center. The four points of tangency describe a square and they permit local twist and torque because a square is unstable. So each rod has to become three rods to form a stable connection and insure Imoblllty." g5arahedron ro

- Cite Penn B®11 videotaping session, Philadelphia,

SyWffldfTi'cS— ft) - *SEC*,

Mx-Baw

See Restraints Tether Ball

MA: Bigger than Mo; littler than Me; Within Ke; Without Me:

See Stature, 20 Feb'73

Me - Half the Story;

See Verse vs. Prose, 11 Dec'75

the Observer:

"The only difference between Universe and environment is me, the observer, the transforming center where we really can convert information to action,"

- Citation and context at Environment (1), 19 Feb'73

Ha. *Sht o&cervtr*;

See We-me Awareness. 31 May'74 Womb, 20 Feb'73

Me & My Shadow:

See Coincidental Articulation Sequence, (2)

Me:

(1)

See I

Identity

Self

Tangible Me

Verb: I Seem to be a Verb

We-me Awareness

You <fc Me

You or Me

Environment: Equation Of

See Environment. 28 Sep*71*: Feb'73*

Life, 19 Jun'71*

Mother, 17 Oct'72

Otherness, 28 May'72

Somethingness & Nothingness, 16 Nov'72

Verbs: No 'Where's, No 'What's, No 'When's. 26 Jan'72*:

28 Oct'73*

Communications Hierarchy, (1)-(4)

Verse vs. Prose, 11 Dec'75*

Fuller, R.B: The Thinking Me, 18 Dec'76

Self i Otherness, 28 Apr'77

Human Beings & Complex Universe, (3)

Meals:

"We relate... our meals--- or chemical fueling--- to the days of the postman's coming and going."

- Citation 4 context at Invented Periodicity. May'77

Meals:

See Eating

Feed

Input Periodicity

Meaning:

"Universe needs man's intellectual capability which discovers some of the eternal laws operating in total Universe and applies them to local problem solving. This is our only meaning to each other."

- Citation and context at Man As A Function of Universe, 29 Jun'72

Meaning:

"The strength of the emerging supra-national unitary communication tools gains and the meanings become ever sharper, whereas the dubious meanings for untenable superstition and propaganda first become ragged, foggy, and then deteriorate into obsolescence."

- Citation and context at World-Around Language (3), circa 1955

Meaning:

"...We understand meaning to be a dynamic patterning verb.

- Context and citation at Intellect_f 16 Aug*50

Meaning:

'The new reliable understanding of meaning, however, requires the revision not only of semantics but also of their complex aspect as thought habits employed to describe experience with accuracy, such as the substitution of the already- discussed in-and-out for up-and-down; or the substitution of 'winds drafting to the southeast low pressure' instead of 'blowing from the northwest (zephyrs)'; or the substitution of the word 'realization*' for the very inappropriate use of the verb *to create.' Man creates naught. CT he comprehends in principle, he rearranges locally in Universe by realization of the interactions of principles."

- Cite TOTAL THINKING, I&I, p. 234, May»49

Mgan.jpg;

"Articulated references of meaning are centrally embodied in commonly recognized, constantly relZle directions of inwardness and outwardness, in respect to the nominated centers of commonly experienced trend in principle."

- Cite TOTAL THINKING, I&I, pp.233,234, May'49

See Meaningless

World-around Language

: Decease Of:

See Advertising, 28 Apr'71

See Communication Definitions Etymology Mathematical Explanation of Life Meaningless Meaning: Decease Of Message Contents Squander Meanings Teleology World-around Language Structure of Meaning

See Child Sequence, (1) (2)

Communicating, (1)

Communications Theory, Oct*66

Create, May'49

Intellect, 16 Aug*50*

Man as a Function of Universe, (2); 29 Jan'72*

Omnifinite, 11 Feb*71

Sculpture as Single Frame, 22 Jul'71

Vocabulary, May'70

World-around Language, (J)*

Photosynthesis, 9 Jun'75

Apprehension + Comprehension - Awareness, 26 Jan'76 Children as Only Pure Scientists, (A)

Meaningless:

"Points, holes, Solids, surfaces, Straight lines, planes, Instantaneous, simultaneous, Things, nouns, Congruence, 'at rest,'

The words artificial and failure, Are all meaningless."

- Cite HOW LITTLE I KNOW, p.54, Oct'66

See Absolute

Artificial

Axiom

Belief, 14 Feb'74 Congruence Creation, May'65 Creativity, Oct'66 End
in Itself Failure, Oct'66 Guess: Guesses

Hearsaids

Industrial Design 13 Jun'74 Immobilize: Immobility, 4 May'57 Light:
Speed Of, 22 Nov'73 Nontransformable, Oct'66 Opinions Nouns

Instantaneous

Holes

Psychological, 15 Jul'73

See Solids Surfaces Straight Lines Static, Oct*66 Simultaneous
Spending, 1968 Superstition, 1955 Things, Oct*o6 Tactile. 22 Nov'73
Weighable, Oct'66 Three-dimensional, 1970 Up i Down, May'49 Rest:
At Rest, Oct'66 Straight, 5 Jul'62 Space, May'71 Equality 26 Jan*72
Parallel, 1938 Rigidity, Aug'73 Primordial, 22 Jul*?1

See Implosion, 19 Dec'71 Infinity, 20 Jun'66 Insulate: No Insulation
Tradition

Twentieth Century

See Disapproved Words: Inventory Of
Obsolete: Inventory of Obsolete Concepts

See Absolute, Oct¹66

Meaningless, Oct'66

fissalnsls

See Meaning: Decease Of Obsolescence: Obsolete

Meaalrulcaa:

(2)

See Progressions, May*49

Dynamic vs. Static, 12 Nov*75

Means:

"Only means are parallel; means are the averages of the limits. Dealing in probability calculus scientists can deal only with averages of limits; wherefore they explore and speculate only in terms of parallels,"ⁿ

- Citation & context at Min-max Limits, 22 Jun'75

RBF DEFINITIONS

Measurement:

"Definition of Intellect: The metaphysical measures the physical, but not the reverse, i.e., local irreversibility."

- .in

- Cite Intellect: Equation of Intellect. 22 *pr'71

Measurement;

"Because primitive sensing is tactile man measures his distances horizontally in feet, vertically in hands..."

- Citation and context at Brains TV Studio (1), 6 Jun¹69

Measurement: (1)

"Heisenberg's principle of indeterminism prohibits any exact measurement or absolutely exact physical agreement of mechanical or structural fitting. As a consequence, engineering and mechanics can only reduce the degree of error to be tolerated. Scientists must be content with relatively elegant agreements. 'All the truth and nothing but the truth,' as pledged under imposed oath giving in courts of justice in many countries, is vainly pledged, for, contrary to

indeterminism, absolute 'truth' is assumed to be legally demonstrable in the eyes of the administrators of humanly invented law. Detection of any natural aberration, witting or unwitting, may bring prosecution and conviction for false testimony. For a long time mechanics have known what Heisenberg--- and science through him--- so recently discovered to be true: that Universe forbids realization of exactitude. The Heisenberg indeterminism implies eternity to be persistent within the physical and metaphysical everevolving continuity-finiteness of scenario Universe, in which the myriads of nonsimultaneously shaken kaleidoscopes are never either simultaneous or identically repetitious.

Having both the finiteness discovered by modern physics”

- VEKTIChL IS TO LIVE— HORIZONTAL lb TO DIis, pp.40-41, Dec '69

Measurement:

"as well as eternity imposes a limitless change, ergo, a never repeating an irreversible omnievolution. Although he had never heard of Heisenberg, the skilled machinist could see long ago that the best he could do was to reduce the amount of error he might tolerate and with very surprisingly desirable results."

- Cite VERTtyAL IS TO LIVE** HORIZONTAL IS TO DIE,p.41 , Dec '69

"Heisenberg's principle of 'indeterminism' which recognised the experimental discovery that the act of measuring always alters that which was being measured, turns experience into a continuous and never-repeatable evolutionary scenario.... The question. 'I wonder what is outside of the outside of the Universe*' is a request for a single-picture description of a scenario of transfer nations and is an inherently invalid question."

- Cite **OPERATING MANUAL FOR SPACESHIP EARTH**, p.65, 1969

Measurement:

(*)

"... All magnitudes of length, area or volume are ascertainable, or conceptually processible, only in terms of arbitrary selected experience modules, employed as regularly repeated increments of measuring use, which measuring act always involves time increments of our totally available time of life and may be conceived of only in respect to local events, in non-simultaneous universe, there being no overall largest size to be referred to.

Furthermore, Heisenberg's experimentally demonstrated 'Indeterminism' shows that the act of measuring always alters the measured phenomenon wherefore all measuring is inherently inexact. For all the foregoing experimentally demonstrated reasons Einstein was able to show that every individual's every time employed yardstick of time, i.e., the cyclic increment of imaginary reference, is always unique and different from others, a difference which amplifies greatly as we enter into astronomical 'observing' by individual instruments whose progressively designed *•

- Cite NASA Speech, pp.101-102, Jun*66

"reduction of tolerated error is also always unique and only calculable relative to each experience."

- Cite NASA Sppeech, pp. 101,102, Jun¹66

Measurement:

"A steerable rocket is a complex of internal and external activities both mechanically and chemically. Since either an airplane or a steerable rocket are complexes of internal and external motions in universe independent of earth and since the earth is in independent motion

complex in respect to the sun, and other planets, and since the sun is engaged in a plurality of internal and external motions in respect to the galactic system and since the galactic system is a complex of motions in respect to other galaxies and super-galaxies and so on, and since the whole set of motion events are non-simultaneous, and since the inter-effects of the events vary vastly in respect to aeons of time, it is obvious that any meaningful, conceptual coordination of event interrelationships is inherently limited to a relatively local set, in a time sense, and that the relationships may only be measured in respect to the angle and frequency magnitude characteristics of any one subsystem of the totality."

- Cite NASA Speech, p.49

Jun* 66

Measurement:

"Angle and frequency modulations

either subjective or objective in respect to man's consciousness dis-
cretely define all events or experiences

which altogether constitute Universe."

~~—ntf u HA-HARew,-p__.~~ f Jutt'66

Citation at Angle fc Frequency Modulation, Jun'66

Measurement:

"The cyclicly moduled length of the edge of any triangulated, special case, structural system nan represent the basic 'standard' of relative comparison on a recycling basis of subdivision. Each increment is

one unit of frequency and each increment is one unit of wave

- Citation at Wave, Jun'66

Measurement:

"The dictionary defines axioms as self-evident truths.

Post Greek electron microscopy and Heisenberg's 'indeterminism' show that the seemingly self-evident is always superficial and utterly deceptive and that truth is at best inexact."

- Citation & context at Axiom, Jun'66

RBF DEFINITIONS

Measurement:

"Experimentally demonstrable cyclic regularities, such as frequencies of the occurrence of radiation emissions of various atomic isotopes, become the fundamental time increment references of relative size measurements of elemental phenomena."

- Citation at Time, Jun'66

Measure - Boundary:

See Mensuration, Aug*73

Measurement * Frequency:

See Vectorial i Vertexial Geometry, 27 Jan'75

Ks»a«.ra - Malt:

See Mensuration, Aug'73

Moagurepent Tenda;

"The history of measurement exemplifies the trend progression factor which I have entitled ephemeralixation. This progression evolving from compression-> tension- viAsfal-* abstract- electrical- , is typical of all evolutionary trends."

- Citation & context at Ephemeralisation , 1938

See Approximateness

Cosmetry

Heisenberg-Eliot-Pound Sequence

Increment: Incrementation

Indeterminate

Inexactitude

Johansen Guages

Knowledge as Reflexes

Tolerance: Measurement Tolerance

Truth as Progressive Diminution of Original Error Observation

Error

Uncertainty Principle

No Measurement

Mensuration: Mensurability

World Measurement

Attic Window, 20 Jan'75

See Angle &. Frequency Modulation, Jun'66* Axiom. Jun'66*

Brain's TV Studio. (1)*

Equation of Intellect, 22 Apr'71*

Exactitude, May'72

Female Leg, Aug'64

Integrity, 25 Jan'72

Modules: A t B Quanta Modules, Apr'72

Physical is Always the Imperfect, 14 Feb'72

Synergetics, 15 Nov*74

Tactile Sequence, (1)

Time, Jun'66

Have. Jun'66*

Local Entity, 1960

Pathology: Preventive vs. Curative, (2)

Time & Size, Nov'71

Meat-eating Nobility:

See Undernourishment, 7 Aug'70

See Externalisation of Man's Own Functions Tools: Craft & Industrial
Integral Functions of Man Tool Networks

See Charting Alternating Experiences of Man ft Nature, (5)

Generalised Principle. (5)

Humana as Machines, (2)

McLuhan, Marshall, (1)

Mechanical Mind;

See No Mechanical Mind

Mechanical Service Cort;

See Dome House: Separation of Mechanical Service Core
& Structural Shell

"Material affairs can be handled in but one best mechanical way.

- Cite RBF quoted by Hugh Kenner in BUCKY,p.171 --- probably from
Bob Snyder film track, Sunner'71 "Man has learned how to external-
ize his own functions and to leave them behind. So that now you can
use-my hands £~See Hands. 7. and we can go on from generation to

generation of our hands, interchangeable hands. There are no tools that man has developed that are not« extensions of the original integral functions, though the functions become, like the special cases in generalization, not too visible. They are always that way.

"I don't find anything that has been done by man, that we call mechanics. that isn't part of his internal organism. He was apparently designed with this capability to externalize his internal metabolic regenerating organisms. And he is developing external metabolic regenerating organisms to take care of more and more human beings and extend the capability to all men so that all men can enjoy total resources no matter where they are.

"There is something very big going on, and there is something that evolution is confronting man with that he doesn't understand too well. I find very unsympathetic and short-sighted statements being made about technology

- Cite COMMITMENT TO HUMANITY, May'70

Mechanics: (2)

"and thinking-aa-mechanlcB as something very independent of man. It is not so. There are many living species that develop external equipment--- for instance the bird's nest and the spider's web."

- Cite COMMITMENT TO HUMANITY, pp. 31-32, May'70

Mechanics:

"... The energetic magnitudes of variable streamlines and flows. These interactions are known as structures and systems."

- Citation and context at Reciprocity (4), May'49

Mechanics;

"It must be savagery and hand labor, or civilization and mechanics."

* I| Dj Till! Tino Leek I i.WpTO T| May

- Citation at Clvllltatlon, 1928

Mechanics, yg, Structure:

See Dome House Grand Strategy: 1927-1977, (2)

Mechanisa:

"Abstract thought dies with th* thinker, but the mechanism was building for a long time before the moment of recognised in-vention."

- Citation and context at Pencil. 1938

Mechanism:

"Don't say mechanism, aay circuitry

- Citation at Circuitry. 12 Nov*75

Mechanism " Circuitry:

See Mechanism, 12 Nov'75

See Machines

Quantum Mechanics

Unclutchable Mechanical Systems

Wave Mechanics

Body as Mechanism

Wave Propagation Mechanics

Humans as Machines

Man as an Invention

Human Beings k Hard Machinery

Feedback Servomechanism

Structure & Mechanics

Servomechanism

Circuitry

Artist-mechanic

House as Terminal of Community Mechanism Community as Unit Mechanical Organism No Mechanical Mind

See Artifacts. 15 Jun*74 Artist-scientists, May'60 Civilization, May'28* False Property Illusion (1)(2) Frankenstein, 1947 Lever (II) Metal 1928 Pencil, 1938* Philosophy, 21 May* 28; 1946 Reciprocity (4)* Reflection Sequence: Apple (2) Structure, 16 Dec'73 Technology, 1947 Tolerance. 14 Sep'71 Biologicals vs. Nonbiologicals, 2 Jun'71 Redundancy: Reduction Of, 22 Apr'71 Communications Hierarchy, (3) Teleology, (1)(2) Environment, 29 Mar*77 Psychiatry, (3)

See Mechanical Extensions of Kan Mechanical Kind Mechanical Service Core Mechanism - Circuitry Mechanics vs. Structure

Meddle:

See Overload the System , 15 May'72

Kadlcne: Medical Man:

See Doctor

No Country Doctor on Mara Pink Stuff

See Biosphere, (4)

Dwelling Service Industry, (5)

Xacro-aadlo-alero i

Saa Structura Saquenea, (2) Everyday, May'49 Pattern, 3 Oct'72

See Intuition Sequence (1)

Sleeping *k* Thinking, (1)

Medium:

"A pattern has an integrity independent of the medium by virtue of which you have received the information that it exists-- the step-up, step-down transformation medium."

—file (Uirgøil

- Ciation at Pattern Integrity, 9 Jul'62

Medium la the Meaaage:

See Daddy (1)(2)

Visual Symphony (1)(2)

See

body ya. Medium

KBF DhFlhlTIUhb

"The meek have inherited the Earth but the lawyers have not probated the will."

- Cite RBF to EJA recapitulation of common theme in hie writings, published and unpublished. 13 Feb ¹ ?2

"The Scriptures were right: the meek have inherited the Earth. But they do not know it. Though irrevocable, the will has not yet been finally probated in the court of public comprehension. The will says, 'The prospects for humanity are metabolically excellent, intensely interesting, culturally fabulous, and of ever greater intellectual challenge.

•'But the will, it must be noted, makes all of humanity its beneficiary. It does not favor or promise unique prosperity to any exclusive blocs of humanity. For the professional secretariat of the Daughters of the Punic Wars; for political spoils systems; for national sovereignties; for annual trade balancing with gold and its concomitant exchange

depressions and resultant human wage-and-purchasing-power inequities; for any social, economic, or psychological differentiations of human originis or color; for might makes right; for purchasable accoutrements, architecture, equipment, and gadgets of distinction; and for the plethora of behavioral obnoxica

imposed or induced by the supposed inexorability of the Malthus-Darwin theorem of survival only for the slick fittest, it is curtains."

- Cite THE PROSPECT FOR HUMANITY, WDSO Doc. 3, p.65, Aug'64

"The will of history reads 'for everybody or for nobody,' and since we balk at 'for nobody' it has to be 'for everybody.' And that's the way it's going, lickety-split and the world around."¹

- Cite THE PROSPECT FOR HUMANITY, WDSO Doc. 3, p.65, Aug'64

"The master world pirates entered the limbo of the past in 1929 and though many of their servants and servants' training schools as yet believe them alive, the old pirates are dead. The meek have inherited the Earth. But the meek, being meek, haven't caught on to the fact that they are their own masters. They keep throwing their new inheritance responsibilities over to their politicians who are fundamentally frustrated by utterly inappropriate and complex accounting and control procedures of the old piratew invented sovereignties. As a consequence there has never been an organized mutual effort of total man to make the total resources of the Earth provide higher and higher performance, thereby directly purposing that all men on the Earth should be rendered physically successful."

- Cite Mexico '63, p.8, 10 Oct *63

See Pirates: The Great Pirates Ape Dead

Meek Have Inherited the Earth:

See Wealth, 20 Sep*76

MeetInga:

See Eye-beamed Thoughts Lecturing Thinking Out Loud

Malting;

See Iceberg: Rate of Melting

Member:

"To be referred to as a rememberable entity, an object must be membered with structural integrity, whether maple leaf or crystal complex*"

- Citation in context at Object, 7 Nov'73

Member:

"To be remembered, it must first be membered. to be membered it must be structured, to be structured it must be triangulated.'¹

Membranes:

"People seem to want to be separated from other phenomena by membranes... and there's no better way to produce membranes than by rolls. You can punch out sheets, but there's nothing like rolls."

- Cite RBF to World Game Workshop'77; Phila. PA; 21 Jun'77

See Diaphragming Electromagnetic Membrane InviBible Trampoline Monometric Bubble Occulting Membranes Omnidirectional Shutterable Sieves Skins Walls

See Bubbles (2)

Domains of Actions, 21 Dec¹71 Privacy, 22 Apr'61 Domain & Quantum, (1)

Memory:

"The human brain apprehends and stores each sense-reported bit of information regarding each special case experience. Only special-case experiences are recallable from the memory bank,"

- Cite Dreyfuss Preface, "Decease of Meaning" 28 April 1971, p. 5

Rah JnFIUITluNS

Memory:

'Nantes don't have meaning. Therefore they are harder for our mental retrieval system to remoter."

~~- Cite RBF to intt
Hewlett-Packard, New York~~

12:

- Citation & context at Thinking. 12 ter* 71

RBF DEFINITIONS

Memory:

'•By World War II we had come to almost two million chemical compoundNow the human mind can only retain a ctrtain number of items within a given pattern. At least that is my conclusion. I would say I can remember approximately 5,000 namesof people but these are all special cases and there is nothing logical about it. There are limited sizes of vocabularies, for instance, I can remdbber the name of almost every man of the first ship I was on. I don't see any of these men ever any more and I don't really need to remember the names as they are of no use to me. But I meet many people every day and I can't remember their names because the cubby holes are all filled up with those earler names. They don't come around to get their mail and I can't

put anyone else in their rooms. So if you were to just try to remember all the chemical compounds, you couldn't remember them all and you would be in desperate trouble when you are not able to remember more than 5,000. . . . The kinds of questions I used to hear asked a few years ago on the radio quizzes seemed to me to be the kinds of questions you could not afford to be bothered with, ./hat I saw that you could do was go in the direction of what we call generalization."

- Cite ORiCui. University Lecture P2 - p, 54, 2 Jul'62

See Universe, 5 Feb'56

Individual Universe, 26 Oct'73

See Brain Bank

See Beautiful, Aug*64

Communications Hierarchy, (3) Reflection Sequence: Applew, (2) Special Case. 2B Apr¹?!

Children as Only Pure Scientists, 2B Apr'77

MfBprY 'call-upa'

See Universe is Technology, (1)

Memory Set:

See Set, 5 Jul>62

See Brain's TV Studio Group Memory Nostalgia Pattern Cognizance
Pattern Recognition Perception Realization Lag Remember

Recalls

See Reading, 29 Fay*72

Savings, 13 Mar'73

Names, 20 Jan'75

Conceptuality, o Nov'73

Wave Pattern of a Stone Dropped in Liquid.

22 Jun'77

Environment, (B)

See Pathology: Preventive

i. Curative

See Mensuration, Aug'73

TEXT CITATIONS

Mendeleyev, **Dmitri I;**

Intution, p.18, Nay '72

Mendeleyev: Dmitri I.:

See Periodic Table

See Biological Mensurabllltv

Chemical Mensurabllltv

Crystallographic Mensurabllltv

Electrical Mensurabllltv

Expansion-contraction Mensurabllltv

Geodetic Mensurabllltv

Geologic Mensurabllltv

Gravitational Mensurabllty Insideoutabjlitv Mensurabllty Radia-
tional Mensurabllltv Spin Mensurabllty

.Way Propagation Mechanics Mensurabllty Plus-minus Polarity
Mensurabllltv Thermal Mensurabllltv

Vector-Tensor Mensurabllltv Wave Network Mensurabllty

Absolute Network

See Commensurable: Commensurability Low Order Prime Numbers
Mensuration

Rational Whole Numbers

See Synergetics, Jun'66

Mensural Unity:

"Kqn has been focused on the cube edge as mensural unity."

Nature uses the tetra edge as mensural unity."

- Cite Holograph memo from RBF to Karl Sotlov in plane

flight from Columbus to St. Louis, 21 Sep. '71.

- Reproduced in Architectural Forum, p. 78, Feb¹72

afflaurai Uni,w

See Control Line of Nature Cube: Diagonal Of Prime Vector^xetra Edge

D_ Bohffl Paper, FoundatIona of Phveleg, Vol1, No.4, 1971, p.365:

**** . . . the basic meaning of the word 'measure' was 'limit* or •bound-
ary'!" w**

**RBF Comment: "Better example: 'Mensuration, mend, rather than
'cure'• ` "**

C1XS at D_ Boh", QUANTUM THEORY AS AH INDICATION

OF NEW ORDER Di PHYSICS, p.jij, done Aug<73

See Conn ensurable: Commensurability

CGS: C g_t a System

Frozen Mensuration of the Past

Measurability

Synergetics Caluulation

Triangling

XYZ Coordinate System

Measurement

Cubing: Cubic Accounting

See International Affaire, 5 May'72 Real Estate Development, 10 Jun'71

K*ntaX

See Human Beings <5c Complex Universe, (1)-(7) "People who have been with me in meetings tell me that they think they have heard all th..t I've said and then they listen to the tapes afterwards and they found that I had said a whole lot more things. Then they listen to the tape again a year later and they find that I said a great many more things. So this simply begins to demonstrate that you do get your own mouthful and you go off to chew it. I described what I am doing with you as very much like feeding a great flock of sea gulls. I throw them something and someone catches it and he is excited about that so he goes off and then comes back later on for another piece and doesn't realize there was any in-between or any other pieces that the gulls were getting."

- Cite OREGON Lecture „'5 - P* 155,9 Jul»62

"... I have found myself from time to time spontaneously and almost unrestrainedly preoccupied in writing out my thoughts, which as I re-considered them and redefined them eventuated In the present volume, which I call ` mental mouthfuls and ventilated prose* which may be poetry also. . . My proposed reorientations . . . Involved utter obsolescence of ` nouns* and survival only of verbs ... to attain more

accurate communication, whose now vocabulary . . . had to be translated into `everyday' language. . . The irtiitive doses did not correspond to the conventional syntax. . . The next step in putting the peice to use was to reconblbe the phrases with dashes, comas, asterisks, and Illustrations in such a manner as to ceemingly eliminate the 'poetical* aspect without losing the `mouthfulling' --- in which final form its was employed effectively."

- Cite NO MORE SECONDHAND GOD, Preface, pp. x-xi. 9 May<62
See Idea Increments

Cosmic Fish

Feeding a Flock of Sea Gulls

Fisherman Theme

Generalizations Reduced to One Word

Puzzle of Washington Crossing the Delaware Ventilated Prose

See Frequency Islands of Perception, 13 Nov*75

Mental;

See Conditioned Reflex

Fortress Mentality

Mind

Yesterday's Private Castle Mentality

Mfimtor .1 action;

See Cartography: Conventional Projections, (1)(2) Dymaxion Airocean World, 15 Oct'64 Projective Transformation, (III) Dy«axion Airecean World Map, (h)

Herbhante of Woa:

See Politicians. 10 Sep'75 Doing What Needs to Be Done, (1)

"Two gears that do not mesh can only be brought into tangent proximity and take up more room than do meshing gears. Frequencies given off entropically that don't mesh with energies given off by other systems take up more room in Universe, Therefore we have a physically entropic

Universe that is everywhere locally taking more room, ergo expanding, and increasingly disorderly from the short time-span local viewpoint."

- Cite Museums Keynote Address, p. 12. 2 Jun'71

- J 0 52.52)

Meshjnh & Nonmeshing:

"As the energy comes off it may not fit the energies of the other system, every chemical element having its frequencies So the frequencies don't happen to mesh . . . and frequently can be thought of like a gear: it has very many little teeth and a relatively few big teeth to each cycle. So if the gears don't mesh, then they take up more room than when they do mesh. So if the energies being given off are continually

taking up more room, because the gears are not in a plane.

They're omnidirectional. This brings about an observable relative increase of disorder."

SV*r/<4rr+- fl/TfePY S-EC. *uszzi*

Cite WATTS TAPE,

pp. 46-47, 19 Oct'70

"All physical systems are always losing energy, iian has called this entropy; though the individual system itself may be very orderly,⁴ the timings of different energies leaving different systems may not necessarily mesh with the timings of energies leaving other systems which may also be orderly in themselves. The reason that they don't mesh is that they are coming from different complexes of chemical elements. Since every element has its unique frequencies, we have gears that cannot interlock and must consequently remain tangent to one another. Hence they take up more room than they would if they had meshed. However, if we were able to observe for long enough, we would find that some of those ears would eventually fit together. But it might be a 'thousand years or twentyeight and a half years or seventeen seconds. The important thing to note is that there is a great period of nonmeshing and that makes the physical appear to take up more room."

« Cite RBF Preface for Francis *Earnest*- 1970f

See Matches: Eddington's Proof of Irreversibility

Omnicondition

Synchronous & Diasynchronous

Order k Disorder

Meshing & Nonmeshing:

(2)

See Gears: Spherical Gears, May»72

Local Systems, May*70

Myopia: Incasting vs. Broadcasting, 22 Jan*75

Meshing:

See Gears

Gear Train: Locking t Blocking Interlocking

Meshing &, Nonmeshing

Monkey Wrench

Omnicondition

Omniintenneshed

Wow

Meamer: Frans Anton: (1734-1815)

See Responsibility, 14 Oct'60

Meson:

See Modules: A IB Quanta Modules, 25 Jan'72

See Codes

Information Field

Information Transaction & Valving Models

Meaning

Medium is the Message

Tunability

Viral Steerability

See Rationalization Sequence, (5)

Tetrahedron: Diaaimilar Rate of Change Acconinodation, 9 Nov'73

cg_rfl; (1)

"We are at the point of completely unexpected events of humanity. We have human beings being born absolutely helpless physically. And they are not self-sufficient for physical life support until the umbilical cord is severed. But metaphysically they are still dependent on the parents for survival. The mind has to develop all its experience of generalized principles like the lever to achieve the independence of mind over muscle. When the child in the womb leaves off the umbilical cord it means the completion of the development of his physical independence. But as long as the parents did the metaphysical life support for the infant they were the news. They were the metabolic.

"The same kind of thing has happened now on a world-around basis. The radio and the television are presenting a new kind of voice program in everybody's language. And the young world— all of humanity— is changing from its dependence on the parents, the old world of muscle-over-mind. And what is changing is that the authority is changing. The authority used to be the parents and the notion of might-over-right and now the new authority is this universal radio-televens voice programs which herald a sort of metaphysical cord comparable to the umbilical cord. It is what I call the metabilical cord: and

- Cite RBF to EJA by telephone from Phila, PA, 10 Jun*74

Metabilical Cord;

(2)

"all of a sudden Nature cuts it! Like the umbilical cord. And here we have— think of it— more than 100,000 words in the dictionary. It is the function of the young world to do its own thinking with all these beautiful tools. The time of universal helplessness and physical dependence is over. It is going to have to be Utopia or oblivion. The cutting of the metabilical cord by nature means the onset of metaphysical independence of human!

"Nature has done this fantastic saddle, but mind must now take monitor thing. Muscle is still in the over and function as a local

- Cite RBF to EJA by telephone from Phila. FA,

10 Jun*74

MetabiHeal Cord:

See Daddy (2)

Teleology, 15 Jun'74

Mftabpllgfl:

"Metabolics describes the distribution of energy processes

- Citation &. context at Time-energy Economics. 15 Jun'74

Metabolics;

"Industry and biology are metabolic; they grow."

- eiirin T1IF. ni.nT<iHH»«-»iiTT Till, mr iTTl ||| | ,i mi, j MBIIJH

- Citation at Socallan, 1962

I and context

HttbQlXs counting:

See Cosmic Accounting Sequence, (1)

itoUi29Ue-Conasrmlan:

See Conservation, 1962

Pattern Integrity: Equation Of, 1973

WAbgllC 710W-

"The angular accelerations relate then to the myriad of circular or elliptical orbitings of components of systems around their respective centers or focii, and are intimate to original acceleration-generating factors such as the •hammer thrower* himself and his muscle as the metabolic powering by the beef he ate the day before which gained its energy from vegetation which it had eaten which it had gained its energy from the Sun's radiation by photosynthesis- all of whose attendant relative efficiencies of energy relaying were consequent upon the relative design efficacies and energy divergence to complementary environment conditions of the total synergetically effective system with the eventually total regenerative Universe itself,"

- Cite SYNERGETICS at Sec. 826.03, Sept*72

"... The metabolic flow that passes through a man and is not the man: some hundred tons of solids, liquids and gases serving to render a single man corporeal during the 70 years he persists, a pattern integrity, a knot through which pass the swift strands of simultaneous ecological cycles, recycling transformations of solar energy. At any given moment the knotted materials weigh perhaps 160 pounds."

- Citation at Knot. Dec'67 reO*1**'

--'Ctte-RBF-lecture~at University of California San>ta -7* nci Barbara, Deemeber 19671 quoted by Hugh Kenner in "The Hope—in~the Knot-," Kentucky Revetw, Autumn 1968.

IMafcoUg HOW (1)

"I am quite confident that, in terms of the 70 tons approximately of vegetables and cows that we process, and enormous tons of water that each of our 170 pounds processes, that we are not the water, and so forth, any more than the knot is the rope that it is sliding along. In other words, I would say that what you call the tangible me is like the water that told me that a wave went by... That I am a pattern integrity is the information relayed to you by virtue of the vegetables I happened to eat and the water I happened to drink, but which was neither you nor me, and of which there were, say, 70 tons which got processed by a pattern that doesn't weigh anything.

"Therefore I look at human beings as a complex of patterns--- as enormous knots. like the knot on the rope, a fabulous number of knots, all of them sliding along on various inhabitable patterns. I could put tracers on the food that you and I are going to eat. In fact, all of us, a month from today are going to be eating something. If we found out where and what we are going to eat next month--- where it is right now--- that might be interesting. It might be some spinach in Texas. But at any rate there will be some air that is going over the*

- Cite Oregon Lecture #5, pp. 171-172, 9 Jul'62
Metabolic Flow;

"Himalayas that is going to bring rain that is going to get mixed up with my soup next month. If I put tracers on all the food that is going to be me a month from today, I would have to have all kinds of isotopes all over the Universe. And gradually you would see these isotopes getting closer together and finally they meet. And then they look like me for a few days. And some of them get out; some of them get out in a few weeks, and some in a few years, but they get tied up in a

different longevity of knots locally. And that is called me. But I am quite confident that I am not the vegetables that I eat, nor the water that I drink. The only thing that counts about me at all is the pattern integrity."

- Cite Oregon Lecture #5, pp. 171-172, 9 Jul'62

See Life is Not Physical

Organism / Life

See Metabolic Flow, Sep'72

Human Beluga, 22 Jun*77

See Automation of Metabolic & Regenerative Processes

Human Beings & Hard Machinery

Man: Automated Metabolism of Man

Mjn as Pattern Integrity

Organic Model: Biological World as Model for Society

See Hair, 9 Jul'62 Knot, Dec'67*

fotafrQllc „Gsare. Qf.

See Spinach, 11 Feb'73

* how we want to move to that bare laaximum in external metabolics and kilowatt hours and internal metabolics. meaning calories and protein."

- Cite Ed Schlossberg Intrdduction to World Game at NY Sfcadio School, 12 Jun-Ji Jul*69, Saturn Film transcript, p.2#

See Internal Metabolite ve. Induetrlallxatlon

See Energy Slave (4)

High Voltage Power Tranamisaion (1) Time-energy Economica, 15 Jun*74 Economica, 1 Feb*75

Metabolic Process Generalization:

See Export-import Centers, 20 May*75

"Life le metabolic regeneration.

- Citation at Life. 21 Dec¹?!

See Agricultural Metabolics

Automation of Metabolic k Regenerative Processes

External Metabolics

Industrial Metabolics

Internal Metabolics

Metabilical Cord

Organic

Regenerative

Internal Metabolics va. Industrialization

See Roots, May'72

Socialism, 1962*

Time-energy Economics, 15 Jun'?4*

Life, 21 Dec*71* Precession (b); (II) Human Tolerance Limits, (1)

See Metabolic Accounting

Metabolic Conservation

Metabolic Flow

Metabolic Gears of Humane Metabolice: Internal & External
Metabolic Regeneration

Metabolic Process Generalisation

Metal:

"The great new tool of this age is metal from which has been born mechanics or directed mechanical motion, which is governed fourth dimensional design. It is metal that has made possible centralized production, transportation and distribution through multitudinous channels. Metal has made possible the automobile, the railroad, the airplane, telephone, telegraph, wireless, the clothes on our back and all our food, and our city skyscraper. Generally and structurally speaking, we use it in our houses in the form of nails only. Structurally the characteristic of the new tool, metal different from any of the tools of other ages, is its fibre or tensile strength, tremendously in excess of any other tensile unit ever created. For example a small wire rope may be seen lifting a great locomotive. In compression metal does not exceed stone to any marked degree. That is why heavy metal leg tables are inharmonious to our sensors."

- Cite 4-D, Chapter Four, May 1928

Metal Farming?

See Wichita House, (1)

"I know that every time I melt up a Cadillac I can give you two better Japanese cars."

- Cite tape transcript, p.24; RBF to W. Wolf, Gloucester. Mass 2 Jun'74

?Wlg: Recirculation of Mgtalff: (a)

"Now suddenly we learn that there are other kinds of resources in this vegetation impoundment. There was some metal; and we learn that through the weapons and through the tools. And then there got to be something made of tools, which was the production, which is a very different thing that we call industry today. And then came realization that there was tin in the Malay States. And tin can be flowed very, very thinly on to sheet steel. And you can use sheet steel very, very thinly,

and yet quite adequately; so tinning of the steel brought about the tin can; hermetic sealing. For the first time--- you had to be where the food was or you died because it would rot; and you did learn grains, and you get into wheats and mealies that could last some longer and be transported, but all of that's rotted. So there is something in that can; for the first time you could send it away. So you didn't really have to be at a place any more.

"The metals and the new tools brought about an entirely new relationship-- but these were not planted around the world the way the vegetation was. There was a very different world pattern, in fact, as you began to get into them. Just like your telephone*

- Cite RBF to Arthur Anderson & Co. (p.4), New York, 13 Mar'74

"instrument; you cannot have that instrument without getting metals from three continents of our Earth. So the complexity of this new technology involved the resources of around the Earth and not the local. This had been so strong on the guarding— the conditioned reflexes— there were enough changes by World War I for the simple reason that it was due to the metals rather than the vegetation....

"This is really what has been going on in the last 100 years. So we have then this new picture of man dealing in total world resources. World War I then was the first time when we went over from man-as-muscle-on-the-farm and this hunting, and so forth, and fishing--- to man empowered by tools. Because the essence of World War I was: Who is ready to produce the tools that made tools? Production is the word for World War I and it was, then, the first great energy war."

- Cite RBF to Arthur Anderson & Co., New York, 13 Mar'74

"The Club of Rome just had the wrong data base. They thought metals/as used up--- like strawberries that rot!¹*

[were/

- Cite RBF address to Yale Political Union, New Haven, 9 Dec'73

"We must redesign the use of the world's total resources in such a manner as to make those now engaged exclusively in the service of only 44 percent of humanity adequate to the effective service of 100 percent of humanity at higher standards of living despite a continually decreasing inventory.

"For instance, all our metals are constantly being melted up and re-circulated. Out of all the copper mined in all history, only 14 percent is not at present in an averagely recirculating 22-year cycle of use; and the 14 percent which is not in present recycling use is now in munitions ships at the bottom of the ocean. Sixty-five percent of all our steel is now made out of scrap. That is roughly the ratio of recirculating metal to new mine production in all of the metals categories. It is perfectly practical to think about taking the metals out of obsolete automobiles, taking all the two-ton automobiles off the road, melting them up and making twice as many higher performance one-ton automobiles from the same metal. You may say that you don't want more automobiles--- that the parking problems are too great. In speaking of automobiles I am speaking of a familiar industrial tool. I am not advocating more autos. I am simply considering the feasibility of the"

- Cite RBF to William Karlin, Architectural Forum, Feb'72

``principles involved through which we can take care of twice as many people in a given function with a given obsolete scrap resource."

- Cite RBF to William Marlin, Architectural Forum, Feb*72

See Copper

Mines Above the Earth

Scrap Sorting Mongering

Halfway-round-the-Worlding

See Building Business, (2) Building Industry, (11) Club of Rome: Limits to Growth, (1); (B) Human Unsettlement, (1)-(3) Machinery. 20 Sep'76 New York City, (3)(4) Political Revolution 10 Oct*6j Pollution Control, (1)-(3) Transnationalism vs. Colonialism, (1)(2) War, 1} Dec'73

See Chemical Bonds: Metals Pauling, Linus

See Ferrouds & Nonferrous

Alloy

Copper

Hammering Sheet Metal

Johannaen Guages

Mine

Tensile Strength of Chrome-Nickel-Steel

World Power Grid

Light on Scratched Metal

Htj: MlKaUuriUf:

(2)

See Civil War (1)(2)

Might Makes Right, 20 Apr'72

Precession, (II) • (b)

**Closest Packing of Rods, Dec'61 Industrialization, 29 Jun'72 Tenseg-
rity: Unlimited Frequencies of Geodesic**

Tensegrities, (1)

Weapons Technology Sequence, (B)

Chemical Bonds: Quadruple Bond, 19 Dec'73

Metaphor:

‘ ‘ Metaphor itself is inherently repetitive. Wave function and frequency are inherently repetitive. What we see--- the awareness of all the electromagnetic-spectrum reality--- is identified only by its unique frequencies of reliable repetition."

- Cite SYNERGETICS, 2nd. Ed., front Matter, Author's note on Rationale for Repetition in This Work, p.xxi: 2 Jul*75

Mfl\$a.Ph9E«

"The Northern Route people from the East wanted to put their philosophy into a metaphor so it could be understood locally, • . . Their metaphor was to put Mecca on their route."

- Cite KBF to EJA, "Buddha, Christ, Mohammed," 3200 Idaho, 15 Jul • 73

Metaphor:

"The metaphor is linear."

- Citation and context at Truth. 16 Feb'73

See Money Metaphors Sequences: Metaphors Semimetaphor ica1

Mtftanhnr ?

(2)

See Repetitive, 2g May'75

Metaphysical -

Q* ' 'You use the tetrahedron as a model for the

physical world. Is the tetrahedron also metaphy-

RBF: "It is metaphysical that we can conceive of the

tetrahedron. Metaphysics is not *also something else.' The tetrahedron is one of many phenomena that can be apprehended and conceived.

- Cite RBF to World Game Workshop'77; Phila., PA; ? • > Jun'77

Metaphysical:

"h - lystaphysical: All that Is experlencgable but weightless and ert-gyless."

- Cite SYNERGETICS draft at Sec. 1056.20 (Item #33), 13 Hay'73

Metaphysical:

"The metaphysical resource always increases.

- Citation and context at World Game, Dec'72

Metaphysical:

'Thus we find the meta physical Apprehending and embracing, Comprehending, cohering and conserving The integrity of Scenario Universe's Never exactly identical recyclings. The physical tries to destroy And dissipate itself.

The metaphysical law masters and conserves The evolutionary integrity."

- Cite BRAIN L KIND, p.1\$2 bay '72

Metaphysical:

"I am not suffering at all. I have annihilated the non- existant, i.e., the misapprehension that life is physical. We discover instead that it is entirely metaphysical and that the physical is always the imperfect, special-case, after-imaged lagging realization of the ideal generalization which can be realized, or momentized, or experimentally identified, time-lzed and measured, only by such limited, ergo imperfect approximation, all of which latter is implicit in Heisenberg's operationally imposed indeterminism

- Cite HBF marginalia at Eccles, "Facing Reality, p. 3, 14 heb '72, as rewritten by RBF same date.

MgyaphYSIgal:

"I am not suffering at all. I have annihilated the nonexistent i.e., the misapprehension that life is physical. We discover instead that it is entirely metaphysical and that the physical is always the imperfect, special case, realization of the ideal generalization, which can be realized, or momentized, or time-ized, only by limited, ergo imperfect, approximation."

"Facing Reality, p.3,

- Cite RBF marginalia at Eccles¹ 14 Feb'72

Meta physical:

4

"Thought has shape independent of size."

3=24-Dec—"?"1 ~~et~~

- Updated citation at Though Baa Shape. Oct'71

Metaphysical:

"The phenomenon time entering into energy is just a metaphysical concept. . • "

- Citation and context at Time &c. Energy. Oct'71

-Beverly-¥uik.

"Meta physical:

' "'The metaphysical works toward the eternal slowdown

and becomes steadier, the physical alone accelerates and is fast. It is really only the destructive things or negative things that accelerate. Popular music is getting more and more noisy, raising more and of a row; it

A

is purely physical. Metaphysical is in exactly the opposite direction."

- Citation at Eternal Slowdown, circa 1970

Metaphysical:

"... Disorder attains and passes through maximum asymmetry as the meta physical passes through but fails to remain at the zero of equilibrium truth, wherefore metaphysical might continually improve the scenario by conceptual discovery of new generalized principles.

- Cite Pendulum Model VS Scenario Model.. 2J Dec'68

RbF dU-HUTIU.S

i-.ecaphysical:

"In the endless but finite and never exactly repeating (Heisenberged) 'film strip' scenario of evolutionary Universe after the film strip has been projected it goes through a 'molten*' phase and congeals again to receive the ever latest self-intertransforming patterning just before being again projected. The rate of change and the numbers of special-case self-retransforming of physical evolution tend ever to accelerate, differentiate and multiply; while the rate of change and the numbers of self-remodifyings of generalized law conceptionings of metaphysical evolution tend ever to decelerate, simplify, consolidate and ultimately unify.' "

T'cS- VwiWCCSf- $\$ \mathcal{L} < M \mathcal{J}$

22 Apr'68

~~—~~ -y 22. Apr*68

- Citation at Scenario Universe.

- tttr linUI'im l.i "

Metaphysical:

"Human mind is the most powerful selector and order f emulator thus far evidenced in universe. Mind reduces billions of special case experiences to a few hundred generalised principles observed to be always operative in universe. The diffuse multiplication and expansion of physical universe is regeneratively countered by the contractile meta-physical capabilities of human intellect."

- Cite Letter to Building Commissioner

Page 2 (PLAYBOY)

Jan'68

MptaphygjQa;:

"We cannot design metaphysical; we can only discover metaphysical. It is a priori.^{1'}

- 9±*

ineeKiiet
~~For Peter Percelle C.,~~
~~For Bob Forward,~~
~~1967~~

- Citation at Metaphysical & Physical. 1967

Metaphysical:

"By metaphysical I mean no more nor less than is implicit in my definition of universe. Since magic has never been experimentally demonstrated, my use of the word metaphysics does not contain overtones of magic or mysticism."

- Cite DOXIAD1S, p. 311, 20 Jun'66

Matephygigal;

"The seeming disorder of physical entropy is only superficial; metaphysical thought can always find the orderliness that engulfs disorderliness. Disorderliness is nonthinking.... Only mind, the great metaphysical, pattern-seeking function has demonstrated to us the capability to interconnect the experiences and to find the generalized pattern and orderly principles underlying all our randomly encountered experiences."

- Citation & context at Relationship Analysis (1)(2), Jun'66
KgfPhYrtcal?

"All that is not physically encompassed as $E - Me^2$ is metaphysical

- Citation and context at Physical Sclenoaa- 1959

See Metaphysical, May'72 Metaphysical Intellect, May'?2

Metaphysical Disconnect:

"At the end of a piece of rope we make a Metaphysical dieconnect and a new set of observations are inaugurated, each consisting of finite quanta integral ingredients such as the time quality of all finite-energy quanta."

- Cite RBF marginalia on Infinity entry from HOW LITTLE, made on 13 Kerch, Beverly Hotel, NT. Confirmed and expanded, Beverly Hotel, N.Y., 19 June 1971.

"Stress-producing metaphysical gas stretches and strains nature to yield into social-evolution conformations such as the gas-filled plastic tube of Universe."

- **Citation 4 context at Nature Peraita It Sequence (1), 27 Dec*73**
Metaphysical Entropy:

See Problem

Metaphysical Environment:

"The metaphysical environment consists of human thought generalised principles, and customs."

- Citation and context at Bridge. 13 Nov'69

Metaphysical Experience

"Because the physical is time, the relative endurances of all special-case physical experiences are proportional to the synchronous periodicity of associability of the complex principles involved. Metaphysical generalisations are timeless, i.e., eternal. Because the metaphysical is abstract, weightless, sizeless, and eternal, metaphysical experiences have no endurance limits and are externally compatible with all other metaphysical experiences. What is a metaphysical experience? It is comprehending the relationships of eternal principles. The means of communication is physical. That which is communicated, i.e., understood, is metaphysical. The symbols with which mathematics are communicatingly described are physical, A mathematical principle is metaphysical and independent of whether X,Y or A,B are symbolically employed

to Karan Singh incorporated in SYNERGETICS 13 Mar'73

- Cite RBF draft Ltr. text at Sec. 163,

Metaphysical Fish: How Do They Catch A:

See Intuition: Second Intuition. 14 Oct*72

Iqd?pmd<?rifr IpbroadAgg: (1)

"Human experience discloses the eminent feasibility of inbreeding biological species by mating like types, such as two fast- running horses. This concentrates the fast-running genes in the offspring while diminishing the number of general adaptability genes within the Integral organism. This requires the complementary external care of the inbred specialist through invention or employment of extracorporeal environmental facilities--- biological or nonbiological. It is easy to breed out metaphysical intellection characteristics, leaving a residual concentration of purely physical proclivities and evolving by further inbreeding from human to monkey.

"(Witness the millions of dollars society pays for a 'prizefight*' in which two organisms are each trying to destroy the other's thinking mechanism. This and other trends disclose that a large segment of humanity is evolving toward producing the next millenia's special breed of monkeys.) There is no experimental evidence of the ability to breed-in the weightless, metaphysically oriented mind and its access to conceptionings of eternal generalized principles

- Cite RBF rewrite of SYNERGETICS galley #31 at Sec. 229.04, 28 Oct'73

Metaphysical Independent of Inbreeding:

(2)

"All known living species could be inbreedingly derived from humans by environmental complementation of certain genetic proclivities and lethal exclusion of others, but there is no experimental evidence of any ability to compound purely physical proclivity genes to inaugurate metaphysical behaviors humanity's complex metaphysical-physical congruence with the inventory of complex behavioral characteristics of Universe."

- Cite RBF rewrite of SYNERGETICS galley |31 at Sec. 229.05, 2S Oct'73

Metaphysical Integrity:

See Eternal Universe, May*72

Metaphysical Intellect;

"For human life contains the weightless Omni powerful, omndknowi
ng, Meta physical intellect Which alone can comprehend, Sort out, se-
lect, Integrate, co-ordinate and cohere."

- Citation and confyxt at Biological Life (1), May »72

bietanhvsical <t Physical:

0. "You say we can experience what is beyond the

physical by tuning-in. But conventional science denies the existence
of the metaphysical."

RBF: "Science records the physical with the experimental

evidence of the needle moving on a scale---a lever registering physi-
cal effects. So we see that there is somethin? going on here... and it
requires (metaphysical) understanding to come from closing the cir-
cuit between us..., without any of that nonsense of the nonconceptual
symbols of science*"

Cite RBF to World Game Workshop'77; Phi la., PA; 22 Jun*77

Metaphysical & Physical:

"Physics and metaphysics are resonantly integral: the integrity of
their intertransformative mathematics into all the special case, vari-
ably enduring associabilities cognized by humans as structural de-
sign."

- Citation 4 context at Nature in a Corner. 13 Nov'75

MetaphYOiML. A Physical'

"The excess of energy use efficiency of gravity over radiation accounts for the eternal dominance of syntropy over entropy. The energy conserved is invested in the constant transformative transpositioning of the eternal regeneration of Universe.

"The dominance of the syntropy over entropy is the dominance of the metaphysical over the physical and guarantees an eternal resolution of all conflicts between the physical and the metaphysical in favor of the metaphysical.

"Mind will always win over energy. Omniconsiderate love will always win out over most ruthless selfishness, but the score is only cosmically accounted and the meager, momentarily- visible-and-tunable considerations cannot so inform the inherently limited comprehension of the local players."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 541.18, 19 May'75
Metaphysical & Physical:

"Everything physical is either atoms or radiation. Animate is not physical. Life is a synergetic phenomenon that is between, and not of, the metaphysical."

- Cite RBF at Penn Bell videotaping session, Philadelphia.
22 Jan*75
Metaphysical &. Physical:

"The physicist's first definition of physical is that it is an experience which is extracorporeally, remotely, instrumentally apprehensible. Metaphysical are all the experiences that are excluded by the definition of physical. Metaphysical is always generalised principle."

- Citation &. context at Special Case. 27 Dec'74
Metaphysical k Physical,;

"All the metaphysical generalisations of physical principles produce physical indirect acceleration effects which are precessional,"

- Citation *k* context at Precession_f (II), 19 Nov'74
Hft&Ehyalcai & Physical:

"Only the physical is alterable; the metaphysical is unalterable."

- Citation *II* context at Universe as Energy & Information_r, 15 Nov'74

"All that is physical is energetic. All that is metaphysical is synergetic."

Citation at Eaentetlc-avnorKetlc. 11 Nov'74

RBF DEFINITIONS

Metaphysical & Physical:

` ` For the support of life on opr planet... you get down to two things: metaphysical and physical. So there's the physical regeneration and the metaphysical know-how of how to employ all the resources, all the patterns, that are operating in Universe.... These are the criteria of what you need to keep a human being going."

- Citation & context at World Game: Grand Strategy, 2 Jun'74

"Physical Universe abhors an equilibrium; metaphysical Universe can rely on it."

- Citation at Equilibrium. 5 May*74

Metaphyglgaj. & Physic,aX?

"The unlimited metaphysical conceptual equilibrium integrity permits the limited special-case realisations. The limited cannot accommodate the unlimited. The unlimited metaphysical can and does accommodate the limited and principles-dependent physical; but the physical, which is always experienceable and special-case, cannot accommodate the metaphysical independence and unlimited capability."

-Citation & context at Zerophase 4 Nov'73
'1CC 1/

"Aa the circumferentially united and finite great-circle chord vectors of the vector equilibrium cohere the radial vectors, so also does the metaphysical cohere the physical.

Citation at Vector Equilibrium- 4 Nov'73
Metaphysical & Physical:

"The moot comprehensive generalization would be that which has U - MP, standing for an eternally regenerative Universe of M times P, where M stands for the metaphysical and P stands for the physical."

- Citation & context at Generalization. 13 Mar*73 rrtc7Tn?\

"The means of communication is physical. That which is communicated, i.e., understood, is metaphysical."

- **Citation & context at Metaphysical Experience, 1J Mar'73 SEC⁻ifeTl**
Metaphysical & Physical:

"The sense of physical textural reality, and awareness itself, which uniquely identifies life and time (in contradistinction to eternal weightless metaphysics), is inherent to the plurality of frequencies and degrees of freedom which in pure principle theoretically provide different interpositionings within given amounts of time."

loo

- Citation & context at Wave vs,
Particle*
10 Feb'73
Metaphysical & Physical:

"In the equanimity model the physical and the metaphysical share the same design."

<- Citation & context at Equanimity Model, 26 May*72

Metaphysical & Physical:

"A vector is a partial generalization being either metaphysically theoretical or physically realized, and in either sense, an abstraction of a special case..."

- Citation & context at Vector, 26 May*72

"The definition of Universe as a Scenario of nonsimultaneous and only partially overlapping events, all the physical components of which are ever transforming , and all the generalized metaphysical discoveries of which ever clarify more economically ae eternally changeless."

- Cite RBF marginalia, 26 Jan '72, incorporated in SYNERGETICS draft at Sec. Feb *72

251.27

sic

RBP DBFINITluHS

Metaphysical k Physio;

"Potential lines are metaphysically straight, all physical;y realised relationships are geodesic and curved trajectories,"

Cite SINERCETICS Corollaries, Sec. 240. 1971

Metaphysical & Physical ;

"Self is metaphysical and

All that self observes is physical. . , n

- Citation and context at Self. 1971

Mg t, a physical & Physical:

"Conception is metaphysical; Observation is physical And the observed is physical.**

"There is a question-asking possibility that metaphysical omniscience may be transcendental in its velocity to that of omnipotence, i.e. the IMMMm definitive physical speed of energy as radiation.¹

- Cite OMNIDIRECTIONAL HALO p. 16), as rewritten by RBF in Washington DC, 21 Dec. 1971.

Metaphysicals?!. k. reciprocal

"Waves are not metaphysical. Waves are physical.

- Citation at Wave. 19 Dec'71

Metaphysical & Physical;

"The metaphysical law corresponds to the physical law of engineering that 'every action has an equal and opposite reaction.'"

Citation 4 context at Fuists: Man Backs Into H1« Future. Mor*71

Metaphysical & Physical:

"The integration of geometry and philosophy in a single conceptual system providing a common language and accounting for both the physical and the metaphysical."

- Citation &. context at Synergetics. Oct'71

"The metaphysically permitted frame of reference for all the asymmetrical physical experience of humanity is characterized by the 60-degree coordination with which synergetics explores nature's behaviors--- metaphysical or physical."

5] - citation at frame of Reference, Oct*71

MHHMHMHr Metaphysical vs Physical:

"Experiences are involuntary (subjective) or voluntary (objective) and experiences, both physical and metaphysical, are all finite because each begins and ends."

- Citation i context at Experience. Oct*71
- »u_ni yirnn~7** flem

SEC. ?i>r02?|

Metaphysical & Physical:

"Synergetics represents the coming into congruence of the greatest metaphysical system in history integrating with the most incisive physics findings and generalized laws."

Citation 4 context at Synergetics. 1y Jun'71 5EC.XO3 TiT]

Metaahxflicftl **k** PhYalcU*

"Space is the absence of tfBMB energy events, physically. Space is the absence of events, metaphysically."

- Citation at Space, May*71

sec. SiL.bjI

Metaphysical & Physical:

"The principle of irreversibility states that the evolutionary process is irreversible locally... because the antientropic metaphysical is not a mirror-imaged reversal of the entropic physical world*s disorderly expansiveness."

- Citation &. context at Irreversibility: Principle Of. Apr'71

Metaphysical &. Physical;

"Asyrnnetry is the reason that Heisenberg's measurement is always indeterminate. Asymmetry is physical. Symmetry is metaphysical."

Citation at Symagtry k Agyingwt, 24 Apr'71
Maphysical PhYflU.al;

"Conceptuality ia metaphysical and weightleaa. Reality is physical."

-Citation at Conceptuality k Reality_T 22 Apr¹71 secToi. o'Q
Metaphysical » PhyglfiMl:

**"The rate of change and numbers of epecial-caee aelf- retransform-
ings of physical evolution tend ever to accelerate, differentiate, and
multi ply; while the rate of change and numbers of aelf-remodifyings
of generalised law conceptionings of metaphysical evolution tend
ever to decelerate, simplify, consolidate, and ultimately unify."**

- Citation i context at Metaphysical. 22 Apr'68
Metaphysical and Physical:

**"Physical (finite) minus metaphysical (infinite) equals one tetrahe-
dron; therefore metaphysical is finite."**

- Cite P, Pearce Inventory of Concepts, Jun*67
Physical 4 Physical:
"Design is physical— brain function;
Generalization is metaphysical-- mind function.
Applied science is physical;
Theoretical science is metaphysical.
We cannot design metaphysical;
We can only invent physical.
We can only discover metaphysical; it is a priori.
Physical is not exclusive—
Physical and metaphysical are cofunctions."
- Cite Checklist for RBF Foreword (P. Pearce), 1967
MtSfiPhYglcal PhXflpal:

**"There are no generalised designs--- Only special-case applications.
Design is physical--- brain function; Generalization is metaphysical---
mind function. Applied science is physical;**

Theoretical science is metaphysical.

We cannot design metaphysical;

We can only invent physical;

We can only discover metaphysical."

- Cite checklist for RBF Foreword, P. Pearce, Jfay'67

KBF DEFINITIONS

Metaphysical & Physical:

**"I assume that the physical Universe is definite And the metaphysical
Universe is finite**

"Therefore, the combined

Physical and metaphysical Universe is finite."

- Citation 4. context at Definite. Oct'66

fHMMV Metaphysical &. Physical:

**"While gravity's effects are physically measurable, the concept of
gravity-|s in itself unweighable. Likewise" the effects of elctro-
magnetism are physically weighable. The physicists have ruled
intellectually that all that is imponderable is metaphysical.**

**"Clearly it is seen that the metaphysical is to the physical as antimat-
ter is to matter, i.e., as the electron is to the positron.**

**"Metaphysics and physics are thus seen to cofunction, to conserve
progressively the self-regeneration of nonsimultaneously and over-
lappingly evolving universe."**

- Cite DOXIADIS, p. 311, 20 Jun'66

"My definition /of universe/ embraces both the physical and the metaphysical, the latter being all the weightless experiences of thought which include all the mathematics and the organization of the data regarding all physical experiments, science, both first and last, being metaphysical.

"The metaphysics includes the mind-extracted, refiningly concentrated, and consciously formulated antientropic generalizations, in a hierarchy of progressively contracting degree, which most economically describe the workings of the metaphysical subdivision of universe."

- Cite DOXIADIS, p. 309

20 Jun'66

"The difference between the comprehensive Universe, which combines both the metaphysical and physical Universe, and the local, conceptual physical system which we never experience and consider, is just one tetrahedron or one unity-of-twoness

"This is to say that the difference between the finite physical Universe of energy with which physics deals and the total Universe which also includes all metaphysical phenomena which we used to call infinity--- is just one tetrahedron.

"The metaphysical Universe is also finite. It is just one tetrahedron more than the physical Universe."

- Citation and context at Comprehensive Universe (1), Jun*66
RBF DEFINITIONS

M\$t&Bhyalgal .fePhyalcAl?

"The seetning disorder of physical entropy is only superficial and explains why metaphysical thought can always find the orderliness which engulfs the disorderliness. Disorderliness is non-thinking."

- Citation at Order k Disorder. Jun'66

KBF UEFI^{NI}TluNb

"We can refi^he all the tool and energy capability of single and commonwealth into two main constituents: the physical and metaphysical--- the physical consisting of specific energy quantities and the metaphysical consisting of specific Know-how capabilities."

- Citation t context at Commonwealth. Jun*66

MgtaphygKaX &. Physical:

"Universe consists at minimum of both the metaphysical and physical. This fundamental twoness of physical Universe was embraced in Einstein's one word, relativity, and in M a more specific and experimental way in the physicists' concept of complementarity."

- Citation at Relativity_r. Jun'66

"How ray we organize our self-disciplining to deal comprehensively and capably with the maximum and minimum of limiting factors of the combined and complementary physical and metaphysical prime subdivisions of Universe?"

- Citation at World Game. Jun'66

"The human mind goes way beyond the biologicals in its development of an increasing and diminishing conceptual Universe. So we find the metaphysical not only balancing the physical, but also encompassing the physical by one tetrahedron, and thereafter reducing its myriadness to unity. The metaphysical, as with the circumferentially united, great-circle chord vectors of the vector equilibrium, coheres the physical,"

- Citation and context at Generalization: Degrees Of. Jun*66

"... while the entropy of and disorderliness of physical universe increases and expands, we have the metaphysical universe countering with comprehensive contraction and increasing order. In the contracting and metaphysical universe we have the human mind digesting and sorting out all the special cases and therefrom generalizing commonly held characteristics of all the special cases. All the fundamental principles apparently governing both the physical and metaphysical universe are the experimentally derived generalizations."

~~Cite HA5A Speech~~, ---p.~ti7, Jun'66

- Citation and context at Comprehensive Universe (2), Jun*bb

"What man, in his sensorially preoccupied misapprehending, has termed 'abstract,' in contradistinction to sensorial, as well as that which man has designated as metaphysical in contradistinction to physical, are altogether one reality."

- Citation and context at Reality as Structural Interaction
Of Principles. 1963

"Physical science lacked the experience to hypothesize what all Universe is. Physical science therefore restricted its comprehensive accounting strategy to the special case of definitive isolations within the physical portions of Universe. This left the remainder of all experiences, no matter how earnestly and meticulously reconsidered, outside the definitive portion of comprehended experience of Universe, i.e., the physicists said all that is not physically comprehended as E-lie* is metaphysical."

- Citation at Physical Sciences, 1959

~~/AX4U1-1N TUG DU~~, p. 12- -1959

"Physical evolution tends to accelerate, differentiate, and multiply;
... metaphysical evolution tends ever to decelerate simplify, consolidate, and ultimately unify."

- Citation *it* context at Future of Synergetics, 22 Apr'68

"Resonantly propagated evolution oscillatingly induces tetrahedral quanta--- both metaphysical and physical--- formulated vectorially between four 'star event' phases

(1) observation,

{2) consideration,

(3; understanding, and

(4) articulation;

or

(1) recall;

(2) reconsideration;

(3) understanding;

(4) articulation,"

- Cite SYNERGETICS text at Sec. 513.07, 25 Mar»71

See Observer & Otherness: Tetrahedral Relationship Between

See Geometry of Thinking, 16 Dec'73

See Acceleration & Deceleration

Brain &, Mind Comprehensive Universe Congruence of Metaphysics 4
Physice Eternal Slowdown

Eternal Universe & Physical Universe Intellect: Equation of Intellect
Intellect: Speed of Intellect Limit-limitless Order &, Disorder Physical
to Metaphysical

Reality as Structural Interaction of Principles Scenario Universe:
Physical Evolution Scenario Social Sciences: Analogue to Physical
Sciences Tetrahedron: One Tetrahedron Self &. Nonself Potential vs.
Physically Realized City as Center of Abstract Intercourse Expanding
Physical Universe vs. Contracting Physical Universe Information vs.
Entropy

See Apprehension + Comprehension • Awareness

Physical Tetrahedron vs. Conceptual Tetrahedron

See Acceleration, 1970*

See Changeless, 26 Jan'72

City, (A)

City as Center of Abstract Intercourse, 14 Oct'69

Children as Only Pure Scientists, (2)

Closed System, 1968

Contnonwealth, Jun'66*

Comprehensive Universe, (1)(2)*; Jun'66*

Conceptuality t Reality, 22 Apr'71*

Considerable, 1971*

Cosmic Accounting, 20 Dec'73

Cosmic Discontinuity t Local Continuity, 15 Jan'74

Comprehensivenss, Jun'66

See Definite, Oct'66*

Design, i.2 Kpr'frt

See Environment Events Hierarchy, (2) Epistemology of Quantum Mechanics. 16 Dec'73 Equanimity Model, 26 May'72* Equilibrium. 5 May'74* Evolution, 15 Sep'71 Experience, Oct'71*

See Finite, Jun'66

Food Production, 12 Jun'69*

Frame of Reference, Oct`71*

Frequency, 1970*

Functions: Principle Of Jun'66

Future: Man Backs into his Future, Nov*71* Future of Synergetics, 22 Apr'68*

See Generalization, 13 Mar*73 Generalization: Degrees Of, Jun*66* General Systems Theory, Jun`66; (2); 1967 Geometrical Functions of Mine, (4)(5)

Metaphysical & Physical: (2H)

See Human Beings & Complex Universe, (10)—(14)

See In, Out A Around, Nov*71 Intellect: Equation Of, 196d; 22 Apr'71* Intuition, May'72 Invisible Tetrahedron, (1)(2) Irreversibility: Principle Of, Apr'71* Isotropic Vector Matrix, 13 Nov*69

See Life, 13 Nov'69; 9 Jun'75 Line, 28 Oct'73; Oct'59

See Matter & Antimatter, 20 Jun'66 Metaphysical Experience, 13 Mar*73*

See Nature in a Corner. 13 Nov'75* News t Evolution. (3> Nuclear Sphere, 16 Dec'73

See Omnia synne try, 11 Oct`73 Omnipuleative Asymmetry, Oct¹71* One, 20 Doc'73 Order & Disorder, Jun'66*

See Packaged, 1969
Physical Sciences, 1959*
Precession, (II)*
Precession: Analogy of Precession 4 Social

Behavior, May'72

See Reality as Structural Interaction of Principles, 1963*

Rearrange the Landscape, 13 Nov'69*
Relativity, Jun'66*
See Scenario Universe, Dec'69
Self, 1971*
Sixe-selective, 30 Nov'72
Space, Kay'71*
Special Case, 27 Dec*74*
Symmetry & Asymmetry, 24 Apr*71*
Synergetics, 19 Jun'/I*; Oct*71*
See Tactile Sequence, (3)
Thinkable System Takeout, (2)
See Unity: Principle Of, 14 Ear*71
Universe, Jun*66; Oct*66; Dec*69; 1969; 22 Apr'66;
1971; 17 Jun'75
Universe as Energy & Information, 11 Nov'74; 15 Nov*74*
See Vector, 26 May*72*
Vector Equilibrium, 4 Nov'73*
Vector Equilibrium ae Starting Point, (2)
See Wave. 19 Dec*73*
Wave vs. Particle. 10 Feb'73*
Wealth. (E)(F); 20 Sep'76
World Game, Jun*66*
World Game: Grand Strategy, 2 Jun'74*

Metaphysical * Physical:

(2Z)

Sea Zerophaae, (1)(2)»

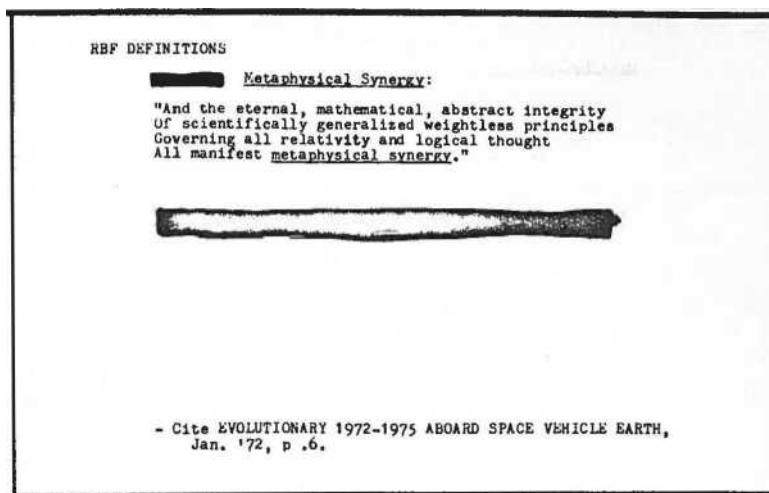
/ to physical Precession:

See Intuition, 1 Feb'75

Metaphysical: Supremacy of the Metaphysical:

"Because the chances of humanity's Self-discovery of the supremacy of the metaphysical And the corruptibility of the physical, While coming from an utterly helpless start, Are very poor, The probability is That for each of the billions of stars In the billions of nebulae There are several planets 'Where energies are being Kost effectively conserved --- Which means By the metaphysical mind. Ergo: there are probably myriads Of successful, Consciously operated planets Despite greater myriads of failures.'"

. Cite BRAIN & KIND, pp.154-155 May '72



HWPhYalc*! \$vntrgPY?

See Ecology Sequence, (B)

"There is a question-asking possibility that metaphysical omniscience may be transcendental in its velocity to that of omnipotence, i.e., the definitive physical speed of energy as radiation."

HALO, p.163, as rewritten by RBF, Dec*71.

- Cite OMNIDIRECTIONAL Washington, DC, 21

See Brain-to-mind • Physical-to-metaphysical Mind Over Muscle Omniscience Transcendent of Omnipotence Right-over-might

See Eternal Principles. 22 Nov'73 Universe, (p.40) 1j Nov'69 Photosynthesis, 9 Jun*75 Regenerativity, 17 Jan'75

Mataphvalcal Umbrella:

See Winter, 14 Sep'71

"Individuals regenerate their own sound and air displacement waves and ripples in the physical environment Just as stones create waves and ripples in the different liquids into which they are thrown. They also propagate metaphysical wave patterns that develop local pattern displacements in the human affairs cosmos. They also propagate both conscious and unconscious electromagnetic waves."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 505.33,
6 Nov'73

Metaphysics:

"Metaphysics embraces all experiences, such as the phenomenon 'Understanding,' which does not move a pivoted needle. The invisible metaphysical Universe of pure principles complements the physical components to realiae in pure abstract principle the empty yet structurally stabiliaing invisible triangles."

- Citation t context dt Invisible Tetrahedron. (1)(2), 27 May'75

Metaphysics;

"But in developing their now rigorously accountable discipline for dealing with all ponderables the physicists said, 'there are also a great many earnest men who are engaged in scholarly exploration but are not dealing in ponderables (weighables)' The mathematician

himself is dealing in unweighable phenomena. So also do psychologists and other have weightless information to explore. These men cannot belong to our Physics Club. They must remain outside our club in the metaphysics world.'

"The word metaphysics was, at that historical moment, somewhat of an affront for it seemed to imply magic and questionable concepts. Metaphysics had been connected by literary men with inexplicables: nonexperimentally demonstrable phenomena. So there was a great deal of resentment on the part of the no-hard science scholars who were excluded from the Physics Club and were relegated to the Metaphysics Club. However the economists and most of the other metaphysicists failed to understand the full significance of the new physics and went on thinking in classic concepts of instant Universe and its seemingly inherent self-annihilation. They as-yet abhor 'spending' because ignorant of the new physics."

- Cite NASA Speech, p.30, Jun'66

Metaphysics:

"We have no experimental proof of magic, ergo, there is no connotation of magic in the word metaphysics as I use it."

Cite NASA Speech, p. 32 » Jun*66

Metaphysics: (1)

"The physicists . . . had deliberately excluded what we call metaphysics. They only included pfindables--- those things they could weigh. They had great success, but at the expense of many human occupations. My definition /of Universe/ became important because I included the dreaming, and not just the other good disciplines but some of the nondisciplinable, Now inasmuch as all our experiences begin and end, they are all finite. It is very important for us to

realize that our experiences are a set of discontinuous finite packages of our awakenings and our going to sleeps and we get very finite increments. Because our experiences consist of finite packages, the aggregate of finites is finite, so my definition of Universe is finite. Now this gives me the same kind of advantage that accrued to the physicist regarding just what we call the energy universe. At least I seem theoretically to be in that position. I am used to generalization and to my mathematics, so once I have accomplished what seems to be a finite definition of Universe I wonder if this cannot be turned to advantage because one of the corollaries of synergy was that the known behavior of

- Cite Oregon® Lecture #2, pp.58-59, 2 Jul'62

"the whole, plus the known behaviors of some of the parts may lead to the discovery of other parts. I now have a definition of the whole and I know some of the parts so it may be that we have a very powerful way of discovering other parts. I have a synergetic advantage of the highest order. I have got the universe itself; not Just the physical Universe."

- Cite Oregon Lecture #2, pp.58-59, 2 Jul'62

See Abstraction

Conceptuality

Consideration Initiative

Contracting Metaphysical Universe

Ethical Physics

Know-how

Metaphysical & Physical

Mind

Philosophy
 Physical to Metaphysical
 Theory: Theoretical
 Weightless
 See Awareness, 10 Feb'73
 Closed System, 1968
 Communication, Oct'70
 Einstein, 23 May*72
 Eternal Slowdown, circa 1970*
 Immaculate Conception, 25 Jan'72
 Magic, Jun'66
 Mathematics, 20 Jun'66
 Metabilical Cord (1)(2)
 Pendulum Model vs. Scenario Model, 23 Dec*68*
 Physical Sciences, 1959*
 Problems, 12 Jun*74
 Relationship Analyssis (1)(2)*
 Sex, 16 Oct'72
 Time i Energy, Oct*71*
 ThoughttHas Shape, Oct'71*
 Truth, 10 Nov'72 ; 30 Nov*75
 World Game, 29 Jun'72; Dec'72*
 Nature Permits It Sequence (1)*
 Triangle (A)

See Comprehensive Universe, (2)

Prime, 20 Dec*74

Angular Topology: Principle Of, 14 Feb'66

Modelability, 12 May'75

Humans as Haiway in Range of Sixe of All Creatures.

22 Jun'75

Invisible Tetrahedron, (1)(2)□

Man, 6 Jun'6y

Minimum of Four Tetrahedra 22 Feb'77

Fuller, R.B: On Christopher Morley, 22 Jun'??

See Metaphysical Characteristics: Inventory Of

Metaphysical Disconnect

Metaphysical Entropy

Metaphysical Environment

Metaphysical Experience

Metaphysical Fish: How Do They Catch

Metaphysical: -Qrefttest=MstaphyBical-Syfltea in

K15to£.y

Metaphysical Integrity

Metaphysical Intellect

Metaphysical & Physical

Metaphysical Transcendent of the Physical

Metaphysical: Supremacy of the

Metaphysical Synergy

Metaphysical Syntropy

Metaphysical Umbrella

Metaphysical as Only Mathematically Demonstrable

Metaphysical Wave Pattern

Metaphysical Gas

Metaphysical Independent of Inbreeding

Metaphysical Precession

See Air is Socialised Monopolisable Over Pipe or Wire Service Terminal Installation Wirable by Conductors

Meter:

(2)

See Windworks Windmill, (1)(2)

Dome House Grand Strategy: 1927-1977, (2) No Energy Crisis, (A)

Mahans Gag Engine:

"In 1929 the chemical engineering department in the University of Illinois at Urbana found that the combining of the human excrement and the swill would make methane gas in such quantities that you could run all the departmental machinery and take care of the family. And nobody has done anything about that. Except one little man. One little man who has been paying attention and he made himself AM an apparatus and he's been running his automobile on this methane gas all these years."

"Since 1929."

- Cite RBF to Arthur Anderson & Co., (p.23), New York,. 13 Mar*74

Methane Gas; Methane Gas Engine:

See Everybody's Business, (2)

Method: Methodology:

"Every one of those scientists made it clear . . . that the number one item leading to their success was intuition.

• . . Every one of these scientists said also that it does not make much difference what method you use after you have this intuition. Any method will do just so long as you are methodical-- methodology is not success. We find then that what is taught at school academically in the way of method is secondary and has nothing to do with original discoveries, original contributions, or anything we call creativity."

- Cite RBF Foreword to Harold Cohen's "A New Learning Environment."
1971

See Time, (1)

Mexico?

See Transnationalism vB. Colonialism, (2)-(4)

TEXT CITATIONS

Michelson-Morley Experiment:

s935.11

Michelson-Morley Experiment:

See Radiation: Speed Of, (A)

See Culture, 11 Aug*76

See Macrophotography Microscope

Microphotography:

(2)

See Invisibility of Macro- and Micro- Resolutions, (2)

See Specialist Born with One Eye and a Microscope Infoscope Resolution

See Sweepout in Scientific Exploration, 6 Jul'62

Synergetics, 22 Apr*71

Crystallography, 17 Aug*70

Needle, 10 Feb'73

Raxor, 10 Feb'73

Microsystems:

"A point is always a microsystem or a plurality of microsystems, ergo at minimum one tetrahedron. 'J

"A line is a relationship between any two microsystems.

"A tetrahedron consists topologically of four microsystems or of six lines converging into four critical proximity corner-defining groups of three lines each, whose lines terminate in four microsystem groups of three microsystems each lying outside the tetrahedron defined by the six lines.

"Topological components of systems do not and cannot exist independently of systems,

"The above is probably explanatory of the quarks which disclose systems consisting of microsystems ad infinitum."

- Cite RBF holograph for EJA; Windsor Castle, Berks; 22 Mar'76

- Incorporated in SYNERGETICS 2 draft at Secs. 1052.#- 1052.); 4
tay'77

Mlrrg»YtVCT[!]

See Point

Tetrahedron as Microsystem

Microsystem;

See Point, 9 Jun'75

Tetrahedron, 8 Aug¹77

Microtude:

See Computer: Atomic-proclivity Computer, 9 Jul'73

MlcrOTaYr

See Puahire, 23 Sep'73

Micro: Microcosm:

See Macro-micro Macron-Micro

Micro: Microcosm:

(2)

See Exact, May*72

System Awareness, 20 Feb'73

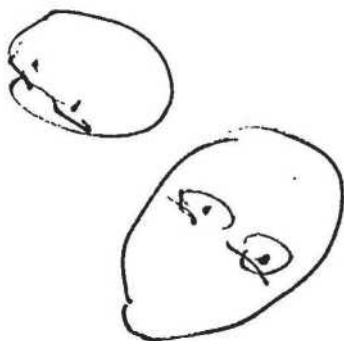
Tetrahedral Dynamics, (2)

Middle:

"The eyes are always in the middle of the face---in a line exactly halfway between the chin and the top of the head. The simplest trick of the cartoonist is to distort the face by placing the eyes above or below the midline. That's how they make Gerry Ford look so funny."

- Cite RBF to dinner table, 3200 Idaho Avenue, Wash.,DC; 12 Nov'75

Middle:



- RBF sketch
12 Nov'75

Middle;

"Comprehensively, geometrically, outwardly and inwardly, macrocosmically and microcosmically, I find that man is really in the middle. He's in the middle between a macrocosmos and microcosmos geometrically. Now to be in the middle— you really can't improve on the middle. So when they begin to talk about improving man, I realize they can't improve on the middle. They could get us to be just a little bit more what we're designed to be, which means that what you do is to reduce the imperfections, the inaccuracy of the observation,

"And that's exactly what Heisenberg discovered: the act of measuring alters that which is measured. So we will never be able to be completely exact. But the mechanic has what he calls a tolerance— a tolerance for error. As we reduce the tolerance for error, we begin to get near the eternal, which is what we'll call the truth. But we'll never quite get there... man being pretty much in the middle, as is the truth itself in a kind of twilight zone on either side of the truth— both microcosmos and macrocosmos, kind of closing in on it. No chemist is going to improve that situation." - Cite RBF in transcript of Edward Newman TV Interview, Feb'73

Middle:

"Man is unique in being in the middle of the animal kingdom.

- Citation in context at Mind, 2 Apr'71

See Between

Between Stage of Universe

Cosmic Middle Ground

Medio: Macro-medio-micro

Man as Halfway in Range of Size of All Creatures

Earth as a Sandwich

Halfway

Center: Center}

Human Beings at the Center

Improve: You Can't Improve on the Middle

See Chord, 31 Oct'72

Critical Proximity, 15 Feb'73

Mind, 2 Apr»71*
Omniology, 19 Dec'73
Point, 19 Dec'73
Nothingness, 5 Oct'72
Stature, 20 Feb'73
Superficial Reality, May'49
Tunability, Mar'66

**Magnetic Field, May'49 Industrialization, (A) Octahedron, 23 Jun'75
Biogenetic Experimentation, 22 Jun'77**

Might Fakes Right:

"...Now I'll give you something we can talk about like 'might makes right'.¹ And this stone and the compressiveness was really the might. Big massiveness did the trick. And really to understand how man over the ages has been moved by this rather than by his tensile ability... moreover less his intellectual ability. And that was very inferior. At best it was only one-tenth of the compressor. Now man gradually learned to take metal out of the stone, and his first thing he made was daggers, that's all he had. Then he could make some of the bigger swords, then maybe armour as well. They made armour for the head man, then a little armour for several

- Citation at Civil War (1), 20 Apr'72 of the soldiers.»

See Lincoln

**See Ephemerality. 1938 Society: Control Of, 1938 Meet in the
Earth, Dec'67**

See Reach-miles

Humans are One-thousandth of a Mile Tall

UAlix:

See Buy or Die

Weapons Technology War

Milk: Skin It, Milk It, or Eat It:

See Female, 17 Oct*72

Milky Way;

"Our Sun squadron of planetary spaceships Speeds within our Galactic System--- At thousands of times

Our Earth's speed around the Sun.

Our enormous spiral nebula constitutes

The grand fleet of local Universe space vehicles Which fleet we speak about In English as the Milky Way."

- Cite BHAIN fc MIND, p.107 May '72

MAlfry WaY: MIlKy-way Ljkg:

See Gravity. (B)

Invisible Circuitry, (1) Linear, Jun*66 Omnidirectional, 2 Jul*62 Radiation: Speed Of, (C)

Solids, 24 Apr*67

Tension Structures, 1 Apr*49 Trees, (VI)

Vectors & Tensors, 19 Oct*72 Triangle, (b)

ttUf wariHirtitoh- EDITOR'S NOTES

Millay: Edna St.Vincent Millay: (1892-1950)

"How now, my insulated friend What calm composure can defend
Your rock; when tides you've never seen Wash out the scans of what
has been And from your island's tallest tree You watch advance what
is to be. The tidal wave devoijs the shore There are no Islands any
more.*

- Frequently quoted by RBF as at the end of his Address THc HABIT-
ABLE CITY, 14 Oct. '69.

hUIAX. MM St. Vincent: <i)

"Edna St. Vincent Millay was born In Rockland and roared In Camden at the foot Mt, Meguntlcock in the years before World War I. Looking out on the islands of the bay, she frequently wrote poems about that inspiring scene. In the early twenties, haying moved inland, she wrote the poem 'Mist in the Valley' which laid bare her love for the Penobscot Bay scene.

"These hills to hurt me more,
Than am hurt already enough,

Having left the sea behind, Having turned suddenly and left the shore
That I loved beyond all words, Even a song's words, to convey.

"And built me a house on upland acres, Sweet with the pinxter, bright
and rough With rusty blackbird long before winter's done But smelling
never of bayberry hot in the sun, Nor ever loud with the pounding of
the long white breakers---

"These hills, beneath the October moon,"
- Cite BEAR ISLAND STORY, galley p.30, 168

Millay, Edna St. Vincent: (2)

"Sit in the valley white with mist
Like islands in a quiet bay
Jut out from the shore into the mist
Wooded with poplar dark as pine
Like points of land into a quiet bay.
(Just in that way
The harbor met the bay.)

"Stricken too sore for tears. Inland, remembering the islands and the
seas lost sound □ □ * » *

Life at its best no longer than the sand peep's cry, Tilling an upland ground!

"A quarter of a century later Edna Millay was living in England as World War II approached. She wrote and published an extraordinary book of poems called 'Brighten the Arrows,' an expression used by the English yeoman centuries earlier when war preparations occurred. In this book she disclosed her poet's vision of the future, in which the ages-old strategic significance of the natural physical isolation of the British Isles--- lying as unsinkable ships commanding all"

- Cite BEAR ISLAND STORY, galley pp.30-31, 1968

Millay, Edna St. Vincent: (3)

"the great Atlantic porta of Europe--- would be forever terminated. Her writing fortifies the historic fact that poets are the earliest to foresee and express almost all of the important concept changes in the evolution of humanity's development around the surface of the spherical Space ship Earth.

"How now my insulated friend,
What calm composure can defend
Your rock when tides you've never seen

Wash out the sands of what has been, And from your island's tallest tree
You watch advance what is to be?

The tidal wave devours the shore.
There are no islands any more.

"Thus Edna St. Vincent Millay foresaw the inexorable development of a one-town world and its progressively crossbreeding world citizenship lying around the spherical bottom of the sky ocean. Modern technology in general has terminated the fundamental isolation of any part of the Spaceship Earth's surface from another part. It is effectively integrating humanity as its individuals live ever more dynamically around our spaceship's spherical deck."

- Cite BEAK ISLAND STuHY, galley pjl, 1968

"Because poets too conceive in very abstract and very real patterns too, we quote an appropriate pattern citation also appropriate to accelerating history paced by science and technology and its extra-corporeal transformations."

• ' 'This little life

From here to there—

Who lives it safely anywhere?

Not you my insulated friend What calm composure will defend You
rock, when tides you've never seen Assault the sands of what has
been And from your island's tallest tree You watch advance ' /hat is
to be.

The tidal wave devours the shore There are no islands any more."

- Attributed by RBF to Brighten the Arrows. (1940) Preamble to
NOAH'S ARK, summer 1950.

Thfir? Ar? Ng *alan4a *ny Marg:

Introduction for Francis Warner, pp.8-9, 1970

MlUar= Edna St. Vineent:

See Culture, 27 Jan*77

Milton Academy:

See Naivete, 23 Jan*72

"Human mind operates terrestrially as a local cosmic monitor. Humans' minds* syntropic effectiveness

As compared to that of any other species' biological functioning Is as the speed of light is to the speed of sound Which is one-millionfold more effective.

Minus their minds, human organisms function only entropically."

- Citation & context at Syntropy & Entropy. 31 May'74

Kind:

"Only mind could discover mind.**

- Cite RBF address to Yale Political Union, New Haven, 9 Dec'73

Mind:

"And amongst all that terrestrial functioning there is nothing so capable of discovering and producing order as the human mind."

- Citation and context at Boltzmann Sequence (6), Dec'72

Mind:

"Mind is the antithesis of reflex."

- Cite RBF to EJA, 3200 Idaho, 26 Nov'72

Mind:

"The vector equilibrium never pauses at equilibrium, but our consciousness is caught in the icosahedron when mind closes the switch. Our mind, always integrating, opens the switch."

- Citation and context at Icosahedron As Local Shunting Circuit, 22 Jun'72

Mind:

"Man's mind, as far as we know, is man's only access to eternity.**

- Cite RBF in interview with Arlene Francis, WOR-Radio, 21 Jun'72

Mind:

"You shouldn't use your mind for what it's not designed to do. My OTA thinking capability is designed to treat with the perishable, the recognition lags..."

- Citation 4 context at A Priori Mystery, 24 Feb '72

f'.ind:

"Mind and mind alone has the capability of surveying all the special case experiences and from time to time find a principle that is holding true throughout the whole.

Where the principle is between and not of, is not predicted by the parts. It's a very extraordinary matter then, this generalization capability of the mind, which brings you back to eternity, because the principles must, to be principles, be eternal. Then we have mind as a very extraordinary capability manifest, uniquely in our experience, by humans.

- Cite KBF at Students international Meditation Seminar

U. Mass., Amherst, 22 July '71, p. 11

Mind;

"The almighty might decide to invest mind in a worm, but the worm wouldn't get enough information to make it worthwhile. Man is unique in being in the middle of the animal kingdom."

- Cite KBF to EJA, Carbondale, 2 April '71

Mind: (1)

"Mind is the weightless and untouchable, human faculty which surveys the ever larger inventory of special case experiences stored in the brain bank, and, seeking to identify their inter-complementary significance, from time to time discovers one of the rare scientifically generalizable principles, running consistently through out all the relevant experience set.

"The thoughts that discover them are weightless and *ggf* tentative box may also be eternal. They suggest eternity

but do not prove it even though there have been no

S J^{0*1} experiences this far which imply exceptions to their

persistence. It also seems to follow that the more experiences we have the more chances there are that mind may discover, on the one hand, additional generalized principles, or, on the other hand, exceptions which disqualify one or another, of the already catalogued principles which, have heretofore held 'true*' without contradiction for a long time, had been tentatively conceding to be demonstrating eternal persistence of behavior. Mind's relentless reviewing of the comprehensive

- Cite NEHRU SPEECH, p.9, U Nov»69

Mind:

"brain bank's storage of all our special-case experiences tends both to progressive enlargement and to refinement of the catalogue of generalized principles which interaccommodatively govern all transactions of Universe."

- Cite NEHRU SPEECH, p.9, 13 Nov'69

Mind:

"Only mind, the great metaphysical pattern-seeking function has demonstrated to us the capability to interconnect the experiences and to find the generalized patterns and orderly principles underlying all our randomly encountered experiences."

- Citation & context at Relationship Analysis (11(2), Jun¹66

Hindi

"We have the human mind developing anti-entropically far beyond the biologicals by the formulation of metaphysical generalisations. From a great many special cases experiences the human mind extracts the generalized principles which are always operative in all the special cases."

- Cite NASA Speech, p. 88* Jun'66

Mind vs. Energy:

"Mind will always win over energy. Omniconsiderate love will always win out over most ruthless selfishness, but the score is only cosmically accounted and the meager, moment-arily-visible-and-tunable considerations cannot so Inform the inherited limited comprehension of the local players."

- Citation & context at fataphynlnal & PhYalCfl, 19 May'75

-Great Eternal Mind:

See Eternal Designing Capability Science: The Great Design Universal Mind

Mlud-avtr-mtttr Mitt:

See Life Is Not Physical, 29 Jun'72

See Mind-over-Muscle

Right Makes Might

See Literacy, 18 Aug'70 Manifest: Eight, 1973 Halo, 1938 Photosynthesis, 9 Jun*75 Energy Involvement of 92 Elements, (2)

IBHM MiPd Over Muscle:

"I think that we are given a great cushion of excess resources on this planet with which to make experiments and therewith by trial and error to learn gradually how utterly Important is our mind and how relatively unimportant is our muscle.

We need only enough to push the end of a lever which our mind discovered could master the work to be done. We must understand the principle of the lever and get other free energies such as waterfall power to push on the levers. We need only enough muscle to move us around so that we can get information, and can articulate thoughtfully and start actions."

- Cite Museums Keynote Address Denver, p. 8 . 2 Jun'71

See Life is Not Physical

Metabolical Cord

Right Makes Might

Womb of Permitted Ignorance

Muscle Still in the Saddle

Metaphysical Transcendent of the Physical

See Biosphere (2)

Communicating (2) Sweepout: Spherical Sweepout (1){2} De sovereign! sation Sequence, (5)- (a) Energy Involvement of 92 Elements, (1){2}

RBF DEFINITIONS

'•Any one who thinks that humans on this Earth are running the Universe--- or that the Universe was created only to amuse or displease or bore humans--- are obviously ignorant. Pay no attention to those who say, 'Never mind that space stuff; let's get down to Earth;

let's be realistic. We can't afford it.' In reality we are so remote and infinitesimally tiny in space as to be almost nothing but space. The only reality is that of our sizeless minds, and the eternal metaphysical principles that they have Discovered to be governing the eternally regenerative Universe."

Mind VS» ftcflex:

See Mind, 26 Nov'72

Mind As Verb;

"And the more-with-lessing Constitutes ever-increasing mastery Of physical behaviors of Universe By the metaphysically operative verb Mind:

And all the foregoing Implies incontrovertibly The progressive realization By humans on Earth Not only of a vast Universal design But of a Universe Scenario, Whose a priori conceptioning Is clearly intent To render Earth-riding humans A comprehensive physical success, Despite humanity's As yet undiscarded Ignorance, fear And distrust of its mind."

See Brain

Brain & Mind Communication Dead Animal Education: Trained Mind Front Office Switchboard Generalization Sequence God as Mind Intellection Katter-over-mindist Mechanical Kind Mental Capability Metaphysical Muscle Thinking Universal Mind Weightless World as Idea in the Mind of God Human Mind & Physical Evolution How the Mind Starts

See A Priori Mystery, 2L Feb'72*

Boltzmann Sequence (6)*

Design: A Priori Design vs. Deliberate Design.

13 Mar'73

Error: Pullout from Error. 17 Jul'73

Icosahedron as Local Shunting Circuit, 22 Jun'72*

Metaphysical, Jan*68

Relationship Analysis (1)(2)*

Syntropy & Entropy, 31 May'74*

Principle (1)(2)

Orbital Escape from Critical Proximity, (4)

Boeing 747 Sequence, 22 Jun'75

Communications Hierarchy, (4)

Culture, 27 Jan'77

Doing What Needs to be Done, (A)(B)

Synergy, 20 Feb*77

Human Beings at the Center, (1)(2)

See Mind vs. Energy Mind: Great Eternal Mind Mind-over-Matter Mind
Over Muscle Mind as Reality Mind vs. Reflex Mind as Verb

Mines Above Grade:

•Copper la the bellwether; Bteel follows the pattern of scrap.

"The largest tin mines on Earth today are outside all the aircraft factories. These are mines above grade, easily melted up making swift changes possible. All reportable by satellite-relayed telemation."

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan'75

See Copper Sequence

Metals: Recirculation Of

See Industrialization. {1}(2}

New York City, (3)(4)

Sae Industrialisation, (A)

See Junkyard, 1971

Resources, 13 Dec'73

Unsettling vs. Settlements,

20 Sep'76

. . . , Jhen a child aggressively says "that's mine,"^{*1} it is a reflex learned directly or by example from parents.

- Cite RBF statement paraphrased by Joseph Gelmis in Newsday Canada, enclosed in Itr. from Morley Markson, 13 Nov'72

Miniature Castle Building:

See Building Industry, (3}

Mlnlat.ur.g Earth:

"The miniature Earth model shows the resources as a function of the regeneration of life--- trying to see it that way... how do you employ the principles objectively to interexchange advantage 30 that you really can maintain all life? And how do you run the cosmic accounting in terms of the energies that have caused nature to have us on board of this planet, and at what rate does she replenish, and how can we stay within our energy income?"

_ Citation &. context at Design Science & World Game (A)(B), 28 Apr*74

Miniature Earth:

Marks: Dymaxion World of RBF - Caption J25, p.1 55

Go In To Go Out, WORLD Magazine, 18 Jul*72 (In Earth, Inc.)

World Planning, lil, Chap, 15* Sept*63

Shelter Mag., ' 'Conning Tower, 'Hoop-Skirt' Room" November *32

World Game Series, Doc. #1, pp. 149-156, 1971

(Includes reprints from Shelter, Nov'62 + McHale piece in Architectural Design, Dec'64.)

McHale, "RBF" - p.28, 1962

See Geoscope

Global Village

Mini-Earth

Twenty-foot Earth Globe & 200-foot Celestial Sphere Earth Globe Models

Miniature Earth:

(2)

See World Game, (A)

Miniature Tensegrity Kaata:

See Tensegrity: Miniature Tensegrity Maata

Miniature Universes:

"Humanity consists of Individuals as miniature Universe, each a consequence of unique ways of playing the game Universe."

- Cite SYNERGETICS draft at Sec. 1056.20, 13 May'73

Miniature Universes:

"Of all the complexes we know of in our Universe there is no organic complex which in any way compares with that of the human being. We have only one counterpart of total complexity, and that is the Universe itself. Each of us seems to be a miniature Universe. That such a complex miniature Universe is found to be present on this planet, and that it is born absolutely ignorant, is part of the manifold of design integrities.

- Citation at Human Being, 2 Jun'71

See Individual Universes

Man as Local Universe Technology

See Human Being. 30 Oct¹??;

Humanity, 13 May*73

2 Jun»71*

See Air Delivery & Submarine Cities (2)

Minima Transformation:

See Synergetics draft, Sec.1105 ff, 26 Jan»73

Minima:

Sea Maxima-minima

Mini pal:

"A voluae cannot hare an interior point. A voluao

Is gjnial. A voluae can have no subdivisions

- -CTta-UB* eo &jA-~~Fair~~AiexOy-aHau. Chez Wolf. 18-*taw=1921.

- Citation at Volume. 18 Jun'71

Minimal Complex:

See Reality ae Structural Interaction of Principle 1963

Minimal Conaciousnesa:

See Consciousness, (p«12) May*72

Minimum:

*The minimum ie pattern and not isolated integer

- Citation *k* context at Pattern. 1954

Minimum ^A.ayamriG ^sYatam'

See Mite ae Prine Minimus System, 15 NOT*72

Minimum Awareness: "Awareness seems to be the one minimal word best expressing the experience of life.... A philosopher may question that statement saying, 'No you are wrong because awareness can be exclusively of self.' But we reply by recapitulating the inherent minimum topology of awareness:

- minimum self and minimum otherness are both systems; each having both insideness and outsideness;
- one part of a system cannot exist without the other;
- an experienceable point is substantial;
- all substance has insideness and outsideness;
- all substances are divisible into minimum substances;
- each minimum substance is always a whole system; and
- each system always has insideness and outsideness and four minimum-system-defining events, all of which events are inherently nonsimultaneous and overlapping- ly co-occurring.

"Ergo, the minimum cognition employs the information sensing, remembering, and recognising circuitry of the organic-substance'a minimum self-sensing awareness, which could only be at a minimum one as a system of four minimum-event components, being aware"

- Cite SYNERGETICS. 2nd. Ed. At S_c.s 505.71-.72 from RBF typescript of 9 Jun'75

Minimum Awareness: '

"of its own integral system's otherness-defining components. Ergo, experientially, no otherness: no awareness. O.E.D.

"All minimum otherness or all minimum-observer self are both plural unity with mutual interawareness. Interawareness means one system aware of another system or the outsideness of a system aware of MB its system's insideness."

- Cite SYNERGETICS. 2nd. Ed. At. Secs. 505.72-.73; from RBF typescript of 9 Jun!75

"From Euler we know that the number of locally identified minimum entities called points plus the number of separate areas equals the number of lines plus the number two. In minimum awareness we have two identified entities which, being local points, must have directional fixedness against the background of nothingness. Ergo, in minimum awareness two points plus one area of nothingness have one inherent line of most economical interrelationship between the two points, which two points plus one area equal the number of lines, "The Euler 'plus one' abstractly accommodates two in the minimum awareness model:

point + area lines + 2

$$2 + 1 = 1 + 2$$

$$3 = 3$$

Three of two kinds » three of two other kinds - six of four kinds `` the six vector edgem relationships existing between the four different event-point fixes. Points are subdifferentiable systems; i.e. microsystems of event points too far apart to resolve. Areas are supradifferentiable systems; i.e., macrosystems of event points too far apart to resolve. The nothingness area is one MBB unbounded by any visible closed"

- Cite SYNERGETICS, 2nd. Ed. at Secs, 505.S2-.83 from RBF typescript, 9 Jun*75 n|ine. Nothingness is the part of the system unencompassed by the observer."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 505.33; from RBF typescript, 9 Jun*75

See Minimum Four Awareness Aspects of Life Self &. Otherness: Four Minimum Aspects Tetrahedron as Primitively Central to Life

See Whole of Universe as Minimum Consideration

Four Stars as Minimum Consideration

Minimum Consideration: (2)

See Tetrahedron,

Nov'71

Minimum Cyclic Enclosed Circuitry;

See Triangle, 17 Feb'73

See Microcoem, i960

Prime Dichotomy, (1)

Minimum Effort;

"Minimum Effort is one of the chief characteristics of our physical Universe."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. *71

Minimum Effort:

twelve degrees of freedomj equal, but they are all of minimum wffort.**

"We find that in the the freedoms are all

(Adapted.)

- Cite OREGON Lecture #5 - p. 178. 9 Jul'62 Citation at Twelve Universal Degrees of Freedom

Minimum Effort:

"The triangle is a very interesting energy pattern in which each side stabilizes the opposite angle with the minimum effort. It is a structural Integrity of minimum effort, which is very typical of universe. When we get to the tetrahedron and so forth we have four such minimum effomrt triangles and we find tetrahedron is always a minimum effortaccomplshment and not only does it subdivide the universe, but it does it with minimum effort."

- Cite OREGON Lecture #5 - p. 177, 9 Jul • 62

See Lea at Effort Most Economical

See Degrees of Freedom, 9 Jul*62 Icosahedron, 15 Oct'64 Prime Structural Systems, 11 Jul*62 Triangle, Aug'72; 25 Feb*69; 9 Nov'73; Nov'71 Twelve Universal Degrees of Freedom, 9 Jul'62* Thinking, (II)

Minimum Event;

See Z Cobras, 6 Nov*73

Mlnjjim Experience:

See Prime Number, 16 Feb'75

See Minimum Awareness Model Self & Otherness: Four Minimal Aspects Tetrahedron as Primitively Central to Life

ini' LIIJimiJLI.IIIj

(2)

Minimum Four Awareness Aspects of Life;

See Self 4 Otherness: Four Minimal Aspects, 9 Jun'75

Minimum of Four Tetrahedral

"...There are a minimum of four tetrahedra in Universe:

-- the tuned-in, at presently-considered something-complex system;

- the infra-tuned-in tetra-nothingness;
- the ultra-tuned-in tetra;
- the metaphysical, only primitive, tetra."

- Cite SYNERGETICS 2 draft at Sec. 100.06; 22 Feb'77

Mlnlcium of Four Totrahedra:

**See Fourfold Twoness Minimum Tetrahedron Primitive Fournesa
Tetrahedral Minimum**

Minimum Frequency;

See Frequency, 2 Nov'7J

Minimum Geometrical Foumeas:

See Quantum Mechanics: Minimum Geometrical Fournese

Minimum Hole;

"Triangle ia minimuhole. That 1b, there are no holes of less than three edges."

- Context and citation at Triangle, undated.

See Surface Strength of Structures, Mar'72

Minimum Increment:

See Photon, 15 May'73

Mininum 4 lAtegar:

See Pattern, 154

Minimum Inventorying:

Invisible or nonunitarily conceptual minimum inventorying.

- Citation and context at Sbherical Triangle Sequence (iii),

26 Jan*73

See General Systeme Theory, (A)

Minimum Knot:

"Each circle has 360 Degrees; the two interference circles that comprise the minimum knot always involve 720 degrees of angular change in the hand-led pattern, just as the total angles of the four triangles of a tetrahedron add up to 720 degrees. The hands describe circles nonsimultaneously; the result is a progression. The knot is the same 720-degree angular value of a minimum structural system in Universe as is the tetrahedron."

- Cite RBF rewrite of SYNERGETICS galley ar Sec. 506.13, 6 Nov'73
See Interference, May'67

Yin-Yang, 7 Nov'73

Minimum $L_a <$

See Bright: Brightness_t 8 Apr*75

Eternal, 7 Nov'73

Intellect, 27 May*72

Intellect: Speed Of 22 Jun'72

No Speed, 27 Ilay'72

MANlawn =

See Terahedron: Leak in the Comers, 20 Dec*73

HQW do I know anything? Our fthand limits is better than all the physics

Minimum Limits:

"How much do I know? knowledge of minimum in the textbooks."

- Citation k context

at Quantum Sequence.

(4), 23 Jun»75

"All The characteristics of a svstem are absolute because each of its components is the minimum limit case of its respective conceptual category, for all conceptuality, as the great mathematician Euler discovered and proved, consists at minimum of points, areas, and lines."

- Citation & context at Somethingness & Nothingness, 9 Jun'75

"There are no experimentally demonstrable absolute maximum limits. Only the minimum limit is demonstrably absolute. The minimum limit experienceable is always a system— even when it looks like a point." ⁴⁶

46 ^{Ca.Ji0V75} context at Se * Otherness: Four Minimal Aspects

"You cannot have a line that is less than a line; or a fix that is less than a fix; or a virgin that is less than a virgin. Nature comes to minimum limit case with all her points in order to feel very comfortable. But the resolution is not linear nor planar; it is omnidirectional; it is hierarchical in ascending or descending hierarchies,

"You grow or decrease. You get hotter or worse. In parallelism things do not converge. Science is not getting the right answers because scientists do not think divergently and convergently. If you are in parallel you can never get to any conclusion whatsoever. Waves require hierarchies."

- Cite SYNERGETICS, 2nd. Ed. at Secs. 505.61-.62; from RBF to EJA, 12 May*75

See Infinity vs. Finiteness

See Wave-frequency Relations, JO Dec'73

See No Maximum Limits

Nature in a Corner

Omnidirectional Terminal Case Min-max: Min-max Limits

See Nature in a Corner. 12 Nov'75

Quantum Sequence, (4)*

Self & Otherness: Four Minimal Aspects, 9 Jun'75*

Somethingness & Nothingness, 9 Jun'75*

Tetrahedron as Microsystem, 12 May'77

Thinking, (II) Triacontrahedron, 3 May*77

Minimum Momentum of Transformation:

See Flat: Almost Flat, 26 Jan'73

Minimumness:

See Zero Minimumness

hlauljL-ftimltrlanmlated Dlfarntlator of Universa:

See Tetrahedron, 5 Mar'73

See Perpetual Motion Machine, 1970

Minimum Characteristics of Patterns:

See Topology, 25 Feb'69

Minimum Set of Patterns;

"There is a minimum set of patterns that is a consequence of this set of patterns reacting with that set of patterns. In order to have a monkey wrench you also have got to have a store, and in order to have a stoivou you have to have other things. You have to have all the great complex of events, and we get then to a minimum set of complementary events where the system then regenj'Stes itself and we come to what we might call Universe, ft is interesting then to discover that this tends to be < clearly defined inventory of relative abundance of the various chemical element patterns in the Universe so that you need then a great deal of the pattern hydrogen and you don't need as much of the pattern Uranium."

- Revised context at Monkey Wrench, 30 Oct'73
- Give-Oregon Lecture 4'5, pp. 17-168. 9 jQ1,fe2

See Pattern,

1954

See Perpetual Motion Machine Universe

Minimum

Triangle:

See Unit Radius, 17 Jan'74

"...Inscribing one triangle, which is the minimum polygon."

(ill)

- Citation and context at Spherical Triangle Sequence 1 26 Jan '73

RBF DEFINITIONS:

Minimum Polygon:

'Remember that you cannot have a polygon of less than three sides; so the triangle is the minimum polygon. It is the only polygon that is inherently stable."

Minimum Polygon:

Minimum Polyhedron:

Minimum Reality:

See Universe, 28 Jan'69

Minimum Set:

"The minimum set of events providing macro-micro differentiation of Universe is a set of four local event foci. This four-foci, six relationship, set is definable as the tetrahedron and coincides with quantum mechanics' requirement of four unique quanta per each considerable "particle."

(For further context see A Priori Four-dimensional Reality, (1)
20 Dec'73.)

- Cite derived originally from COLLIER'S Ltr, 6.113. Oct*59;
as re-edited by RBF, 30 Oct'72 for Sec. 66.1e, 16 Nov'72
I"]

Minimum Set:

"Universe is the minimum perpetual motion machine.

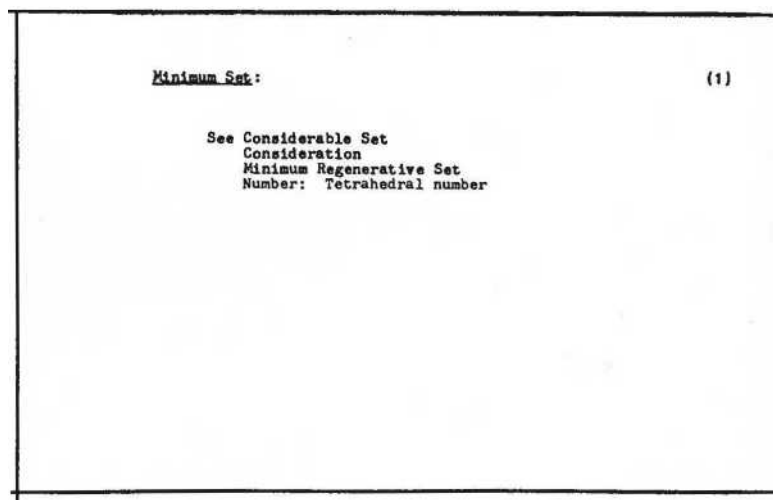
There is a minimum set of patterns that is a consequence of this set of patterns reacting with that set of patterns. In order to have a monkey wrench you also have got to have a store, you have to have other things. You have to have all the great complex of events and we get to then a minimum set of complementary events where the system then regenerates Itself and we come to what we might call universe."

- &teg~~naiitfH'3nrtnre - >pp__ 167-168 q July 1962.
 - Revised citation &. context at Monkey Wrench. 30 Oct'73 EficS — V' • » 333
- Minimum Regenerative Sett
- See Universe, i960
- Minlmwn pf Fattcrno:

See Euler, (1) Monkey Wrench, 20 Oct'73*

Minima Sat - Srrctul - Tatr«:

See Quantum kechanlce: Minimum Geometrical Fournese, (1)



(2)

See Equi-interval, 17 Feb'73 Monkey Wrench, 30 Oct'73 Sphere, (1) Star Evebte,
Oct'65 Tetrahedron, 1960;Nov'71 Structure, 3 Oct'72

Minima Six;

See Bow Tie, 25 Kov'73

Minimum Something

See Simplest Something Tetrahedron

Minimum Sphery:

"The transcendently Irrational constant π) is irrelevant to spherical geodesic polyhedral array calculations because the minimum sphere is a tetrahedron. We have learned that a sphere as defined by the Greeks is not experimentally demonstrable because it would divide all Universe into outside and inside and have no traffic between the two. The Greek sphere as defined by them constituted the first and nondemon- strabe perpetual motion machine. Because there could be no holes in it, the Greek sphere would defy entropy, A sphere with no holes would be a continuum or a solid, which are physical conditions science has not found. We could dispense with all Universe outside the Greek sphere because Universe inside would be utterly conserved and eternally adeauate to itself, independent of the rest of Universe outside."

- Cite SYNERGETICS text at Sec. 1022.11, as rewritten by RBF Aug'71

Minimum Sphere:

"A tetrahedron ia the yiiiua sphere. Compound curvature starts with the tetrahedron."

- Citation and context at Sphhre. 31 May'71

Minimum Spherical Excess:

See Triacontrahedron, 31 Jul'77

Minimum Spharo-

See Pl, 22 Jul'71J 31 May'71

Minimum Spiral:

See Triangle, 18 Mar'69

KBF DEFINITIUNS

Winiwua System:

"A minimum system would be two. We can deal with the whole of the solar system if we want, but minimum system is two."

- Citation and context at Whole Systems, 16 Jun¹72

Minimum System:

"As minimum or prime systems consist of four event foci

and their always and only coexisting fourness of triangularly defined planar facets, and sixness of wavelinearly defined minimum set of unique componentation relatedness, unity is inherently plural."

- Citation and context at Unit. 26 >ia'y'72

Minimum System:

"Now I would like then, to have a minimum system. two three points do not give me insideness and outsideness. Not until I have a fourth point do I have insideness and outsideness. Now we have the minimum system, having four points and having insideness and outsideness and it's all interconnected by triangles, so not only is it a minimum system, but it's structural because it's all triangulated. Therefore it's a minimum structural system of Universe. It's very exciting to be able to approach your problems so as to have no doubt about what it is you're discovering."

- Cite !L.F at F.K1S Seminar, U.Iass., amherst, 22 July '71,

MSB Minimum System:

"A system must have a minimum of four vertexes in

order to have an omnidirectional insideness and outsideness and six is the minimum number of vectorial edges uniquely connecting the four vertexes of the minimum system. The six vectorial edges are comprised of two energy event's inherent three-vector componentation of action, reaction and resultant."

- Cite WORD MEANINGS, "Ekistics," Vol. 23., No. 167. Oct'69

Minimum System:

. Four vectors define the tetrahedron as the first identifiable 'system'--- a primary or minimum subdivision of universe."

(See Illustration 9.)

- Cite SYNERGETICS ILLUSTRATIONS- Caption # 9

1967

"It is a synergetic characteristic of minimum structural systems (tetrahedra) that the system is not stable until the last strut is introduced. Redundancy cannot be determined by energetic observation of behaviors of single struts (beams or columns) or any chain-linkage of same, that are less than six in number, or less than tetrahedron."

- Cite SYNERGETICS text at Sac. 608.08; Nov'71

"une quantum ... turns out to be also the minimum structural system in the universe."

- Cite RBF at SihS, U.ss., Anherst, 22 July *71, p. 22

"Now I have what I call a system and it is a triangle of equal structure, a structure being a selfregenerative, interpositional stabilization of energetic events. Now a system divides all the Universe outside the system and all the Universe inside the system. In my thoughts I can have a macrocosm and a microcosm, within this and without this--- and a little bit if the Universe goes into the system itself. 80 the minimum subdivision of Universe where we can say this is inside and that is outside: I can't get it at one point and I can't get it at two points, or at three. I can't get it until I get four points. With four points I then get insideness and outsideness--- the minimum system is a tetrahedron. There are four triangles. This is a minimum system. This is not only a minimum structure, it is the structure: there are no other structures. This is what I call a structural system because it subdivides the Universe into this entire triangle--- regular or irregular."

- Cite RBF to Verner Smythe, NYC, reel 1, p.6, 25 Feb'69
See Tetrahedron as Minimum Structural System
Four Vectors Define Minimum System
See Quantum 22 Jul'71

Strut, 1950'8

Synergy, 1954

Tetrahedron, Aug'72; 11 Aug'76

Triangle, (A)(B)

Unit, 26 May'72*

Universe, 16 Jun'72

Vhole Systems, 16 Jun*72*

Z Cobras, 6 Nov'73

Cosmic Inherency, 11 Dec'74

Invisible Tetrahedron, (1)

Multiplication by Division, 20 Jan*77

Generalisation & Special Case, 23 Jan'77 Event, 21 Jan*77

Kites it Quarks as basic Notes, (l)-(3)

Minimum Tetrahedron:

"...A minimum separate something has a minimum of four corners, each corner being surrounded by a minimum of three faces, each face of which is surrounded at minimum of three edges for a 'minimum something' total of four faces with a minimum of six edges."

- Cite SYNERGETICS 2 draft at Sec. 100.06 ; 22 Feb'77

See Minimum of Four Tetrahedra Mite: (Minimum Tetrahedron) Primitive Fourneee Tetrahedral Minimum Tetrahedron as Minimum Structural System

See Photon: Tetra Edge as Unit Radius, 17 Jan*74 Hydrogen, 7 Mar'73 Yin-Yang, 7 Nov'73

See Three Axes of Crystallography Interrelationships: Fourness & Sixness Seven Axes of Symmetry Thirty Minimum Topological Characteristics Fifty-six Axes of Cosmic Symmetry Thirty-two Minimum Aspects of Systems

See Quantum Sequence, (5)

Minimum Tunability;

See Synergy, 1954

See Whole Systems as Minimum of Two Variables

See Circuit, 6 Nov'72

"The njiiir.um volume can be defined by four or more points, without a nucleus. It could have five pointe equidistant from the center and that would be a volume: it wouldn't be an icosahedron and it wouldn't be structural but it could still be a volume."

- Cite tape transcript RBF to EJA, Fairfield, Che» ./olf, 18 June »71

See Bare Minimum

Limit Case

Limit Minimum

Min-Max

Perpetual Motion Machine Radiation: Minimum Increment Of Self k Otherness: Four Minimal Aspecta Seven Minimal Topological Aspects Thirty-two Minimum Aspects of Systems Topological Minima Whole Systems as Minimum of Two Variables Zero Minimumness Starting with the Minimum

See Pattern, 1954*
Triangle, 20 Apr'72
Universe, 1970; 28 Jan'69; Jun'66; 10 Dec'64
Vector Equilibrium, 2 Oct'72
Volume, 18 Jun'71*
Experience, 19 Nov'74
System, 27 May'72
Tetrahedron, 26 Apr*77

See Minimum Asymmetric System Minimum Awareness Minimum
Awareness Model

Minimal Complex Minimal Consciousness Minimum Consideration

Minimum Cyclic Enclosed Circuitry

Minimum Dichotomy

Minimum Effort Minimum Event Minimum Experience

Minimum Four Awareness Aspects of Life Minimum of Four Tetrahedra
Minimum Frequency

Minimum Geometrical Fourness

Minimum Hole'

See Minimum Increment Minimum / Integer Minimum Inventorying

Minimum Knot

Minimum Lag

Minimum Leak

Minimum Limits

Minimum Limit Case

Minimum Limit vs Infinite Series

Minimum Moment of Transformation

Minimumness

Minimum Omnitriangulated Differentiator of Universe
Minimum & Only

**Minimum Characteristics of All Patterns in Universe Minimum Set of
Patterns**

See Minimum - Pattern

Minimum Perpetual Motion Machine

Minimum Polygon

Minimum Polyhedron

Minimum Polar Triangle

Minimum Reality

Minimum Regenerative Set

Minimum Set

Minimum Set of Patterne

Minimum Set - Crystal `` Tetra

Minimum Six

Minimum Something

Minimum Sphere

Minimum Spherical Excess

Minimum Spiral

Minimum Stable Cube

Minimum System: Minimum Structural System

Minimum Tetrahedron

Minimum Topological Characteristics

Minimum Tunability

See Minimum Twoness

Minimum Volume

"The minimum-maximum family of facts..."

- Citation *t context* at Naw Seouenca (6), 15 Jun'74

Min-max Limits:

"At the rational limit of the rational cosmic hierarchy of primitive structural systems we have the 120 similar and symmetrical T Quanta Modules tetrahedra which agglomerate symmetrically to form the triacontrahedron. At the minimum limit of the hierarchy are the separate A, B, and T Quanta Modules and at the minimum limit of allspace-filling---ergo of all Universe structuring---we have the three-module mites consisting each of two A and one B Modules."

- Cite SYNERGETICS 2 draft at Sec. 1052.362; RBF rewrite, 8 Aug'77

Min-max Limits:

"Only means are parallel; means are the averages of the limits, Dealing in probability calculus scientists can deal only with averages of limits; wherefore they explore and speculate only in terms of parallel. Min-max limits are inherently omnidirectional, and inherently divergently expansive toward maxlimits and convergently contractive toward min-limits."

- Cite SYNERGETICS 2nd. Ed. At S_c. 505.63; RBF rewrite 22 Jun'75

Mln-aax. SYBIM Lmlta*

See Gravitational System Zone, 14 Jan'55

See General System Theory Limit Macro-Micro Maxima-Minima

See Charting Alternating Experiences of Man & Nature,

(2)(3J

Closed System, 1960
Cosmic Limit, 4 Nov'73
Dymaxion, Dec*64
Dynamic, 1950
Gravitational System Zone, 14 Jan*55
Hierarchy of Constellar Configurations, 1959
Navy Sequence, (6)*
Regeneration, 1960
Regenerative, 1960; 28 Apr'71
Regenerative Design: law Of, (1)(2)
Spherical Tetrahedron, 11 Nov'52
Synergetics, 1959
Tetrahedron, 26 Sep'73
Unity: Complex &, Simplex, 16 Oct'72

**Universal Integrity: Second-power Congruence of Gravitational & Ha-
diational Constants, 9 Jan'74**

**See Universe, (p-135) 1960 '.'/orId Game, Jun'66 Conceptual Sys-
tems, 27 May'75 Nuclear Cube, 11 Deb'75; 2J Feb'76 Triacontrahe-
dron, 3 May'77 T Module, 21 Jun»77**

TEXT CITATIONS

Minni-Earth:

See WORLD PLANNING, Chapter 15, I&I, pp. 256-263

Wnl-figrthi

See Earth Globe Models

Geoscope

Miniature Earth

Mining:

See Mine: Mining

See Black Holes & Synergetics, 1 Mar'77

BBF DEFINITIONS

Minoa Two:

□All conceptual ayateu and thought io alwaya finite Univerae alnua two: -2.*

- Oita RBF marginalia at Daald Bohn, QUANTUM THEORY AS AM INDICATION OF A SEN CROSS JN PHIS ICS, SFoundations of Phyeica, V*I. I, Ho. A, 1971, p.371, done Aug>73

See Angular Topology: Principle Of
Tetrahedron: One Tetrahedron

See Coneervation of Finite Universe: Principle Of, 1960

Infinity 4 Finity, Dec¹61

Minna:

Sea Pina 4 Minus

Minute;

See Invented Periodicities, May'49

Miracle;

See Navigation to Faraway Places to Bring Back Miracle Objects

Mirror Ipa_{Rg}:

"What you see in the mirror is strictly a planar pattern--- a reverse series in a plane."

- Citation 4. context at Norunirror Image f 13 Jun'74

KBF utFUsi rriuwS

Mirror-image:

"The Nobel Prize being given 10 years ago tTp^{two} young men who had discovered that the complementarity was not in mirror-image, as it had been assumed up to that time. We had been assuming that all you had to do was to multiply the Universe by two. For some years it was discovered and demonstrated 9 scientifically, physically, that the complementarity was not the mirror-image."

- Cite RBF at SU-.b, U.fass., Amherst, 22 July '71, p. 21

Mirror Image:

(DM

See Nonxnirror Image

Parity

Rubber Glove

Two: Multiply the Universe by Two Enantiomorph Handedness



Enantiodromia

See Relative Asymmetry Sequence (1) Syte, 20 Dec'73 Irreversibility,
4 May*57 Error, 30 May*75

Fiirror: You might last be Looking at Yourself in the Mirror:

"`You need two othernesses. . , otherwise you might lust be looking at yourself in the mirror."

- Citation and context at Magnitude Awareness, 20 Feb'73

Kiainformation:

See Degenius Unlearning

Mistake:

"I'm quite content that evolution is full of great wisdom. Human beings have always been---always will be--- born naked, absolutely helpless and, as that beautiful cerebral equipment comes with no experience, therefore ignorant. They've also been given hunger, thirst, the procreative urge, curiosity. These have forced them to make trial and error, trial and error. So the only way humanity has ever got anywhere is by making mistakes, by learning what is a mistake. The mistake is the very essence.

"Fathers and mothers have enormous love for their children but, in fear that their children are not going to be able to make it, continually say to the child, 'You must not make any mistakes.' We've got to the point where the whole society thinks that to make mistakes is a sign of great weakness. The greatest mistake that humanity makes is not recognizing that the only way we get anywhere is by making mistakes. We're given a left foot and a right foot so that while we make little mistakes in each stride, between the two we get where we want to go. This is the way the Universe operates."

- Cite KBF to Kathryn Elliott, Washington Star; 9 Nov'75

Mistake:

"...Humanity has developed a comprehensive, mutual selfdeception and has made a total mistake in not realizing that the realistic thinking potentially accruing only after mistakemaking was the cosmic wisdom's way of teaching each of us how to carry on. It is only at the moment of humans' admission to selves of having made a mistake that they are closest to the mysterious integrity governing Universe. It is only when human beings, listening to their awareness of truth, confront themselves with self-admission of their mistakes that they are

able to free themselves of the misconceptions that brought about that mistake, and in those special moments of selfadmission of mistake, with the mistaken conception out of the way, they often have their most important insights into what the truth is that had been hidden from them by their persistent retention of the misconception as fostered only by their pride and vanity, or by unthinking popular accord."

- Cite RBF Ltr. to Bro. Jos. Chuala, p.3; 7 Nov*75

Mistake:

"` The Almighty makes no mistakes. This kind of thing has happened to me a thousand times."

(A nropos of first seeing Robert rfilliams*

"Natural Structure." RBF in Job«*like resignation.)

- Cite RBF to EJA, Boar's Head Inn, Charlottesville, Va., 3 Jun'72

Mistake:

"God makes no mistakes."

"Universe makes no mistakes."

(A common observation of RBF in the tenor of "Take

advantage of adversity!*)

- Cite RBF to EJA, 3200 Idaho, Wash., DC. 19 Dec. »71 in sc.ace of great distress upon learning that Playboy intevTew of Feb'71 has gone to press without his seeing the galleys.

See Error

Life is a Sumtotal of Mistakes

Trial & Error

Problem Solving

See Sin. 7 Nov'75

Left & Right, 7 Nov'75 Crowd-reflexing, 7 Nov'75 Ego. 9 Nov'75 Confession, 7 Jan'76 Technology: Enchantment vs, Diaenchantment, (1) Human Beings 4c Complex Universe, (a)(9)

Misunderstanding: 1. e., Being Misunderstood s

"I have never worried about someone not understanding me

• . . so long as I am not misunderstood, When I was sending messages about troop transports for Admiral Gleaves, any ambiguity could be fatal. If a captain of a ship being addressed did not understand our message, he could---and would---wireless back saying so. But if he misunderstood you (mistakenly thinking he understood you), that could result in a costly, if not fatal, tactical action."

Malesky,

- Cite RBF to Robert Mlf^{at} taping, Wash, DC; 28 Mar'77

RBF DhFINITIUNS

Misunderstanding; i.e., Being Misunderstood;

had forgotten those four cryptic pages so painfully evolved in 1935 under a special tenet of my own which is "never mind if most people don't understand you, so long as no one misunderstands you."

- Cite Foreword to No More Second Hand God, p.3. 9 May*62

Mlfundgrotftndlng: I.e., Being Misunderstood:

See Rule of Communication

MIT Sequence: (1)

"It is interesting in considering the meaning of structure, to think of the redefinitions emerging annually at the Massachusetts Institute of Technology in respect to fundamental phenomena. Every February the Institute exhibits in the main entry hall on Massachusetts Avenue a collection of selfdefinitions by the various academic departments. This is done so that the prospective students for the coming year (it is enrollment time at mid-years) may consider what the Institute has to offer. The Physics Department, the Chemistry Department, the Mathematics Department, and so on, all make statements about their particular concerns. They must say what they have to offer to the prospective students in a way that is both comprehensible and of high integrity of scientific meaning. Casual suggestions of the nature of the work will not suffice. Thus annually each department has found it necessary to reexamine its inexorably evolving disciplines and where appropriate to redefine its subject. Since each year both man's art and science of communication have improved, I have found it interesting to note how, for instance, the Physics Department at the Massachusetts Institute of Technology redefines itself as the years go on."

- Cite Conceptuality of Fundamental Structures (Kepes), p.66, 1965

MIT Sequence: (2)

"There has been such a rapid evolution in the sciences that what for instance the Physics Department said it was concerned with in 1912 was not what it professed in 1922. In 1912 (before MIT moved to the Charles River in Cambridge) it was concerned with mechanics in general, optics, and so forth, and a phenomenon called electricity was newly included as an appendix. By 1922 science was overwhelmed

with the newly discovered world of electron behaviors and the Physics Department said publicly that physics was primarily concerned with electronics. Physics in 1950 at the same Institute was described as being concerned almost entirely with the nucleus of the atom.

"The Department of Mathematics at MIT which embraces the fundamental communications systems of all the sciences, is also the most generalized of scientific disciplines. The last time I wrote down its annual statement of self-definition was in 1953. This definition hasn't altered much since then. Mathematics, which is both the most comprehensive and abstract of the sciences, tends to evolve less rapidly than physics or chemistry. Mathematics generalizes all sciences and all other sciences must use it."

- Cite Conceptuality of Fundamental Structures (Kepes), p.6B, 1965

MIT Sequence: (3)

"MIT's Department of Mathematics' self-definition of 1953 said: 'Mathematics, which most people think of as the science of number, is, in fact, the science of structure and pattern in general. It went on, for another hundred words or so, but that was the opening sentence. This definition of mathematics as 'the science of structure and pattern in general' agrees comfortably with my definition of the word 'structure'--- structure is not a 'thing'--- it is not 'solid'."

/”Structure Sequence (3)___/

- Cite Conceptual of Fundamental Structures (Kepes), p. 68, 1965

TEXT CITATION

MIT Sequence:

Conceptuality of Fundamental Structures, Kepes, 1965

Synergetics - Sec. 606.01 - Footnote of 8 Nov¹⁷³

MET Sequence;

See Omnidirectional Pattern* undated

"Two A Quanta Modules and one B Quanta Modules may be associated to define the all-space-filling positive and negative sets of three geometrically dissimilar, asymmetric, but unit volume energy quanta modules which join the volumetric center hearts of the octahedron and tetrahedron. For economy of discourse we will give this minimum allspace-filling AAB complex three-quanta module's asymmetrical tetrahedron the name of KITE (as a contraction of Minimum TEtrahedron, all-space-filler)."

- Cite SYNERGETICS Draft, at Sec .^{*1}

1.7 flat 'It

KBF DEFINITluKS

MITE: (Minimum TEtrahedron):

"We find this tetrahedron to be the smallest, simplest, geometrically possible (volume, field, or charge) allspace-filling module of the isotropic vector matrix of Universe."

oea SYNERGETICS Draft, 29 Feb '72

KITE: (Minimum TEtrahedron): Positive and Negative Functions: (1)

"MITE" can fill all space. They can be either positive (+) or negative (-), affording a beautiful confirmation of negative Universe. If there were only positive Universe there would be only fE's. But MITE's can function either as plus or as minus space-fillers; they accommodate both Universes, the positive and the negative as manifestations of fundamental complementarity. They are true rights and lefts and are not mirror images; they are inside-out and asymmetrical.

"There is a noncongruent, ergo mutually exclusive tripartiteness, (i.e., two A's and one B in a wedge sandwich) respectively unique to either the positive or the negative world. The positive model provides for the interchange between the spheres and the spaces. But the KITE'per-

mits the same kind of interchange in negative Universe. But MITE's are all-space-filling within their own world. The cube as an all-space-filler requires only a positive world. The inside-out cube is congruent with the outside-out cube. Whereas the inside-out and outside-out MITEs are not congruent and refuse congruency."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 25 Feb'72, as rewritten by.-KPF. 27
toy'72

-secs. 153.20

MITE: (Minimum TEtrahedron): Positive and Negative Functions: (2)

"Neither the tetrahedron, the octahedron, nor the cube can be put together with MITES. But the rhombic dodecahedron and the tetrakaidecahedron can be fashioned with MITES. The MITE means that the rhombic dodecahedron and the tetrakaidecahedron can function in either the positive or the negative world."

- Cite RBF to EJA, 3200 Idaho, Was DC, 25 Feb»72, as rewritten

"Neither the tetrahedron nor the octahedron can be put together with mites."

- Cite RBF to EJA, 3200 Idaho, DC, 25 Feb'72

Mite & Coupler:

"The unique asymmetrical octahedron is always uniformly composed of exactly eight asymmetrical allspace-filling, double-isosceles tetrahedra, the Mites, which in turn consist of AAB three-quanta modules each. Though outwardly conformed identically with one another, the Mites are always either positively or negatively biased internally in respect to their energy valving (amplifying, choking, cutting off, and holding) proclivities, which are only 'potential' when

separately considered, but operationally effective when interassociated within the allspace-filling, uniquely asymmetrical octahedron, and even then muted (i.e. with action suspended as in a holding pattern) until complexes of such allspace-filling and regeneratively circuited energy transactions are initiated.'*

- Cite SYNERGETICS draft at Sec. 954.43, 13 May'73

"Geometrical Combinations: All of the well-known Platonic, Archimedean, Keplerian, and Coseter types of radially symmetric polyhedra may be directly produced or indirectly transformed from the whole unitary combining of Mites without any fractionation and in whole, rational number increments of the A or B Quanta Module volumes. This prospect may bring us within sight of a plenitudinous complex of conceptually discrete, energy-importing, -retaining, and -exporting capabilities of nuclear assemblage components, which has great significance as a specific closed-system complex with unique energy-behavior-elucidating phenomena. In due course, its unique behaviors may be identified with, and explain discretely, the inventory of high-energy physics* present prolific production of an equal variety of strange small-energy 'particles,' which are being brought into split-second existence and observation by the ultrahigh-voltage accelerator's bombardments."

- Cite SYNERGETICS text at Sec. 953.50, 27 May*72

Mita» Mafrg scalar Polxteia:

See Nuclear Assemblage Components

"Prime Minimum System: Since the asymmetrical tetrahedron formed by compounding two A Quanta Modules and one B Quanta Module. the Mite, will compound with multiples of itself to fill all space and may be turned inside out to form its noncongruent negative

complement, which may also be compounded with multiples of itself to fill allspace, this minimum asymmetric system--- which accommodates both positive or negative space and whose volume is exactly 1/8th that of the tetrahedron, exactly 1/32nd that of the octahedron, exactly 1/40th that of the vector equilibrium of MSSSEQSSaSHSb S39 zero frequency, and exactly 1/1280th of the vector equilibrium of initial frequency (-2), $1280 - 2^\circ \times 5$ --- this Mite constitutes the generalized nuclear geometric limit of rational differentiation and is most suitably to be identified as the prime minimum system: it may also be identified as the prime, minimum, rationally volumed and rationally associable, structural system."

- Cite SINhflgriCS text at Sec. 953.60, 15 Nov '72

Mite as model for Quark:

"Proofs must proceed from the whole to the particular, starting from the minimum something. All geometrical and numerical values derive from fractionation of the whole.

"The omnidirectional closest packing of spheres provides a model for the 92 chemical elements in a hierarchy independent of size in which the initial sphere represents the element Hydrogen with the atomic number 1, the second layer Magnesium with the atomic number 12, the third layer Molybdenum with the atomic number 42 and the fourth layer Uranium with the atomic number 92.

"The maximum limits of the rational cosmic hierarchy are the 120 similar and symmetrical triangles of the triacontrahedron. The minimum limits of the hierarchy are the Mites.

"The Mites are the minimum allspace-fillers of Universe. The Mites are the Quarks. The two A Quanta Modules and the one B Quanta Module of which the Mite is composited, model the three functions of the Quark."

- Cite.,RBF to EJA by telephone from Beverly Hotel, New York, 3
"-ay*77- incorporated in SYNERGETICS 2 draft at Secs. 1052.32 -
1052.57.

Kites & Quark* as basic Notes: (1)

"The reason physics continually comes to quarks is that in the total systemic hierarchy of structuring and multipolyhedra-intertransformings there is the phenomenon of allspacefilling. There are several well-known allspace-fillers such as the cube, the rhombic dodecahedron, and the tetrakaidecahedron. However, the mites consisting of three basic modules--the two A Quanta modules and one B Quanta Module--- have their counterpart negatives; as the quarks do represent the minimum allspace-filler of Universe and the A's and B's do produce in all-rational numbers all of the nucleated geometries.

"They also have their volumetric counterpart in the nonnucleated icosahedron in the form of the S Quanta Modules--each of which is 1/120th tetrahedron of which the triacontahedron is composed. This makes the S Quanta Modules probable electron complements of the nucleated system--halvings fractionated 459 times, i.e., 4×459 "

"The quarks are the minimum allspace-fillers of kinetically self-structuring systems. The mites may fill allspace by either edge-bonding or face bonding. That is, by either

- Cite RDF Ltr. to EJA; 4 Jun'77

HBF DEFINITIONS

"omni-edge-interbonding of singular sets of all positive (or negative) mites, or by omni-face-interbonding plural sets of both positive and negative mites. Edge-interbonded singular sets of all-positive or all-negative mites fill allspace alternatively with 'yes' or 'no' mites.

"I use the following metaphor to identify systemically the quarks and the A and b modules as the minimum constituents of systems. Pythagoras demonstrated the system when he stretched and fastened a string between two walls--taut enough to twang. Pythagoras showed that when you firmly clasp (stop) the string at midpoint either half will twang at one octave higher than does the full string. He then showed that if you put firm stops at the two-thirds-way points, the string in between will twang one fifth of an octave higher and also that fifths represent increase of the key note of string twang to its corresponding sharp---or its decrease to its flat octave scale.

Pythagoras then tried various tightenings of the string and the same halving always resulted in the 'flattening' or 'sharpening' fifths. These subdivisions and their results are"

- Cite RHP Ltr. to EJA; 4 Jun'77

Mjtea.jL_Quark8 as basic Notes: (1)

"inherent to any string or to any material of any length and any tautness. The tension string is the aberrationally vibrant system. The same relative mathematical subdivisions are constituents of any system,

"Three quark constants or the three mites are alike the minimum allspace-filling, all-structures-producing, minimum constituents of all kinetic (resonant) structural systems of Universe, all of which systems have their unique electromagnetic wavelength-and-frequency characteristics. Twenty-four modules comprise a tetrahedron, With tetrahedron as structural unity we have each module as 1/24th of unity.

"A three-module mite is then one-eighth of structural system unity, and as with music one eighth of the octave is one note---both mites and quarks are also the single basic notes of all systems."

- Cite RBF Ltr. to EJA; 4 Jun*77

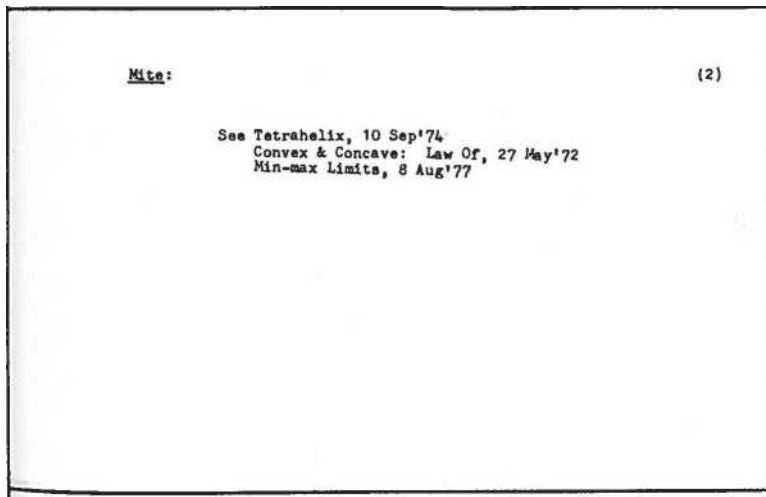
See Coupler

Octahedron: Half-octahedron

Octant Zone

Mite & Coupler

Syte



See Mite t Coupler

Mites Make All Regular Polyhedra

Mites as Prime Minimum System

Mite as Model for Quark

Mites t Quarks as Basic Notes

NlxablUtY:

See Modules: A & 8 Quanta Modules, 18 Oct'72

Ko bi lata:

See Vitalieti.es

Kgblle^HPPieg: (1)

"The new capitalism is only mildly interested in trailers or mobile homes, which are simply weather-boxed platforms on which are mounted livingry devices, e.g., beautyrest mattresses, shower baths, washing machines, television, radio, air conditioning, lighting, cooking, refrigerating, bottled gas, tableware, toiletries, wardbobs, and so forth.

"The mobile homes take the shape of a shoe box because they have to go through the highway or railway bridges. They're limited to 4-1/3 meters high by 2A meters wide, but may be as long as highway cornering will permit. The mobile homes are circumstantially 'extruded' through bridge openings and their interior living is reduced to narrow space shape. It is like living in a railroad car.

"Such mobile homes provide a space to live near jobs without having to buy a fixed home or a fixed piece of land. Mobile homes can be purchased on time payment or chattel mortgage terms. Because they are assemblies of mass production items, their costs are low—but no where nearly as low as they could be, if uncompromisingly designed for rental and not for sale. If the telephone company sold their telephones"

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, pp.7-8; 20 Sep'76

Mobile Homes:

"they would make them in inferior ways. The auto manufacturers do not put inferior parts---their designed obsolescence---into their rental cars."

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, p.8; 20 Sep* 76

Mobile Homes;

"Mobile homes have been extruded by the bridges to the shape they are in."

- Cite RBF to luncheon of White House Fellows, Watergate Hotel, Washington, DC, 19 Jul'76

Mobile Homes:

The reason the mobile homes are what they are is that they are*truded like sausages but limited by the shape of the bridges they have to go through for delivery. So they're very uncomfortable extrusions. If you have air delivery, you don't have that kind of compromise."

Cite tape transcript, p.4; RBF to B. Brooks, 30 Apr*74

Mobile Homea:

See Dome House Grand Strategy: 1927-1977, (2)(3) **"Humanity in the nonsocialistic world is now being propagandised, coerced, and often forced to purchase all the Immobile home properties, which gave rise to condominium or cooperative offices, apartment houses, and owned singlefamily dwellings.**

"The great industrial corporations have, however, found such immobility to be untenable. Having now become transnational, they are concerned only in investments in service industries which rent--- rather than sell-telephones, computers, Herts cars, world hotelling, etc., and sell only armaments.

"Eventual... disarmament will release the vast weapons industries to production of air-deliverable dwelling machines. This disarmament will occur as the major world enterprise corporations who have become supranational find that they do not need armaments to protect their know-how selling and the latter's service industries."

- Citation i. context at Building Industry, (8) (9) » 20 Sep'76

See Dynamic vs. Static Proximity &. Remoteness Unsettling vs. Settlements Dwelling Service Industry

See Deployment: Man's Increasing Deployment Pattern Locomotion: Radius of Man's Locomotion North-south Mobility of World Man Omnimobilization

Travel in a Human Lifetime

Intergeared Mobility Freedoms

Legs: Man Born with Legs Not Roots

See Man aa an Invention, 1 Apr' Ay Solari, Paolo, 10 Sep*75 Ghana
Dome: Self-chilling Machine, (f)(2)

Mob Psychology:

See Politics, May'28

ModalabiH ty: (a)

"The way in which elementary particles are structured... is clear... and simple." You could say "too simple or... elegantly simple. Inasmuch as simple is minimum case it cannot be simpler; ergo, it is congruent with nature which always does things in tht simplest way—the simplest always being the most economical.

"I would not be at all concerned nor surprised by the academic sciences' rejection' of models. "Physics has been getting along very nicely by flying blindly on instruments and is greatly aided by the computer, else awkward and complex accounting could not be practically employed. Only one percent of humans are scientists. The 99-percent nonscientists have been kept from understanding science by the roundabout, nonconceptual, imaginary-number irrationalities inherent in the XYZ-cgs-three-dimensional accounting.

"When. in the middle of the 19th century, practical application of electromagnetics occurred, scientists were asked by the humanist authors for a conceptual explanation of what electrical generation production and use consisted. They said,"

- Cite RBF Ltr. tp Tell Andersson, Luvika, Sweden, 6 Jun'75

MndiUahi 11 tv:

"Society is asking us as the authors to clarify this extraordinary invisible power which has come into all human affairs.' The scientists said that unlike steam or water in pipes going through turbine wheels, the phenomenon electricity could not be conceptually explained. They said that electromagnetics automatically moved a needle with great regularity, therefore quantitative results could be instrumentally read in respect to any variability introduced into the electromagnetic gen-

eration and use of electricity. Changes in the number of coils or cross section of copper, etc., immediately read out on the dials and rates of change for all variables could be plotted; ergo, results could be predicted.

"Using the instrumental readouts, the scientists discovered that black body radiation introduced a fourth-power exponential rate of change. This gave the scientists great satisfaction because they said quite clearly that nature is employing fourth dimensionality and that all models are only three dimensional, being utterly wedded to perpendicular and parallel concepts of agglomeration.

- Cite RBF Ltr. to Tell Andersson, Ludviga, Sweden, 6 Jun'75

Modelability : (c)

"The scientists convinced themselves that nature was not, then, using models, which justified them in turning humanists away without communicable comprehension of the electromagnetic age's behavior.

"The parallelism permitted them no convergence or divergence. As SYNERGETICS makes clear, nature does converge and diverge, else there would be no radiation nor gravity nor propagation.

"Whether our society is wise enough to foster further comprehension of the great technology of Universe or whether humans are to make the mistake of ignorantly casting aside their salvation, depends on humanity understanding the phenomena with which to date only science has been concerned. A new generation,, employing SYNERGETICS will be able to make clear to the rest of humanity that all nature's behavior and transformations are indeed to be conceptually understood.

You generation of scientist-humanists will go on to deal far more intimately with nature than have the prior blind-flying scientists of yesterday and particularly those so committed to formulas as to have lost the capability not only to think but to apprehend and comprehend the elegant simplicities by which nature from time to time reveals herself to humans." - Cite RBF Ltr. to Tell Andersson, Ludvika, Sweden, 6 Jun'75

ModelabilUy:

"Modelability is topologically conceptual in generalized principle independent of size and time; ergo, conceptual modelability is metaphysical.

"Conceptual formulation is inherently empirical and as such is always special-case sizing and always discloses all the physical characteristics of existence in time."

- Cite SYNERGETICS, 2nd. ed. at S_{ec}s. 900.11-.12, RBF rewrite 12 May'75

Modelability:

*..Epintenology le modelable; which is to say that knowledge organizes itself geometrically; i.e., with models."

- Citation and context at Ebistemolor 16 Dec*73

Modelablity:

. Two tetrahedra have six internal faces - Hexagon - Genesis of the bow tie - Genesis of modelability - vector equilibrium. . .^w

- Citation k context at Bow Ties: Genesis Of, 12 Sep*71

Modelability:

"The case for models was untenable. They handled

all energy with equations. All models were schematic, and they were always careful to caution you that the mathematical or schematic model had no correspondence in nature."

- Cite KBF to SU-3 Seminar, U. Mass. Amherst - 32 July 1971

RBF Dittl IWINS

Modelability;

"You cannot demonstrate the fourth dimension with 90-degree models."

- Cite RBF Lecture Town Hall. New York 12 March 1971

EW lability d)

"I found myself intrigued and progressively committed to discovery of nature's comprehensive and omnirational coordinate system. One more important consideration regarding nature's omnirational coordinate system emerged and persisted in my school days. When inventors developed the steam engine--- this form of energy could be seen by the eye and steam could be lead through a visibly hollow pipe to a visibly hollow cylinder to drive a visible piston in a powerful engine and control it to do work.

"Then about a century ago man discovered and developed the uses of electricity by which vastly larger quantities of energy per pound of generating and distributing equipment could be conveyed invisibly through a seemingly solid wire in seemingly no time at all to impel an engine. When the literary men asked the scientists for a conceptual model of what was going on in electromagnetics so the writers could explain the mystery to the everyday man in everyday visualizable experiences what was transpiring, the scientists said,"

- Cite RBF marginalia at old Chap. 2 "Synergy " 1.12, 18 Mar'69

- Second para, above, from Arts and Letters, Gold Medal

speech, p.6, May*68 (Per RBF marginal insertion)

Modelability: (2)

We cannot give you any model. What goes on is--- to the best of our experimental knowledge--- utterly invisible and nonconceptual and is only expressable in mathematical terms.' Since that time science has been flying blindly on mathematically operated instruments. For a century scientists have not sensed their responsibilities because they have been dealing only in abstract, ergo senseless, mathematics."

"What caught my attention was that in the ensuing century better and more powerful microscopes and telescopes had come into use and nature was disclosed as continually employing models. She did not pay any attention to the scientists' concept of a lowest level threshold below which only mathematical equations had their existence. So I surmised that in searching for nature's comprehensive omnirational coordinate system that it would be best to be on the lookout for conceptual modelability, albeit a dynamic transformative modelling.

"It is impossible to identify the way in which we first follow our intuitively-explored curiosities, nor why we intuitively retrace in our thoughts certain special experiences" - Cite RBF holograph at Chap 2 "Synergy" 1.12, 18 Mar'69

{Top para from Arts and Letters, Gold Medal, May'68

Modelability: (3)

"and thus to explain just why we become especially interested in this or that which later proves to be an Important factor in determining our further, experiments, speculations, and complex relationship discoveries,

"Since I was suspicious that nature was, unbeknownst to the scientists, always using dynamic models of conceptual process transformations--- how to conceptualize nothing, or absolute emptiness, as symbolized quantitatively by zero, very greatly intrigued me. This lead far back into the history of science and mathematics, which overlapped many times into necromancy, numerology, astrology, superstitions, and the symbolism of religious legend and scripture.

"I found myself powerfully prone not to discard from serious consideration any ideas which the academicians frowned upon simply because those ideas had been of interest to, or had been exploited by, non-scientists, tricksters, and carelessly loose pundits. For instance, I have pondered a great deal on why the Babylonians chose to attempt to marry the angles of the circle and time with cyclic unity of the circle, chosen as 360° divisible into 60 minutes per degree and 60 seconds"

- Cite RBF holograph at old Chap 2, "Synergy" 1.12, 18 Mar'69
 ModeXabj,],/:

"per minute while their daily cyclic unit was only 24 hours, which were each divided like the degrees into 60 minutes and divided again into 60 seconds. This meant that each hour was 15 degrees. This meant that there are 15 circular geometry or azimuth minutes per each minute of time; and likewise 15 seconds of arc for each second of time. . .

- Cite RBF holograph at old Chap 2, "Synergy, 1.12, 16 Mar'69
 JMslablllty: (A)

"Cubing does not permit the making of models of or $N \setminus ..$

******In the fundamental accounting of energy behaviors fourth- and fifth-power relationships occur. The scientists found that they could accommodate the fourth and fifth powering by use of nonmodelable, complex number calculations by involving the square root of minus one. In effect, this calculation of 'imaginary number******' is accomplished by borrowing an hour from tomorrow's clock to solve the problem--- after which we repay tomorrow.

"When the fourth- and fifth-power energy relationships showed up back in the mid-19th century, as in the energy output of 'black bodies,' the electromagnetic scientists said: 'We can't make a model of it because models must always be three-dimensional that is, they must be defined by their XYZ-axes and be coordinated with 90-degree angles. Because we cannot find a fourth perpendicular to the XYZ system that will produce a fourth-dimensional model.'

"Thus the generalised case for models seemed to fail and models went out as a tool of science in the mid-19th century."

- Cite NASA Speech, pp.78-79, Jun'66
Mod.elabj.liyy: (B)

"Scientists did continue to employ schematic models, but as a scaffolding for working assumptions that they said bore no resemblance in reality to the actual events taking place entirely invisibly and formlessly in nature's fundamental energy transactions. We thus have had scientists working on instruments for a little over a century;...

"It is easy to understand how scientific thinking became independent of models. Scientists have gotten along very nicely without them. The great social and epistemological dichotomies opened between the sciences and the humanities... because there were no conceptual models to be comprehended by the humanities. When the authors and reporters for the humanities came to the scientists for conceptual

explanation of science's invisible discoveries, they said, 'What is it you are doing here? I see no model. I have to have a model to describe to people.' The scientists shook their heads and said, 'There are no models. Science speaks only in abstract mathematical equations.'

"Tetrahedral accounting or quantation removes the dilemma."

- ei>e-Carond»lex.draffe ABeturn »a-Medelability.42-14
- Cite NASA Speech, pp.79-80, Jun'66

Modelability:

"Modelability returns."

- Cite P. PEARCE, Inventory of Concepts, June 1967

Modelability:

. The great dichotomy, the greatest chasm

between the sciences and the humanities . . . occurred in the mid-19th Century when science gave up models

because the generalized case of modeling did not seem to

accommodate the scientists' energy experiment discoveries.

Now we suddenly find modelability. conceptuality returning."

•Return to- Modelability-4i¥T+Q--~

- Cite NASA Speech, p.76, Jun'66

Modelability of an Abstraction:

See Tensegrity Vector Equilibrium, 28 Jan'76>

See Conceptuality

Conceptual Models

Charts: Curves i Trending

Graphable

Field Modelability

Return to Modelability

Science: Gap Between Science & the Humanities Unmodelable

Genesis of Modelability - Vector Equilibrium

Fourth Dimensional Modelability

Vector Modelability

Vectorial Model for Magic Numbers

See Artist, 6 Jul'62

Disconnect, 13 Nov'69 Electric Motor, 25 Jan*72 Future of Synergetics, 19 Apr*66 Invisible, 6 Jul'62 Omnidirectional Typewriter, (1) Powering, 10 Jul'62 Synergetics Constant, (A)

Bow Ties: Genesis Of. 12 Sep*71* Limit, 23 Jun*75

Modal:

"If your imagination can build the model you'll probably remember it better than if I could find the modal on the table here."

- Cite RBF at Penn Bell videotaping session, Philadelphia 22 Jan'75

Models:

"Synergetics is a book about models, humanly conceptual models lucidly conceptual models; primitively simple models; and the primitively simple numbers uniquely and holistically identifying those models and their intertransformative number-value accounting."

(Later context at Synergetics, 12 May'75)

- Cite RBF Marginal addition to LJA memo to Macmillan editors, Waldorf Astoria, New York, 9 Jan'74

syrrjeacsncs

Model YP. Form¹

“Model is generalisation; form is special case.

“The brain in its coordination of the sensing of each special case experience apprehends forms. Forms are special case.

Models are generalisations of interrelationships. Models are inherently systemic. Forms are special case systems. Mind can conceptualize models. Brains can apprehend forms.“

”Forms have size. Models are sizeless, representing conceptuality independent of size.”

- Cite SYNERGETICS, 2nd. Ed. at Sec. 900.30; RBF rewrite, 12 May*75

ilftlftl. YS« Farm¹

”Model is generalization; form is special case.

"The brain in its coordination of the sensing of each special case experience apprehends forms. Forms are special case. Models are generalizations of interrelationships. Models are inherently systemic. Forms are special case systems.

"Forms have size, models are sizeless, representing conceptuality independent of size."*

- Cite RBF to cJA, 3200 Idaho, Wash., DC., 8 Apr'75

SECS

See Mole: Industrial Man as Universal Mole, Jul'59

Model of Nonbeing:

"The vector equilibrium is the only model of nonbeing zero- inflection at the nonmoment of omniintertransformabilities where anything can happen and must happen single-atomically within and multiatomically without

- Citation & context at Vector Equilibrium as Starting Point, (1) 11 Sep'75

Model: Model-Maker:

Synergetics draft at Sec. 1009.41, 10 Feb'73

Model vs. Photograph:

"You shouldn't have shown him the photograph! Wait until you see the model.

"Photographs do not show you that the orange is soft. . . like the Earth. • . that you can squeeze it. A photograph does not show that the toasted marshmallow is cool on the outside and warm on the inside."

- Cite R3F to Tim Wessels and Chris Kittrick, 3200 Idaho, Wash. DC: 12 May'7?

Model ve» Scenario:

See Scenario Universe, 18 Sep*74

Model of Toothpicks & Semi-dried Peaa: (1)

"So then I went on to say that, if all the energy conditions were everywhere the same, then all the vectors would be the same length and all of them would interact at the same angle. I then explored experimentally to discover whether thia "isotropic vector marix," as so employed in matrix calculus, played with empty sets of symbols on flat sheets of paper, could be realized in actual modeling. Employing equilength toothpicks and semi-dried peas, as I had been encouraged to to in kindergarten at the age of four (before receiving powerful eye-glasses and when I was unfamiliar with right- angled structuring of buildings as were the children with normal vision), I fumbled tactilely with the toothpicks and peas until I could feel a stable structure, and thus assembled an omnitriangulated complex and so surprised the

teachers that their exclamations made me remember the event in detail. I thus rediscovered the octet truss whose vertexes, or convergent foci, were all sixty-degree-angle interconnections, ergo omniequilateral, omniequiangled, and omniintertriangulated; ergo , omnistructured. Being omnidirectionally equally interspaced from one another, this omniintertriangulation produced the isotropic matrix of foci for omni-closest-packed*

- Cite SYNERGETICS text at Sec. 410.06; RBF rewrite on galley from earlier text; rewrite of 2 Nov'73

Model of Toothpicks & Semi-dried Peas: (2)

"sphere centers. This opened the way for a combinatorial geometry of closest-packed spheres and equilength vectors."

- Cite SYNERGETICS text at Sec. 410.06; RBF rewrite on galley from earlier text; rewrite of 2 Nov'73

See Atomic Computer Complex

Ball at the Center Model

Between: Vector Equilibrium as Primo Between-ness
Model

Billboard Model

Bow Tie Models

Bicycle Wheel Model

Conceptual Model

Conservation Model

Constant Volume Model

Constant Zenith Model

Cube & VE as Wave Propagation Model

Discontinuity Accommodation Model

Diagram

Earth Globe Models

Energy Proclivity Model

Equanimity Model

Equilibrrious Model

See Earth Model as Bundle of Nutcrackers

Exponential Model

Fourth Dimension: Vector Equilibrium as Fourth-* Dimension Model

FuP^e_r> R,B: Hia Aversion to Artistic Exploitation

Of Synergetics Models

Frequency Model

Fourth DiranBion: Tetrahedron as Fourth-dimension Model

Icosahedron as Electron Model

Information Transaction & Valving Models

Information Transmitting & Nontransmitting Model

Indlg Bow Tie Model

Jitterbug Model

Magic Numbers Model

Membrane Model

Minimum Awareness Model

Mite as Model for Quark

No-size Conceptual Model

See Octahedron as Annihilation Model

Organic Model

Octahedron as Conservation & Annihilation Model Octahedron Model
of Doubleness of Unity Octave Wave Model

Octahedron as Photosynthesis Model

Particulate Model

Pendulum Model vs. Scenario Model Probability Model of Three Cars
on a Highway

Quantized Models

Radiation-gravitation Model Radiation vs. Crystal Model Real Models
of Reality Reciprocating Torus Model

See Sensorial Model

Scheme: Schematic

Solar System Model

Synergetic vs. Model

Spontaneous Equilibrium ¹ Model

Turbulence Model

Turbining Model

Tensegrity Model of Self-interference of Energy

Third-power Rate of Variation Model

Triangular-cam, In-out-and-around Jitterbug Model

Universal Vertex Center Model

Vector Model of Interference

Wave Propagation Model

Zero Model

See Ball at the Center, 9 Mar'73

Force Lines: Omnidirectional, 1 f> Oct'64 Invention Sequence, (B)

See Model vs. Form

Model Inadequacy

Model of Nonbeing

Model vs. Scenario

Model vs. Photograph

Model of Toothpicks & Semidried Peaa

See Synergetics Constant, W Dec'75

Modern:

"Now I would ask the question whether this isn't of some importance, this matter of fooling ourselves into thinking that we can see and feel the modern when it is unfeelable and unseeable."

- Citation and context at Social Organization_f 1 Jul'62

Modern:

See Artist, 24 Jan'72

Social Organization, 1 Jul'62*

Modularly Divided:

"Divided Into modules, or units, of substantially equal length."

Cite Patent No. 2,682,235, June 29, 1954 BUILDING CONSTRUCTION

Modular subdivision: modularity

See Radial-circumferential modular growth Isotropic modular grid Radial-circumferential modularity

Modulation

See Increment

Radial-circumferential Modular Growth

Raft: Basic Raft

Three-way Great Circling: Three-way Grid

Uniform Boundary Scale

Frequency

See Frequency. 11 Mar'69; 1 Dec'65; 23 Jun'75

Time (1)

Fourteen Axes of Truncated T_etrahedron, (2)

Modulations?

"Modulations are selectable, predictable, and governable by intellect to the extent that superficial acceleration permits.

- Citation i context at Intellect? Equation Of. (A), 17 Jun • 75

MfilUttlon v».

See Precession, 0_ct'66

See Angle & Frequency Modulation Frequency Modulation Module:
Modular Noninterference Rate k Terminal Sixty-degree Modulatability
Uniform Modulation Valving

See Brain, Kay'72

Geodesic Dome, 20 Dec*73 Precession, Oct*66 Rate. 9 Nov'72; 2
Nov'73 Reality, 26 Sep*73 Ball at the Center, 9Mar'73

Intellect: Equation Of, (A)-(C)

Module: A Quanta Module:

"The A Quanta Module unfolds into a scalene triangle; that is, all of its non-90-degree angles are different and all are less than 90 degrees. Two of the folds are perpendicular to the triangle's sides, thus producing the four right angles. The A Quanta Module triangle may be the only triangle fulfilling all the above stated conditions."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 914.21, 19 Dec'73

Modules: A Module:

"The star tetrahedron consists only of A Modules: it has no B Modules."

- Cite SYNERGETICS draft "Antitetrahedron," S Oct. '71, p. 10.

Nodules: A Module:

"The A Module is a possibly unique scalene in that neither of its perpendiculars bisect the edges that they intersect. It has three internal foldables and no "internal" triangle. It drops its perpendiculars in such a manner that there are only three external edge increments which divide the perimeter into six increments of three pairs."

- Cite RBF to EJA, Beverly Hotel, New York, 14 Sept. 1971 •

A + 6 Q-MW7A MaoMUft* S rC)

RBF DEFINITIONS

Module: A Module:

"The A Particle unfolds to become a scalene triangle and this is the only triangle which, when asymmetrically subdivided into four triangles, will fold into a tetrahedron of dissimilar faces."

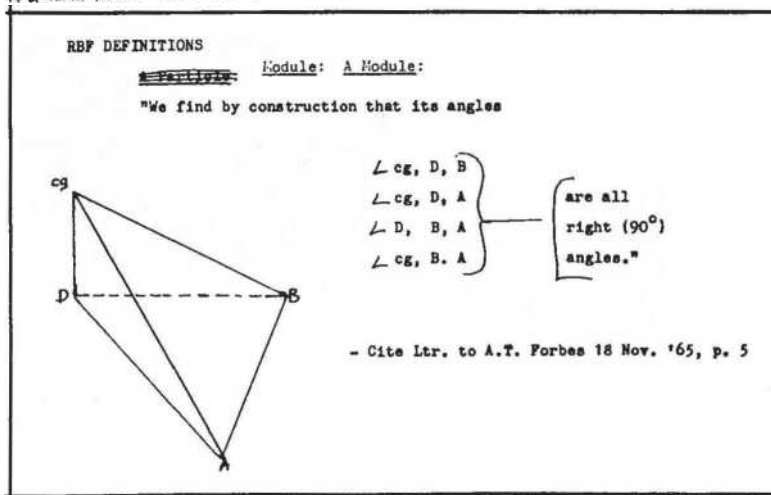
- Cite P, Pearce note on Alfred T. Forbes letter of 18 Nov '65, Pearce's note confirmed and corrected by RBF, March 1971

•An "a" particle is 1/6 of a one-quarter tetrahedron.'

M *opjei*

' Both "a" and "B" tetrahedrons have equal volume but different shapes and in combination can make all polyhedra.'

Cite RBF Glossary of terms bound with "The Live Rook Squad" 1967



"This is the 15 great circles of the icosahedron and there are the basic angles, the $37^\circ 25'$; $20^\circ 54'$; and $11^\circ 45'$ - These turn out to be extraordinary angles because they are the same angles as we found on the A Module, which was this very peculiar thing that was an asymmetrical triangle and was the only one that ever folded up to become a package and yet it could prop down into those spaces,"

- Cite Oregon Lecture #7, p. 270. 11 Jul'62

"There are very few tetrahedra that can be folded out of one whole triangle... This is an extremely rare strange one; and this one particular asymmetrical tetrahedron can be folded out of one asymmetrical triangle. I haven't found any other asymmetrical triangle that can be folded into any kind of tetrahedron: the vertexes refuse to come together on a piece of paper. This is a very special case and the only other one is the whole equilateral triangle that makes the regular tetrahedron.

"They are very interesting_f because the bounce lines— we know we have reflections into mirrors, and so forth, and lines bounce off at the same angle as they come in— so when we are bisecting the edges of an equilateral triangle and interconnecting those points with lines, we get the lines on which light would bounce around on the inside of an equilateral triangle if its edges were mirrors. We also get the same thing going

on inside this one; but light will bounce out where it comes in at 90 degrees. However, light bouncing around any given triangle (always remember that any triangle, if you bisect its edges and interconnect the points you get similar triangles and they will give you similar angles) and energy lines getting inside a triangle,”

- Cite Oregon Lecture #6, pp.219-220, 10 Jul'62

”will bounce around inside that triangle. A tetrahedron that can be folded out of a single foldable single triangle has this strange property of holding energy. If energy gets inside it, it will bounce around inside that tetrahedron and not try to get out. It is perfectly content to go around and round. It would do so within a regular tetrahedron and this one tetrahedron which I showed you here... I don't know any other cases where it would do it.

- Cite Oregon Lecture #6, pp.219-220, 10 Jul'62

”Take a one-quarter tetrahedron and make a line which is a perpendicular bisector from any given vertex to the opposite edge. Those three perpendicular bisectors cut the one-quarter tetrahedron into six pieces of pie. This quarter-tetrahedron divided into six symmetrical components; each one of them must be one-sixth of a quarter—and this is one-twentyfourth of a tetrahedron, this is a very interesting piece of geometry because we find that it can be unfolded — you can make it out of paper if you like. These are the angles you actually have in your paper: 30 degrees; 35 degrees and 16 minutes; and 19 degrees and 24 minutes. Those do not add up to 90°. This is not a 90° angle. This is an asymmetrical triangle with three different size edges, it is not 90° and not 60°» It has these folded edges and you can fold it up, but as it lays out it becomes a whole triangle, even though it is not 90° angles.

”If you take a regular tetrahedron and take its three slanting faces and open them up as if they were hinged on the base, you will have for the base an equilateral triangle. In other words, the regular equilateral triangle: bisect its edges and fold up the three corners and you have a tetrahedron. A tetrahedron

- Cite Oregon Lecture #6, p.219, 10 Jul'62

”can be folded out of one whole triangle, A Quarter Tetrahedron cannot be folded out of one whole triangle. In fact there are very few tetrahedra that can be folded out of one whole triangle, whether they are asymmetrical or symmetrical.”

- Cite Oregon Lecture #6, p.219, 10 Jul*62

"We can take a one-quarter tetrahedron and make a perpendicular bisector from any given vertex to the opposite edge. The three perpendicular bisectors cut the one-quarter tetrahedron into six pieces of pie. . . The quarter tetrahedron divides into six symmetrical components, each of which is one-sixth of a quarter tetrahedron, or one 24th of a tetrahedron. I call these units "A" Particles which are increments of "A" tetrahedra.

"This is a very interesting piece of geometry because we find that if made of paper it can be unfolded to become a triangle and at one corner the angles appear on the paper as 30 degrees, 35 degrees and 16 minutes, and 19 degrees and 28 minutes. This is an ayametrical triangle of three different size edges and not 90 degrees and not 60."

- Cite ~~Car bondale~~ e~Drq£t-

Na Vufp' s Cnnrdi nation ,-pp. - 15

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10. Jul»62

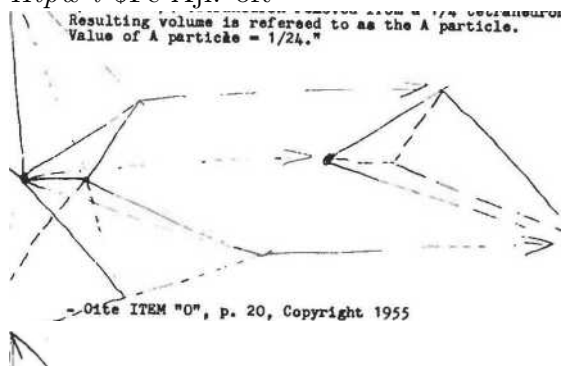
Module: A Module:

"The A Module ie 1/6th of 1/4th of a regular tetrahedron.

It is 1/6th of a tetrahedron formed on four facee of a regular tetrahedron with apex at the center of gravity of the regular tetrahedron."

- Cite Table 5, Omnidirectional Halo, i960

Htpw-i \$Fc Aji. oft



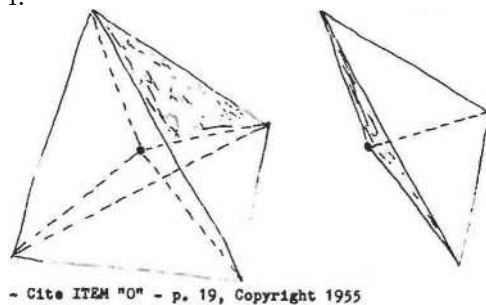
c*Vie*r of gravity of tetrahedron.

I/O Ox a $1/u$ tetrahedron mmnvad $1'^{TM} \gg 1 h. 4. \text{---} \text{---} u \text{---} J$

Ball represents the center i tetrahedron removed from Value of tetrahedron $\gg 1$

Therefore, i tetrahedron - of gravity of the tetrahedron, the whole tetrahedron:

i:



"The six degrees of spherical excess as a beautiful whole, rational number excess led to the intirtlire identification of the Basic Dis-equilibrium 120 LCD Triangle's foldability (and its fa11-in-ability into its own tetra-void) with the A Quanta Module."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 902.33, 20 Dec'73

Module: A Quanta Module: Introduction Of:

"Rational numerical and geometrical values derive from

(a) parallel and (b) perpendicular halving. The thirding and physical isolation of the prime number three and its multiples, is an only inadvertent consequence of the three-way, symmetry-imposed, perpendicular bisecting of each of the tetrahedron's four triangular faces:

(a) the parallel method of tet@rahedral bisecting

has three axes of spin, ergo, three equators of halving;

(b) the perpendicular method of tetrahedral bisecting

has six axes of spin,ergo, six equators of halving.

Halving and its inadvertent thirding introduces the 24 A Quanta Modules.

(a) parallel equatorial halving is both statically

and dynamically symmetric;

(b) perpendicular equatorial halving is only dynamically

symmetric."

/Ad.'OS *{

- Cite SYNERGETICS 2 draft at Sec

Module: A Quanta Module;

| | |
|---------------------------|---------------|
| 902.33 | 914.30 |
| 905.46-905.49 | 915.01-915.02 |
| 905.64 | 915.10-915.11 |
| Table 905.65 | 915.20 |
| 905.72 | 921 .12 |
| 911.02 | 921.20-921.21 |
| <u>913:</u> 913.01-913.11 | 922.01 |
| Fig. 913.01 | Tabla 963.10 |
| 914.01-914.02 | |

9U.1O

9U.2O-9i4.2i

Module: A Quanta Module:

See Atomic Triangulated Substructuring: Hierarchy Of. 19 Dec'73

0 Module, 29 Sep'76

'An "A" particle is $1/6$ of a one-eighth tetrahedron.'

• Both 'A' and M_B particles have equal volume but different shapes and in combination can make all polyhedra.'

(See ILLUSTRATION H 25)

- Cite RBF Glossary of Terms bound with "The Live Book foud"

1967

"The one-quarter tetrahedron and the one-eighth octahedron each have an equilateral triangular base and each of the (base ?) edges are identical in length. We can superimpose the one-eighth octahedron over the one-quarter tetrahedron because the volume of the one-eighth octahedron is one half and the volume of the one-quarter tetrahedron is one quarter so the volume of the one-eighth octahedron is twice that of the one-quarter tetrahedron. Therefore, they will have the same base and the one-eighth octahedron must have twice the altitude because it has the same base and its volume is twice as great.

"In figure # 16' they are superimposed and there is a space between the surface of the one-eighth octahedron and the surface of the one-quarter tetrahedron because the one- eightha octahedron has a volume twice that of the one-quarter tetrahedron, the space between the two must be the same as the one-quarter tetrahedron so this space in here is a unit of one and the one-quarter tetrahedron is a volume of one. That is, the space between is superimposed as a concave lid and it has a volume of one. If you would actually make that a solid and weigh them, they would have the same weight.

(Over)

<4-t d n 00V t- C 5 - SE-C.

"I can take that one-eighth octahedron which is sitting on top of the one-quarter tetrahedron and I can slice it along its three vertexal edges towards the opposite mid-edge, slice it with a knife and break it up into six parts. Then I can fold it back disclosing the one-quarter tetrahedrons so that each of these B Particles is one-sixth of a volume which is the same as that of the one-quarter tetrahedron. It is a space between the outer surface and the one-quarter tetrahedron.

- Cite OREGON Lecture #6, pp. 220-221, ¹⁰ Jul'62

"The 25 great-circle planes of the vector equilibrium cut up the eight-octahedra vector equilibrium corners into the A and B Modules. The fractions come out rationally."

- Citation «. context at Vectorial & Vertexal Geometry, (2) 27 Jan'75
 "The modules make all the geometries--all the crystallography. Any probabilities can be dealt with. With the two of

Euler: and Gibbs---the Me-and-Other-Awareness---the beginning of time, if there is time.... It starts testing the special cases that have time. They are absolutely quantized. The As are blue and the Bs are red. The blues and reds intertransform. Every sphere becomes a space, and every space becomes a sphere, palpitating in the wire model of electromagnetic wave action."

- Cite SYNERGETICS text at Sec. 961.45, RBF rewrite of galley; 20 Dec'73

A-ftP-flUflttta MpflUfOg:

"The exact energy-volume relationship of the A and B Quanta Module® and their probable volumetric equivalence with the only meager dimensional transformation® of the 120 LCD tetrahedral void® of the icoflahedron (see section 905.b0) may prove to have important physical behavior kinships."

- Cite KBF rewrite of SYNERGETICS galley at Sec. 921.04, 19 Dec& 73

A_ fc B Quanta Modules:

"All other regular omnisymmetric, uniform-edged, -angled, and -faceted, as well as several semisymmetric, and all other asymmetric polyhedra other than the icosahedron and the pentagonal dodecahedron, are described repetitiously by compounding rational fraction elements of the tetrahedron and octahedron. These elements are known in synergetics as the A and B Quanta Modules. They each have a volume of 1/24th of a tetrahedron."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 910.11, 19 Dec*73

"A Modules: color them blue because they hold energy. A's are conservers because folded out of only one triangle.

"B Modules: color them red because they give off energy. B's are distributors because they are not folded out of one triangle.

"In the outermost module layer shell of the vector equilibrium the triangles will be blue and all the squares will be red.

"The tetrahedron's inventory of exclusively A Modules (blue) number 24 in all, of which 12 are positive and 12 are negative asymmetric tetrahedra energy conservers (see synergetics' MBBb SB3OK3B discourse on self-sustaining energy OReflecting patterns of single triangles which fold into one tetrahedron, symmetrical or asymmetrical.) All the tetrahedron's 24 blue modules are situated in its one-module-deep outer layer. The tetrahedron is all blue: all energy conserving."

"The star tetrahedron has 48 blue A's, 24 of which are in its nucleus with a layer of 24 extraverted to form its outer shell. The star tetrahedron or isosceles dodecahedron is all blue inside and out."

- Cite RBF to EJA, 3200 Idaho, DC, 18 Feb'72; as rewritten 19 Feb»72

"The octahedron consists of 48 B Modules (red) and 48 A Modules (blue) and has two module layers, with the inner or nuclear layer being the 48 red B's; and the outer layer comprised of the 48 blue A's. The octahedron is all blue outside with a red nucleus. The 48 blue conservancy A's effectively contain and conserve the 48 red B's, energy distributors.

"The cube is three module layers deep around each of its eight corners, but all of its nuclear and outer shell modules three layer's edges are seen to surface congruently along the six seams diagonally the cube's six faces. The inner nucleus of the cube is the blue introverted tetrahedron with its 24 A Modules; this introverted tetrahedron is next enshelled by the 24 A blue modules extruded on the introverted nuclear tetrahedron's four faces to form the star tetrahedron. The third and outer layer of the cube also consists of the 48 red B Modules."

- Cite RBF to EJA, 3200 Idaho, DC, 18 Feb'72; rewritten 19 Feb'72

Modules: A & B Quanta Modules;

"A Modules: color them blue because they hold energy.

"B Modules; color them red because they give off energy.

"Then in the vector equilibrium the triangles will be blue and the squares will be red.**

- Cite RBF to EJA and BO'R, 3200 Idaho, Was DC, 10 Feb'72

Modules; A and B Modules:

•After a careful reading of the article on Wankel Engines in the New York Times Magazine of Sunday, 4 October 1971, RBF observed that the operation of the Wankel Engine combustion chambers might represent the reciprocal actions of the energy centers of the A and B Modules.

- Cite RBF to EJA, 3200 Idaho, Washington, 4 October 1971*

"Energy bounces around in triangles working towards the narrowest vertex. Therefore all triangles "leak" energy, but they do not leak as much as two triangles vertexially connected."

- Cite RBF to OJA, Beverly Hotel, 14 Sept. 1971. Inserted at Synergetics Oct. Draft Sec. 741.7.

"The centers of energy of the A and B modules can be locally reoriented without disturbing contiguously surrounding configurations of closest packed geometry, which local reorientations can either concentrate, hold or distribute the energies of the respective A and B quanta as illustrated in one case deploying the centers of energy outwardly and in the other case concentrating the centers of energy inwardly,"

- Cite RBF re-draft of Oregon Lecture #6 p. 223 as new Section 741.1 of Synergetics. 14 Sept, 1971.

RBF DEFINITION 1UKS

"The first, the A Module, is all of the nonconsidered, nonconceptual finite Universe. The B Module is the only momentarily extant considered subdivision of Universe, i.e., the special-case, local system. The B Module is always the 'baby,' it is much more asymmetrical."

- Cite RBF to EJA, Beverly Hotel, New York 12 Sept. 1971.

Inserted at Synergetics draft Sec. 741.32, Oct, Draft.

"The A and B Modules quantize our total experience. It is a phenomenal matter to discover units of geometry which are reorientable within the same space, which both have the same volume, and yet which associate in different kinds of coherent systems. While they

consist in their positive and negative aspects, of four different asymmetric shapes, their unit volume and energy quanta values provide a geometry for explaining both fundamental structuring and the fundamental and complex intertransformings, both gravitational and radiational."

- Cite RBF re-drafting of Oregon Lecture //8 p. 285, etc. as Section of Synergetics,

»-...* fU O. o J

Modules: A and B modules:

"The A and B modules' energy transforming capabilities and their mathematically describable behaviors ($10 F^2 + 2$) hint at correspondence with the behaviors of neutrons and protons. They are not mirror images of one another, yet like the proton and neutron, are energetically intertransformable and due to difference of interpatternability have difference in mass relationship. Whether they tend to conserve or to dissipate energy might impose a behavioral difference in the processes of measuring their respective masses. A behavioral proclivity must impose effects upon the measuring process."

- Cite RBF in Synergetics draft Sept/ Oct 1971 "Modelability, Functions of A and B Modules, Section. H-Sept

Mi io /v⁵*?**- Hit.

"The A Module can hold energy and the B Module cannot.

They are two different games of holding energy . . .

One is circumferential and the other is nuclear outwardly.

One is inwardly and the other is outwardly."

- Cite RBF tape transcript Chicago, Blackstone Hotel, 1 June 1971.

Synergetics V, p. 17.

A P Modules - Sec

421.601

Module; A and B Modules:

"There is one all-space-filling tetrahedron but it is asymmetrical because it has to go through this oscillating, it is a dynamic affair. . . It consists of four A modules and two B modules."

- 'You still have to have octahedra as well as tetrahedra

if you want to fall space symmetrically. . • Filling all the space is positive and negative pumping against each other. In other words, from the visible to the invisible."

- Cite RBF tape, Blackstone Hotel, Chicago, 31 May 1971 p. 34

"I think the A and B Modules are probably neutron and proton. . . They are not mirror images. . . They are interchangeable. And due to a difference in shape you might get a different mass relationship. Holding energy or not holding energy, I think, would make a difference in mass. .

"The tetrahedron is all A's - 24 A's. The octahedron is A's and B's."

"I can reorient the centers of gravity - - to send energy outwardly or to send energy inwardly."

"The A's can hold energy and the B's can't. The energy will insist upon going with the single triangle."

- Cite RBF tape transcript with BO'R and DK, Carbondale, 2 May *71.

RBF DEFINITIONS Modules: A and B Modules: "A" and "B" Modules:

Fuller: "The 'A's' can hold energy and the 'B's' can't

O'Regan: "And the 'B's' can't because they do not fold." Fuller: "They cannot fold into a tetrahedron."

O'Regan: "They can't hold it because they can't be folded into a tetrahedron."

Fuller: "And the energy will insist on going on with this single triangle."

- RDF in Tape Transcript, Carbondale, 2 May 1971. with Brendan O'Regan and Dale Klaus.

Module : A and B Module :

"In an isotropic vector matrix it will be discovered that there are only two clear-space polyhedra described internally by the configuration of interacting lines--- these two clear space polyhedra are the regular tetrahedron and the regular octahedron. But all other regular symmetric polyhedra known are described repetitiously by compounding rational fraction elements of the tetrahedron and octahedron. These elements are known as the A and B particles / ` ` now called 'modules. They each have a volume of one-twentyfourth of a tetrahedron."

» Cite NEHRU Pp 23-24. Nov '69

- SecS I o {3« HM' ft)

"The A Module is defined as the a symmetric unit of the regular tetrahedron; the B Module is the portion of the asymmetric unit of the octahedron that is left over after the A Modules have been scooped out of it. These, then, are the units in terms of which Fuller expresses his space. Since they cannot be symmetrically subdivided, they are true modular quanta. The A and B Modules have equal volumes, but are not commensurable: they are not expressible in terms of a common unit.*

- Cite Arthur Loeb Contribution to SYNERGETICS, Section "J," Sep'67

` ` The variety of their mixability produces what need be only momentary bewilderment and only an illusion of 'disorder' occasioned initially by the subtlety and muchness of the unfamiliar."

- Cite SYNERGETICS draft at Sec. 973.23, 1a Oct»72

"Th® A and B particles are a way of quantizing our total experience. .
. They are two tetrahedra. one of which is foldable out of one triangle
and if folded out of one triangle you would find that energy patterns
within it would simply ricochet around in it, not trying to get out. The B
particle was not folded out of one triangle and energy introduced into
it would tend to get out of it automatically. We have two very inter-
esting pieces of geometry, both of them asymmetrical, both of them
having the same volume. They would have the same amounts of en-
ergy. I will talk about it when we get to vector equilibrium. We get a
condition where everything in universe is in equilibrium. At that point
I can talk about volume, energy, quantum, field, and so forth--- as all
interchangeable conditions. ... In the A's the energy tends to lock up
and in the B's it tends to release the energy, even though they both
have the same weight. We find that all the geometries can be made
with them. All of the family of the important symmetrical transforma-
tions were completely accounted by the A's and B's. We at last have
found something: that while they are two different shapes, they are
the same quantity. We found there were 24 A's in a tetrahedron and
there will be four times as many in the octahedron--- so you

" ' * _ ——— \ - Cite Oregon Lecture #8, 12 Jul'62

Modules: A & B Quanta Modules:

(ii)

"could say the octahedron could be called 96 and the tetrahedron 24.
You could use this kind of numbers to describe them.

Vector equilibrium, which had the volume of 20 tetrahedra, would be
20 x 24, Or 480 units."

- Cite Oregon Lecture #8, pp.285-286, 12 Jul'62

"This is the physicists' symbol for frequency--- the Greek letter nu and nu to the third power-- times whatever the vector equilibrium might be. My vector equilibrium is 460 in terms of these quantum units. So I can tell you that if I look at a vector* Equilibrium with 50 edge intervals, I will also know that the radii are 50 intervals and the frequency is then 50 to the third power times 480 (50 x 460). That will tell me exactly the number of quantum in any of these symmetrical things. Here is something that is growing as wave after wave. It has a given wavelength and a frequency of circles. . . ^w

- Cite Oregon* Lecture #8, p. 287. 12 Jul»62

RBF DEFINITIONS

>. ... _ MIOViC*

• • • A' Uriivlgg- and 'B' Particles are capable of being reoriented. They are composite and can fill the same space, yet they take different positions. In one case their centers of gravity are outwardly deployed, radial, and in the other case their centers of gravity are inwardly deployed, transversed. In X-ray diffraction, we can hit a piece of metal and find an array of centers of gravity. We can take the temper out of the wvtr metal and they will change their positions. No longer does it cohere as well and the centers of gravity are deployed. The metal no longer coheres as well. When the centers of gravity are reoriented and get closer to each other they pull each other harder and therefore the metal is much tighter. When we heat-treat metals and alloys they do just what we are seeing here. . . f "A" and "B" are/ units of geometry which are reorientable

within the same space, the same volume, and the same pieces, yet they give different kinds of fundamental coherence of the system; so I begin to find this kind of geometry being dynamic in explaining fundamental structure."

- Cite Orgeon Lecture 7/6, pp.222-223, 10 Jul'62
RBF DaFIKlThhb

"I find it a very phenomenal matter suddenly to discover units of geometry which are reorientable within the same space, with the same volume, in fact the same pieces, --- and yet they d give different kinds of fundamental coherence of the system and so I begin to find this kind of geometry being dynamic in explaining fundamental structure."

- Cite UtttGuN Lecture rfb_t p. 223. 10 Jul'62

"We find octahedra are made out of A's and B's. We can composite A's and B's and make octahedra or tetrahedra . . . We have two things that have the same volume though they have different shapes. . . . Not only d® they make octahedra and tetrahedra but we find that they will make practically all the other geometries, . .

"A and B Particles are reorientable in the same space. They are composite and can fill the same space and yet they take different positions. The cenmters of gravity of the particles can be oriented either transversally or radially. In one case the center of gravity is outwardly deployed and in the other case the center of gravity is inwardly deployed. When we get into X-ray diffraction you will find certain things you can do to metal. You can Hit the piece of raetal and you will find an array of centers of gravity where they deploy. You can take the temper out of the metal and they will change their positions. No longer does it cohere as well when the centers of gravity are reoriented. When the centers of gravity are arranged so they get closer to each other, then they pull each other harder and it is a much tighter metal, when we heat treat metals ar.d alloy they transform just as the A and B particles rearrange themselves. . . "

- Cite UKECuN Lecture //6, pp. 222-223 } 9 Jul«62 "These are little corners on the cube superimposed on the vector equilibrium and it gets chopped into these little small components. I calculated the volume of each one of these components and found that each one of them came out in whole numbers in respect to tetrahedra. They were fractions, it is true, but if I used the A or B Modules as unity, one-twentyfourth of a tetrahedron, these have very interesting numbers like seven and thirteen— but all whole numbers.

We are now getting to a very interesting kind of fractionation of nature. Everything is coming out in beautiful whole numbers, in simple integers up to 20, and it is coming about in very much the same kinds of numbers we get in the chemistry,"

"I made many other subdivisions of octahedra and so forth, and found the components always coming apart, as long as there is any cutting on the axes of symmetry, any of the ways in which nature could chop herself up with various extensions of planes, and they always come about in whole rational numbers." - Cite Oregon Lecture i!6, p. 228. 9 Jul»62

Modules: A and 8 Modules: (As Equated to Meson): "That's what I think the A and B Modules may work out to be--- the meson. That works out to about 1/24th of a quantum."

- Cite RBF to EJA on reading Definition of Quantum in the Penguin Dictionary of Science. 1964, Ed. which says in part: "in certain contexts the quantum of energy associated with nuclear forces may be taken as the meson."

— 3200 Idaho, Washington DC, 25 Jan '72.

"If I am talking about A and 8 Modules I have to talk about unity as 480. Unity starts at 480."

- Cite Oregon Lecture #8, p. 287. 12 Jul'62

Modules: A and B Quanta Modules; Centers Of;

"Within either A or B Modules the

centers of effort

**centers of energycenters of gravity--- centers of radiationcenters of
volume, and centers of field**


are coiuent; that is identical. The same centers are involved

We will call their six congruent centers, their synergetic centers.

But the A (+) and A (-) and 3 (+) and B(-), respective
volumetric centers are never congruent. However, the
positive or the negative AAB aggregates have identical
volumetric centers."

re-written 21 Feb -72

"In the A and B Modules the

 **Centers of effort**

Centers of energy

The same centers are

Centers of gravity

involved.

Center3 of radiation

(Modelability.)

2 - Cite.RBFto EJA. Beverly Hotel, N.Y. 14 Sept. 1971. Synergetics.

4 B 4 t-o un't - -S y

RBf DEFINllluNS Modules: A and B Modules: Rhombic Dodecahedron:

A and BPsi; ueule u: Rhombic Dodecahedron:

"We find you can take one-quarter tetrahedra out of A particles and you can superimpose them on the octahedron which has eight faces. (The octahedron we found was made of A's and B's.) So we can add a little pyramid to each of the eight faces of the octahedron. Because there are twelve edges on the octahedron there are twelve diamond faces and this is called the rhombic dodecahedron. It can be made up entirely of A's and B's; we find its volume coming out in whole units of A's and B's and we find that its total volume is six. The tetrahedron has a volume of one, the cube three, the octahedron four and the rhombic dodecahedron six. The rhombic dodecahedron is an all-space filler like the cube. I have seen quite a few of them being made around the architectural schools and you will find nature using them a great deal. If you go out into Colorado and Arizona you will often find in rocky fields the rhombic dodecahedra crystals which nature uses to fill space. This is one of the most common naturally occurring crystals."

- Cite OREGON Lecture 06, p. 223. 10 Jul'62

RBF DSFINIT10HS

Modules: A and B Modules: Domains of Points:

"The domains of points are tetrahedra octahedra, or triangulated cubes. Or they could be the A and B Modules formed around the respective polyhedra."

- Cite RBF dictation to EJ* at SYNERGETICS Draft, Sec. 536.#, 20 Dec. '71 .

Modules: A & B Quanta Modules: "The further subdivision of the A Modules into two subtetrahedra and the subdividing of the 8 Modules into three subtetrahedra provide every positive mite and every negative mite with seven plus-or-minus subtetrahedra of five different varieties. Ergo $2^7 = 128$ possible combinations, suggesting their identification with the chemical element isotones.

^subxetrah, fidra;

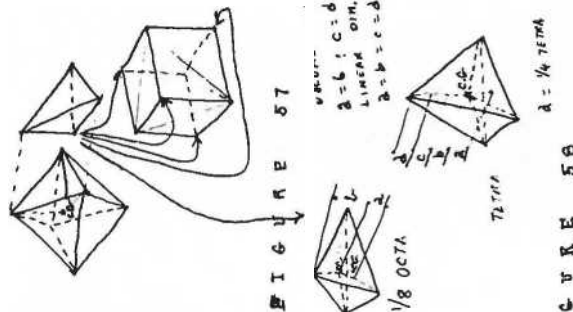
- Cite SYNERGETICS text at Sec. 954.78; RBF marginalia on i'-S, 14 May'73

Modules: A and R Modules: Domains of Volumes:

"There are domains of the tetrahedron interfaced (triple bonded) with domains of the octahedron. The domains of both are rationally subdivided into either A or B Modules. There is the center of volume (or gravity) of the tetrahedron and the center of volume (or gravity) of the octahedron® and the volumetric relationship around those centers of gravity is subdivisible rationally by A and B Modules in neat integer whole numbers. ..."

- Cite RBF re-write of SYNERGETICS, Sec. 336, 20 Dec. '71.

Cite FRF, Raleigh, June 1951.



Modules:

A and B? BivwAimST Constant Volume.

"Now we come to an interesting consideration of the tetrahedron. This problem I pm going to show you, I was told by Dr. Einstein's mathematical assistant from Princeton in about 1947 that this was his mathematical Ph.D. problem that got him his job with Dr. Einstein. Here is an aluminum tube and another aluminum tube /See Figure

D, of SYNHCETICS Illustration #26.J . They are the opposite edges of a tetrahedron. Notice that the opposite edges of the tetrahedra are at 90 degrees to each other. They have been precessed to each other. There are six edges of a tetrahedron and each of them precess to the opposite at 90 degrees to it." The two discreted edges of the tetrahedron represented by the two aluminum tubes can move anywhere along their respective axes. "They will oscillate on these lines and they will produce all kinds of asymmetrical tetrahedra, but □ we find that their volume always remains unit" by virtue of their constant base area and identical altitudes.

"You can see why this is so. The A particle and the B particle start with the unit base and add unit altitude, so 1 have another unit of altitude and it has the same base, it is just superimposed on it, and it has the same volume, a volume of one.

A AwP & fwni es qjS.O I -p \

We find these things getting longer and thinner, but their volumes are always the same: one. Supposing we think about something like an electric wire and we start with this base, and we divide this base into three 120 degree angles with a circular base. 1 can superimpose these almost iconic sections and every time there is a unit of frequency on the line, the vilume will always come out the same as the base fruju volume. Finally the last ones get to look like theyw are just as long as the wire itself, so there is an outside charge on the wire like fluorescence of a wire is coming off in un<H charge and we begin to see the wqy an electric ascillation impulse put into an electric line always seems to come in relative to the plane to the base and begins to precess of and finally comes off in unit volumes."

- Cite OREGON Lecture #6, pp. 228-229. 10 Jul»62

| | |
|----------|---|
| Modules: | 1 &. B Quanta Modules: <u>Constant Volume</u> ; |
| See | Constant Volume Model |
| | Photon: Tetra Edge as Unit Radius Tetra Bdge |

See Control Quantum
Coupler
Constant Volume Model
Energy Has Shape

Octahedron: Nuclear Asymmetric Octahedra Mite

Lites
Kites
Quanta Module Hierarchy
See Rhombic Dodecahedron, 24 Feb*72
Wankel Engine. 4 Oct*71
Harmonics, (2)(3)
Vectorial & Vertexial Geometry, (2)*
Domain of a Point, 7 Nov'73
Domains of Volumes, 7 Noy'73
Sphere: Volume-surface Ratios, 11 Dec'7?
Powering: Fifth & Eighth Powering, 11 Dec'75;
25 Jan'76
Nuclear Cube, 11 Dec'75; 23 Feb'76 Quarks, 22 Jun*77 T Module, 21 Jun'77
See Multidimensionality, (1)
See 0 Module, 2y Sep*76
See Experience Module
Increment
Model
Uniform Boundary Scale

**Growth Rate; Modular Growth Circumferential Modular Frequency
Growth Radial Wave Modular Growth Radial-circumferential Modu-
larity Modulation: Modulatability**

Graphable: Graphics

Time-size Cyclic Modules

0 Module

T Module

S Module

Fractionation

Subdivisibility

See Architecture, 1965

Turtle Hex-pent. 12 i<ay'75

Multidimensionality, (7)

Universal Vertex Center Model, 29 Apr'43

Moebius Strip: "The Meobius Strip does not have an edge. It is just a tube."

- Cite RBF to EJA.32OO Idaho, 20 Oct'72

Moebius Strip:

' • The Moebius Strip is made by joining the ends and is therefore not a ring, but a curved back line with two sides, 2 ends, and 2 surface faces, equalling 6 faces, and is not, as alleged, a one-surface structure. Whenever cutting or joining is introduced, complex structures occur. That is, the hole may be filled with a primary structure and therefore all the structural events of the surrounding ring are second-layer structural emergences of the primary structure.

"If you split the Moebius ring-strip, as is well-known, it opens out to make one big ring. But if split again it (also?) makes a Figure 8 of 2 rings, and successive splitting creates more rings; so this first split and continuous oneness was simply a product of the twisting of a strip and Joining its ends— (notice?) it might untwist when split to provide two strips. When 4 ends are joined -?- in which one reverses the twist of the other as in all (cases?)— articulation of twist and countertwist, etc.

The mathematicians by their pseudoescape to abstraction from a now necessity often get to kidding themselves. They do not understand an hierarchy of events. At any rate, Duncan, keep this letter as I have not put this on paper before, though I have been thinking it and talking it for a long time."

- Cite Ltr from RBF to Duncan Stuart, 10 Jan*50

Moeoius Strip;

See Topology, 10 I)ec*75>

Mohamed:

See Buddha: Chriet: Mohamed

Mold of Nothingness:

"We suddenly see the mold of nothingness! That's all it is!"

For citation and context see Hfyck Hole (2)_t, 27 Jan'72

Module: 0 Module - A Quanta Module

See 0 Module, 2y Sep*76

**See Experience Module Increment Model Uniform Boundary Scale
Growth Rate: Modular Growth Circumferential Modular Frequency
Growth Radial Wave Modular Growth Radial-circumferential Modular-
ity Modulation: Ilodulatability Graphable: Graphics Time-size Cyclic
Modules 0 Module T Module S Module Fractionation Subdivisibility**

See Architecture, 1965

Universal Vertex Center Model, 29 Apr'43

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- Cite RBF to EJA.3200 Idaho, 20 Oct'72

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- Cite Ltr from RBF to Duncan Stuart, 10 Jan*50

Moebius Strip;

See Topology, 10 Dec'7!>

Mohame4:

See Buddha: Christ: Mohamed

Mold Of Nothingness:

"We suddenly see the mold of nothingness! That's all it is!"

For citation and context see B&ck Hole (2)_x 27 Jan*72

"As a consequence of his assumption of model inadequacy, at mid-twentieth century A.D., industrial man has become a universal mole, plowing blindly about under a self-imposed hood, guided only by omni-biased, ergo discordant, feedback impulses*"

- Cite RKF Ltr. to Colliers (full text) p. 10, July¹59

See Mine ie Part of the Mole

HbF DLFIKITIOhS

Molecule:

"...Molecules are coplex local low-frequency energy events."

- Cite SYKtKGLTICL draft at Sec. 761.03, » Oct'72

See Atoms & Compounds: Difference Between

Atomic Structuring

Balloon

Chemical Bonds

Compounds

Design: A Priori vs. Deliberate

Hammering Sheet Metal

Multiatomic

Rearrange Random Receipts in Molecular Chains

Carbon

Hydrocarbons

See Domains of Actions. 21 Dec'71

Ecology Sequence, (A)(B)

Equilibrium, 25 Feb'69

Mass, 29 Dec'58

Photosynthesis, (1)

Rowing Needles, (1)(2)

Synergy: Degrees Of (4)

Vector Equilibrium, 16 Oct'72

Tensegrity Model of Self-interference of Energy,

25 Mar'75

rfave Pattern of a Stone Dropped in Liquid, (a)(b)

Synergy, Nov'7>

Aural, 22 Feb'77

Olfactoral, 22 Feb'77

Tactile, 22 Feb'77

Visual, 22 Feb'77

Ice, 29 Apr'77

Koi]usk:

See Clams Vessel

See Mite as Model for Quark, 3 fay*77

See Conatellar, May'71

See Local Conceptuality Temporary Zero Moment Nonmoment

**See Coincidental Articulation Sequence, (3) Historical, 1971 Time
Center, 16 Nov'72 Conceptuality, 22 Oct*72 Pronouns: I « We • Us,
(2)**

ijansmlisd:

See Physical is Always the Imperfect, 14 Feb*72

Moment;

Momentum;

"People like the word moment. but not momentum. Momentum is inadequate for
expressing accelerating acceleration."

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun*72

See Minimum Momentum Of Transformation

Recall Momentum

Torque Momentum

Acceleration & Deceleration

Inertia

i*fomentum:

See Quantum z/ave Phenomenon Sequence, (2) Acceleration & Deceleration, 20 May '75

MOOTS Y METAPHORS

"honey is used by the Great Pirates in various ways. It is used when you have absolutely no good faith in another whatsoever, when you have to take a piece of paper or nothing."

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb '68, p. 38

Honey-Bee Humana;

"... Honey-bee humans, going after their profit inadvertently cross-proliferated general production tooling but only for war making, which all inadvertently in due course provided swiftly amplifying, world-around life support not seen by the money bee when underwriting the development of arms production."

- Citation and context at Ecology Sequence ta), 12 Jun '73

: t.eaninKless Konev tlagnitudes:

See Dollar Bills: \$200 Billion One-dollar Bills Circling around Earth, (1)

"Making sense and making money are mutually exclusive.

I have nothing against regenerative economic sustenance; I'm just against the people who want to get in on the right stocks to make a killing."

- Citation t context at Technology: Enchantment vs. DisenchantmentMfit (5); 22 Jun '77

See Impossible: Only the Impossible Happens, U) Technology: Enchantment vs. Disenchantment, (5)

See Bank: Like Pumping Money Out of the Bank Capital Worth of U.S.

Cosmically Bankrupt

Dollar Bills: \$200 Billion One-dollar Bills Circulating Around Earth

Petroleum: It Costs a Billion Dollars to Make A Gallon of Petroleum

Profit: "We Stars Have Got to Make a Profit"

Rich Man Drowning in Shipwreck

Sun Is Not Saying Earth Hasn't Paid Its Bill

See Heartbeats & Illions. (3) TheOne: Watergate, (1)(2) Building Industry, (1)-(12)

fr'aney: honey faking:

(1)

See Capitalism

Earning a Living

Dollar Bill®: 8200 Billion Dollar Bill® Circling the Earth

Inflation

Obsolete: Inventory of Obsolete Concepts

Industrialization *r* Koney-making

Game Called Honey

See Cosmic Accounting, 2 Jun¹74

Ecology Sequence, (H)

Wore With Less: Sea Technology, (5)

Overproduction, 1 Feb'75

Plane, 19 Feb'72

Doing What Needs to Be Done, (1) ;(A)

Wealth, 20 Sep'76

Selfishness, 20 Sep'76

Invented Jobs, 20 Sep'76

Psychiatry* (3)<4)

Reality: fuller's Realitv vs. Popular Reality,
20 Feb'77

No Energy Crisis, (A)-(C)

Pirates: Great Pirates, 22 Jun'77

Lonreri nr:

See Scrap Sorting 8c. Mongering

Monitor:

"Man is a monitor, a local monitor; being the only contact we have with eternity, to handle very difficult metaphysical problems on board this little planet where the sorting capability is very high."

- Cite RBF in Edward Newman TV Interview, transcript p.25, Feb'73

Manllsu;

See Cosmic Monitor Local Monitor

Monkey:

"I'll bet a monkey can't tie a knot. ... If they could they'd capture other animals and tie the whole jungle

up in knots. What would the behaviorists say? Kind saw the knot, monkey did not. The monkeys held hands. But they didn't discover that the handshake is two circles running through one another."

- Cite HBF to EJA, Somerset Club, Boston, 22 April 1971

: '«i Kay taking Konkevs of Our eel ven:

See Darwin, May'70

Honkev:

See Darwin 1-arly Man

Mpnfay wrench;

"There is a minimum set of patterns, which is a consequence of one set of patterns reacting with another set of patterns.

In order to have a monkey wrench, you also have to make one or buy one at a store, you have to have other things, and these procurements in turn have antecedent event requirements. Each event of Universe leads back to all the great complex of events, and we get then to a minimum set of complementary events whereby the system regenerates itself, and we thus come to Universe. This tends to be a clearly

defined inventory of known principles and relative abundance of the various chemical element patterns in Universe which needs a large amount of the pattern hydrogen while apparently not as much of the pattern uranium.'* t For earlier version see Universe, 9 Jul'62) - Cite RBF rewrite of SYNERECTICS galley at Sec. 333., 30 Oct»73

Monkey Wrench:

"A monkey wrench can't make love to another monkey wrench.

- Citation and context at Love. 17 Oct'72

Monkey Wrench:

"We are dealing not in things but in patterns. . . We get various kinds of patterns coming together in the form of gearings and literally they are woven together or geared together. A monkey wrench is a form that takes ahold of the sides of a nut. And the nut is a gear. So a monkey wrench and a nut are a gear relationship. And a monkey wrench is very useful on tightening up the nuts on various machines which are going to reciprocate safely. We all agree that the expression * ~~erwolving~~ a monkey wrench in the works' could destroy the works, so a monkey wrench could be very useful to the same machine that it can be lethal to. it is simply a pattern. If the pattern comes in at the wrong place it can strip the gears. If it comes in at the right place it can augment the integrity coherence in the system, that is the regenerative factors."

- Cite OREGON Lecture / •\$ - p. 166 9July 1962

Monkey Wrench:

. In order to have-a monkey wrench you also have got to have a store. And you have to have other things You have to have all the great complex of events and we get then to a minimum set of complementary events where the system regenerates itself . . "

- Citation fc context at Universe. 9 Jul'62

See Rationalization Sequence (5)
Universe. 9 Jul*62*
Automobile, 2 Jul'62; 5 Kay'72
Measrocut "P?n Self:

See Aiken, Conrad, 14 Feb'72 Wisdom, Jan*7*

MonoloF.ical;
" *lie* cannot have disorder
Because Universe is not niological
- Citation and context at Universe. pp.156-157 May '72
Monologlcal;

**"We have a monological propensity for ths thing, the key the building
block of Universe."**

- Cite RBF rewrite of SYNERGETICS galley at Sec, 530,02
7 Nov* 73

HonoloZical:
' 'All monological explanations of Universe
Are inherently inadequate
And axiomatically fallacious.
There can be no single key
Nor unit building block of Universe."
- Cite INTUUtt, p. 13, lay *72

RBf C&FIH1TIOMS

**"Konoloxiical thought la inherently invalid. There
la no tingle key to underatanding."**

- RBF to EJA, faraeota Florida, 7 Feb 1971

Monologlcal:

"Man has an innate proclivity for wanting to monopolize, or to be penological. He wants to find the key, the building block. Every news reporter tries to talk about physics in terms of 'finding the building blocks of universe.' They Jft are the proton and the neutron. The two are intertransformable. But if one transforms to the other, the other does likewise. But they are always unique in themselves. .Ye cannot build universe with just the rightness or leyiess 'blocks' exclusively of one another."

- Cite NASA Speech, pp67,68

--- Cite Carbondale Dral-t

J un' 6(> HJHHSffiffiLRffiffiHBffiffiBlffiffiRHlffiffi

Return-ta nodelabiliby—

Eonoloeical;

"I said we like monology and the one reason you seem to like cubes is that you can fill a lot of space with them so these are the propensities of men. He got into quite a little trouble in a sense with his cube and square because he coiCln't square the Earth. I drive across the country quite'frequently, and I just drove across coming here, and you come into any one town and there is squareness locally but the surveyors don*t meet up with the square in the other town because it is a sphere and not a cube that we are on so you are always having thpeA lot lines that come to an end of the line and the road turns at a right angle and goes here and accomodates and comes into, the web of the next town. We really pay very little attention to this kind of inadequacy of our working assumptions."

- Cite OREGON Lecture #5 - p. 169, 9 Jul»62

See Building Blocks Key-keyhole Sequence Thing: Thingness

(D

: Mono-logical:

(2)

See Allspace Filling, 10 Jul'62 Aiken, Conrad, 14 Feb'72 Cosmic Accounting, 20 Dec*73 Education, fciay'49 Periodic Experience, (12) Dictionary, (1)

Monometric bubble;

See Hex-pent Sphere: Transformation into Geodesic Spiral Tube, (2) bubble bursting, 20 Jan'78

konocolv:

"It is a fallacy of overall economic strategy to seek to make finite that which is inherently infinite by seeking to extend the finite to infinity: e.g« monopoly."

- Cite RDF typescript, Synergetics Notes, 1955

Monopoly of Affection: "As a by-product of the new accounting system, competition for the monopoly of affection may also be surrendred along with the onerousness of ownership."

- Citation and context at Economic Accounting Svstem, 29 Jun*72

RBI HKFTHTTTfWR

Monopoliable Over Pipe or Wire:

(D

See Air is Socialised

Meter

See Service Industry, 15 May'72

<tfind Power Sequence, (b)

See Ego's Wished-for Monopolizer You or Ke

See Interference as a Social Model, 6 Jul'62

Politics, 4 Jan'70

Undernourishment, 7 Aug'70

Invention, (a)

Impossible: Only the Impossible Happens, (A)

NQDoayUable:

See Spit-punctuated Monosyllabic Verbalism

See Invented Periodicities, May*49 Life, May'49

Monovalent;

See Univalent

RBF DEFINITIONS

Montessori System:

"There will come the time when the proper education of children, by a glorified system of spontaneous education of choice, similar to the Montessori System, will be made possible. Children, as well as grown-ups, in their individual, glorified, drudgery-proof homes in Labrador, the tropics, the Orient or where you will, to which they can pass with pleasure and expedition by means of everimproving transportation, will be able to tune in their television and radio to the moving picture lecture of, let us say, President Loweil of Harvard; the professor of mathematics of Oxford; of the doctor of Indian antiquities at Delhi, etc. Education by choice, with its marvelous motivating psychology of desire for truth, will make life ever cleaner and happier, more rhythmical and artistic."

- Cite KBF in 4-D, TIMELOCK, p. 28, Chicago, 1928 as it appears in frontispiece to a book about Montessori.

See Spontaneous Education of Choice

(?)

See Conceptual Mathematics, (1)

Montreal EXPO*67 Dome: tA)

"On the day the Vancouver Habitat opened, front-page center photographs appeared in newspapers around the world— not of the UN Habitat meeting, but of the acrylic skin of my USA 275-foot diameter, geodesic dome of Montreal's Expo¹67 (now belonging to the city of Montreal) being burnt out. At first the news reports said the dome had burned to the ground. This was untrue: the steel structure was undamaged. Since the invisible acrylic skin had been mounted inside the spherical structure, the structural appearance had not changed. No one wasknside and no one was physically hurt. Within 10 days (before Habitat closed) a committee from the city of Montreal came to see me in Vancouver and it was publicly announced in Montreal that it intends to rehabilitate the dome....

"It almost seemed as though the nonstructural skin of the great unharmed geodesic dome had been set afire by some mystical evolutionary wisdom to remind the world of geodesics' very high structural performance as accomplished with only three percent of the weight of any given material necessary to produce equivalent structural and functional capabilities by any other known alternative engineering systems."

- Cite ACCOM. ODA TING HUI-AN UIISETTLU-.ENT, p.3; 20 Sep'76

Ri»F UtFli.ITIONE

"Apparently, the 100,000 geodesic domes built around the world in the last 30 years had proven their economic value, reliability, and economy to such an extant that this frontpaged fire news brought no charges of inadequacy of geodesic dome principles,

"The Expo*67 dome event and the progressively increasing magnitude of human numbers voluntarily listening to me--- as the protagonist of a design science revolution (vs, global political revolution) with which to physically accommodate the now evident evolutionary insistence on world-around unsettlement of humanity from yesterday's remotely deployed agricultural, mining, manufacturing, seaport or mountain-pass tie-downs and evolution's insistence

upon omni-integration of an ever more dynamic nations-homogenizing world society--all of which evolutionary reality seemed in marked contrast to related aspects of Habitat and its technological focus almost exclusively upon nationalistically-emphasized, local, immobile, an 1 'one-off' tailoring of human settlements."

- Cite ACCOU CDATIKG UIISET7LE1.UIT, p.3; 20 Sep'76

Montreal Expo'67? Dome Sequence: (1)

"On May 28, 1967--- three month's before Allegra's birthday--- a set of swift unpredicted event* intimate to all this chronicling took place.

"Anne and Bucky went on May 28, via Carbondale, to the official opening of the World's Fair, Expo'67, at Montreal. Both of them were overjoyed at the reception of Bucky's geodesic dome installed at the U.S.A.'s pavillion. The millions who have already viewed and entered it seemed inspired. They said so quite freely. Anne and Bucky could hear the public's words as they walked around in the crowds, it represented a very extraordinary moment for Anne and Bucky--- this being the year of their 50th wedding anniversary.

"To Anne the Expo dome seemed to give sublime validation to the extraordinary backing she has given Bucky.

"When he was a little boy his mother used to tell Bucky about the Taj Mahal and showed him pictures of it. His mother felt it to be the most beautiful building in all the world and sensed that its beauty went beyond its structural and material exquils-"

- Cite BEAR ISLafIJ STMuKY, galley >.33, 1968 "iteness. She deemed it* beauty to be emanating mystically from the love of its conceiver for his wife.

"Both Anne and Allegra know that in 1927 Bucky had put aside entirely the idea of trying to use his capabilities to develop special economic and physical advantage for them and instead connitted himself to the proposition that if those whom he loved were indeed the kind of

human beings he thought them to be that they would not enjoy finding themselves in a position of special economic and physical advantage won at the cost of deprivation of others, and likewise that their true happiness could only develop through an awareness that their efforts were always in the direction of progressively increasing advantage for all humans without any biases whatsoever.

"Because every action has its reaction and resultant; and because no event in Universe can be independent of the rest of Universe, Ducky's 1y2y commitment in the direction of all Humanity and its present symbolic embodiment in the Expo'67 dome which, though dedicated by Bucky*s thought to all humanity, must have its inadvertently complementary involvement of Anne and Allegra as well."

- Cite BEAit XSLAMJ bTuKf, gaily p.34, 1yo8

KBl Montreal EXPO*67 Dome Sequence: (3)

"Bucky said to Anne at Montreal, 'In addition to the geodesic dome which 1 have designed here to demonstrate the doing-so- much-more-with-less for humanity that world man will realize intuitively that his salvation and physical success on the Spaceship Earth is to be gained primarily by such a design revolution and not by political revolution, 1 have inadvertently brought about the production and installation of our own Taj as pure fallout of my love for you.' Anne knew that it was so. The Expo Taj is powerful and the beauty goes far beyond the subs of its physi-cal parts.

"Anne and Bucky left the dome and flew from Montreal to New York City. Bucky was to leave her with her family on their old home on Long island. Un the way from Kennedy Airport to New York City, the taxi in which they were riding skidded at high speed m the rain and

crashed against a bridge abutment and bounced across the highway. Neither the taxicab driver nor Bucky were hurt, but Anne was very greatly damaged. She had two hemorrhages in the brain. After a magnificently successful operation she recovered completely."

- Cite BEAK ISLAND STORY, galley p.34, 1ybB

KBF DEFINITIONS

"'Extracted from Gene Fowler's letter to B. Fuller, dated June 13. 1967, San Francisco, California:

""Dear Bucky:

'Anne is a woman of considerable strength: she will not leave you to continue alone.

'I have known a long time that Anne's strength, beauty, and grace were in your work. It makes sense that this skybreak bubble should be not a monument, but an embodiment of your love of her. Isn't that love a carrier wave that brought her form and substance, her nature and patterning into and through you and into your visions and work? Isn't a human being a thin, sparkling, transparent membrane reaching out and containing for a time some part of the Universe?

'Human beings are fragile skybreak bubbles, as vulnerable and quickly gone as a child's soap bubbles in a bath. Yet, without vulnerability, there is no courage. Without mortality, there is no beauty or love, no reason to reach out and touch.

- Cite BLAH ISLAND STORY, galley p.34, 1968

QH Montreal EXPO '67 Dome Sequence: (5)

You've constructed something slightly tougher than a human being,
but with the same beauty and grace, a knowing set into materials torn
from our Earth and shaped through our fires and minds, a memory to
outlast the one remembered and the one remembering, a knowing of
a woman, of Woman, a knowing large enough to be seen from space,
a knowing men may enter and share.

'More than the Taj, Bucky.

With love,

Gene.”*

- Cite BEAR ISLAND STuRY, galley pp.34-35, 1968

ZOA

Montreal EXPO¹67 Done:

See Aesthetics, Dec'67

Monument:

See Game of >*asks and Monuments Pyramid Technology

Moon: Humane Reach Moon and Ratur:

See Building 10 Sep'74

General Systems Theory, 1“)

**Planetary Democracy, (2) Servomechanism, 15 May*75 Human ilind
& Physical Evolution, (6)**

See Thinkability, 1 May<71

Koon Structures:

**"Slackened necklace geodesic spheres, compactible as tight as hair-
nets, may be shot to the Moon and tensibly self-motor opened."**

- Citation and context at Necklace Structure. 1 Apr'49

toon Trip Not a Sandwich <fc Thermos Bottle Venture;

See Autonomous Living Technology Packet, Aug*72

Moon:

See Children's Pictures of the Sun & the Moon Co-orbiting of Earth *a.* Moon
around Sun Lunatic Nine Chains to the Moon World Came: Men Landing on Koon

I'.oon:

(2)

See Berry Picking, (2)

**Spherical Triangle Sequence, (b) Earth, 17 Kay'77 In, Out & Around,
17 Kay'77**

Moral Codes:

"Moral... codes are enforceable only by negative penalties."*

- Citation and context at Individual Economic Initiative. 1965

Morality:

"I am certain that what we speak of as

As human morality

Is a form of tentative generalization

Of principles underlying

**Special case experiences of human potentials, behaviors, actions, re-
actions and resultants."**

-Cite HOU LITTU I Kt.O';, Oft. '66. p. 30.

See Charity

Crime: Criminality

Ethics

Political Mandates: Inventory Of

Reform of Environment Rather than Reform of Man

Sin

Good & Evil

Good &, Badding Kind of Idea

See Fuller, ft.B: Crisis of 1927. U Apr'70

Man as Local Problem Solver (2}

Man as a Function of Universe, 4 Jul'72

Plastic Flowers, Oct'70

Custom: Lest One Good Custom Corrupt the World, (A)

See Fuller, K.B: "Crisis of 1927

Fuller, R.B: Moratorium on Speech

. If we do more with less resources are adequate to take care of everybody."

- Cite RBF in Barry Farrel Playboy Interview, 1972, p.

1. draft.

Context at Politics: Political Systems. 1972

More With Less:

`` Through improved materials and alternate systems--- such as going from wired to wireless telegraphy--- we can produce ever higher performance per each pound of material, minute of time, and watt of energy invested, accomplishing so much more with so relatively little resource per function that we are able to sustain all humanity at a higher standard of living than heretofore experienced or dreamed of by any human."

(As edited by Popular Science)

- Cite BY NEW HEXA-PENT DOME DESIGNED FOR YOU TO LIVE IN, Popular Science, May 1972

HBF DEFINITIONS

More With Less:

"Through improved alleys and alternate systems such as going from wired to wireless telegraphy to produce ever higher performance per each pound of material, minute of time, and watt of energy invested in order to accomplish so much with so relatively little resource per function as to be able to sustain all humanity at a higher standard of living than heretofore experienced or dreamed of by any humans."

For Hand. Home Workshop Editor

Popular Science, Beverly Hotel, N.Y., 25 Feb '72

More With Less:

"'Since World War 1 the world has turned from the wire to the wire-less, the track to the trackless, the visible structuring to the invisible structuring. In each instance man is able to do more with less and less and less."

- Cite I SELM TU BE A VERB, Queen, I-lay '70

RdF DEFINITIONS

More With Less:

"... Doing more with less does not mean trying to thin out any known piece of design. It does an alternate peiece of design which gets the same result. We have today, for instance, one communications satellite weighing one-quarter of a ton outperforming the transoceanic communications capability of 175»000 tons of copper cable."

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb 68, p .23.

More ./ith Less: Sea and Air Technologies:

"Un the sea men had to continually do more with less. And in the air even more severely so. Thus there were two completely different worlds which really fostered advanced engineering."

- Cite transcript dBF Address, Univ, of Alaska, p.1, 20 Apr
RBF DsFINITIOLO

"Next thing; So that's why I said call it World War I because it involved the newest... and was on a world accounting basis instead of local. And the whole world was suddenly gaining. Now since— as a consequence of that we've gone from less, in 1900. One more very important input, for all of you— and this has never been on the books. There's nothing in any book of economics about— not even a sentence. The most highly classified of all the— I was regular MB USN— of all the information— Navy— and you'd learn by design, the same tonnage, this kind of sea, so you get into optimum design* and that was the tonnage of it so the enemy could see exactly what size ship you were building and he had one of the same tonnage. And it was not until you came into contact that you knew who could outfire the... who with the same amount of tonnage could outperform the other, who was getting more out of the same.

"Now this is the very essence of the sea— going back early to the wooden sailing ship. Twashi ps of the same size. You built your ship locally, used the best trees you had for your mast (but they weren't particularly good) and the best fabrics you had for your sails. But you came to a country like— spruce—'

- Cite RBF to Arthur Anderson & Co., (pp.5—o), New York, 13 Mar'74 **"and you careened your ship and put in much stronger, longer fiber masts. No knots. Then you came to a country like what we call the Phillipines today and we find that the fibers were much stronger for your ropes; so you put on a lot of that rope and make some more rope at home. And you get to a place like Egypt and they had much longer fibers for their cotton and you make your sails out of that. And you found that by the time your ship came home— the same ship, weighing exactly the same— could way outperform the other ship that was the same. So when it came to the great battles of the sailing ships, a man who had really been around the world and had got his ship into a very high performance out of the same amount of material— you would close with the other man when it really was blowing hard; the other man was going to have to take off sail or else his sails would blow out, or his ropes would break, or his mast would break, ./however did the most with the**

same, or more with the same, was the one who stayed on top of the ocean. And this was the most highly classified thing, which never showed up. So that when the other nan went to the bottom, he couldn't tell about it; so it was kept as a really great secret. I'm really amazed that it's never gotten into the book of economics—about doing more with less!... And from your own accounting viewpoint, just think what I'm saying.”

- Cite ftBF to Arthur Anderson & Co., (p.6), New York, 13 Kar'74

More With Less : Sea Technology: (3)

"Now I began to get into doing more with less sir, because back in my i.avy days I had been trained as a line officer. It means that if your seniors are killed, you have to be able to take over--- not only the ship, but the fleet. In those days there was no contact with the central authority and you'd operate without-- therefore, you had to make your own decisions. And you're really dealing in world. And we were trained to be comprehensivists instead of specialists in the Navy. It was the only place where they trained you to be comprehensivists instead of specialists.

"Now I was fascinated with having this man trained scientifically and involved with all these beautiful ships. Enormous power systems. And we could do anything. How did this happen? It was all on the basis of I-althus that there was the working assumption that there'd never be enough to go around, that it had to be Yours or Kine, it could not be both. And this was to take care of the showdown.

"And I said we had refrigeration on this ship--- we had refrigeration on the ship 25 years before it came up on the land. And we really had cream on the oatmeal in the morning--- an amaaing"

- Cite RBF to Arthur Anderson *tc* Co., (p.8), New York, 13 Mar*74

Lore With Less: Sea Technology: (4)

'thing, when we'd been at sea for 20 to 30 days. So I said: What else did Malthus leave out? He assumed that food would rot... I began to go into that. Back in 1917, I said I can see suddenly a little airplane that's now threatening to sink the battleship--- the more-with-lessing is so powerful., this electronic thing, this radio, and the messages. This great big ship--- my messages go right across, like that. So I said there is something going on here, more-with-lessing. So I said that it could be that the whole *raison d'être* of this war that I've been trained to operate in, might be invalid--- if we really looked into doing more with less in relation to all those things that make man a success.... And I said, apparently it's going on inadvertently.

"And after ` World War I, sure enough, the oil burner came off the battleship and into the oil furnaces on land. And all these things that we'd had at sea suddenly came up on the land. In 1927 I committed myself to... where I found nobody paying attention to doing more with less--- and that was in the building world. On the sea and in the sky, yes; and the airplane was a beautiful series of victories of doing more with less, or more with the same. It was fantastic, what you could get out of the same power system in the sky, and you could get even more electronically

- Cite RBF to Arthur Anderson & Co., (pp.8-9), New York, 13 Jan'74
More With Less: Sea Technology 1 (5)

"So I said I find that people don't even know what buildings weigh, let alone what is the performance per pound, 'what is this building really supposed to do? Well, people say 'that it is merely designed to make money. Then I say that this money concept came out of a great complexity of nature regenerating life through the vegetation. Here you are growing corn but you need some shoes on you, so somebody else making shoes--- he made more shoes than he could wear, and you're

growing more corn, and here we began to have some way of exchanging. And we had a very complex way of exchanging all the things you get into in those tools. So we get into money as a central way of accounting; and with the market, set some values--- but we didn't really know how to assess those things properly. In the end there was a way, because every time we held them up they gave more performance.

- Cite RBF to Arthur Anderson *if*. Co.,
(p.9), few York, 13 Kar+74

See Design Revolution

Ephemerization

Fuller, R.B: 'What I Am Trying To Do

See Design Science (1); (A)

Dome: Montreal Expo *6? Dome Sequence (3) Industrial i'letabolics,
Jul'72 Jet Engine, May'?2

Politics: Political System, 1972* Kevolutlon, Aug'64 Science. 1947

Slang, 28 Apr'71

Tools: Craft Tools t Industrial Tools (2) Weapons Technology Sequence (A)(B) Artifacts, 15 Jun'74 Navy Sequence (3) Acceleration of Change (2)

Doing tfhat Needs to Be Done, 17 Dec'74 Invention, (b)

--alls vs. Airspace Technology, <11 (2) Human Unsettlement, (2)(3)
Building Industry, <101(11)

See Specialization, Dec'69

See Lose: Discovery Through Lose, 2 Nov¹73

See Technology, 1946

Telephone, (1)

flowwgrvTttTfrna, L»62

Conservation of Intellect, (p.303) 1962

(l.e. Customs)

See Inhibit, 9 Apr'40

Robin Hood Sequence (1}

"The great evolutionary engagement of man with the non-eensorially apprehensible yet physical Universe, achieved only through instrumental hook-up as an extension of man's faculties, is utterly dependent upon the integrity of the instrumental functioning and the integrity of functioning of the adult intellect at a level of purity corresponding to that of the four-year-old child's, whereof Christopher Morley wrote in 1922:

"The greatest poem ever known. . . . "

- Cite THE PROSPECTS FOR HUMANITY, Sat Review, 3 Oct*64

: The Greateat Poem Eyer Known:

'•Those fortunate grownups who are able to divest themselves sufficiently from the conditioned reflexes Imposed upon them by yesterday ignorance, often loving and fearful, may regain the coordinate sublimity of the four-year-old child whereof Christopher Morley wrote in 1922:

"The greatest poem ever known. ..."

- Cite RBF Mexico City discourse, 10 Oct'6j

Morley. Christopher: The Greatest Poem Ever Known:

(1)

"The greatest poem ever known Is one all poets have outgrown: The poetry, innate, untold. Of being only four years old.

"Still young enough to be a part Of Kature's groat impulsive heart, Born comrade of bird, beast, and tree And unselfconscious as the bee---

"And yet with lovely reason skilled Each day new paradise to build, Elate explorer of each sense, Without dismay, without pretensol

"In your unstained, transparent eyes There is no conscience, no surprise: Life's queer conundrums you accept, Your strange divinity still kept.

"Being, that now absorbs you,all Harmonious,unit, integral,"

Morley. Christopher: The Greatest Poem Ever Known: (2)

"Will shred into perplexing bits—

Oh, contradiction of the wits!

"And life, that sets all things in rhyme,

May make you poet, too, in time—

But there were days, o tender elf,

When you were Poetry itself."

- Cite THE PROSPECT FOR HUi AMITY, V.'DSD Doc. 3, pp.75-76, Aug'64
- Cite MEXICO'63, WDSO Doc. 2, , pp. 102-103, 10 Oct'63

in 1934, the novelist, Christopher Morley, who had become one of Fuller's closest friends, published these words on the dedication page of his book, STREAMLINES; "For Duckminster Fuller, scientific idealist, whose innovations proceed not just from technical dexterity, but from an organic vision of life."

- Cite Robt. W. Marks DYMAX1U1! rfOKLD UF R.D.F., p.13, i960

See Fuller, R.B:

On Christopher Morley

See Coincidental Articulation Sequence, (1)-(4)

Good: If All the Good People Were Clever, 21 Oct'72

Naivete, 23 Jan'72

Technology: Enchantment vs. Disenchantment, (2)

Morphation:

See Invention Sequence, (C)

Two Kinds of Twoness, (A)

See Chromosomic Programming

Electromagnetic-photosynthetic Programming

See DNA-RNA, 9 Jun'75

Morphology: Living vs. Corporeal:

See Epigenetics, (p.Sj) Kay'72

See Ultramorphic

Kgrphoeia; ^MorpholpgY:

**See Geometry of Vectors, Aug'71 Cyclic Bundling of Experiencea,
May*49**

Cyclic Experience, 1961

Morrison: Philip:

See Sciences: Left Hand & Hight Hand, liay'65

HBF J/EFIKITuhS

Mortal:

"Mortal physical human bodies have the function of providing a regenerative succession of fresh physical vehicles for the mortal--- because entropic--- articulation of metaphysical immortality.*

- Citation and context at Animate and Inanimate, 4 Far'69

Mortals

See Death Ininortality

riortgagization:

'•All our formal accounting antisynthetic, aepreciative, ana entropic mortgagization. meaning death by inversally compounding interest, ./eaias antientropy developes compound interest through synergy, which growth is as yet entirely unaccounted anywhere around iarth in any of its political economic systems."

- Cite uPcKAT1.«U FuH tPACCBHIP liAdTH, p. 95, 1969

ttbi'

"All our accounting today is of nonsynthetic entropic phenomena, e.g., mortgagization. meaning literally--- toward death age. ..ealtn is antientropy and . . . therefore is entirely unaccounted on the operating capability ledger of world society."

- Cite uhVliiuKi-Jii/1 ah J GHAI.GE, Ld. w'.K. r.wald, p. 374 1968

See Airspace Technology Environment Controls, (1)

Everybody's Business, (1)-(J)

Building Business, (2)(3)(5)(6)

Transnational Capitalism k Export of Know-how, (1)-(3)

Building Industry,

Mosaic Tiles:

See Projective Transformation, (J)

See Divide a. Conquer Sequence, (1)

Environment Events Huerarchy, (3) Game of Cosmic History, 27
Dec'73 Stature, 20 Feb'73 Tetrahedron, 20 Feb'73

Universal Requirements of a Dwelling Advantage, (2)

"All the forces operative in Universe result in a complex progression of most comfortable (i.e., least effort) arrangements in which the macro-medio-micro star events stand together here and there as locally regenerative

patterns.”

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes
1965. p. 66.

See Comfortable

Kiss: Locked Kiss

Least Effort

Least Resistance

Minimum Effort

See Balloon, (A) Closest Packing of Spheres, 1965 Dome: Rationale
For. (IV) Equilateral, 15 Oct'04 i Nov'71 Great Circle. 8 fay *73 Ran-
domness. 15 Oct*64 Sphere, 9 Jul*62 Pattern, 3 Oct*72

RdF DEFINITIONS

Eras, Economical • '1

”The most economical is always spontaneous.”

”In my mathematics, synergetic geometry, I am interested in the most
economical relationships between events which is the only way syn-
ergetic geometry says things; it doesn't say the shortest lines.

”Tt would be very easy to integrate the jet streams and all the forces
operating what's the most economical from here to there, I certainly
couldn't help looking at it as a whole. Then I would begin thinking
about a trolley system for the whole Earth. Everything would really go
with the prevailing winds as much as possible. As much as possible
I'd get it West to East: go around one way and not try to go both ways.
You might find it really very quick if we began to get into some of the
advances coming in, getting to the most economical way of handling
affairs. So I'm going to see whether it really pays to buck headwinds,
which maybe you'd never need to. It's very, very important, the big
picture.”*

"Remember the words vectorial geometry: if you want to look for maximum efficiency, you do things vectorially."

- Cite Tape z^r3, pp.11-12; RBF to .V. Wolf, Phila. PA, 15 Jun'74

Most Economical:

"Gravity., is always apparently operative in the most ecorun 1- cal.
i.e., radially-contractive, transformation..."

- Citation *ft* context at Gravity. 23 Sep'73

Most Economical:

"Physics is concerned only with the most economical."

- Cite RBF in Town Hall Lecture, N.Y. City, 12 Mar'71

"Physics is the exploration for the most economical relationships. . . it has to be the most economical order because the physicist is concerned with economy, which is energy, energy efforts. Whatever min finds out about Universe, what ever his confirmations, they are always minim/effort. The different degrees of freedom are anally freedoms, but they are all of minimum effort."

- Cite Oregon Lecture #5, pp. 177-178. 9 JQ1»62

See Geodesic Line, 9 Sep'74

Sep Modelability, (a)

See Most Economical, 3 Apr*75

Economical «'at of Behaving. Relative to Unity **k** Self:

See Octet Truss, 24 Sep'73

bee Economical

Geodesic

Least Effort

Minimum Effort Kost Economical vs. Shortest Most Economical □

Spontaneous Most Economical - Simplest

See Allspace Filling, Jun'66

Chord, 22 Jul'71

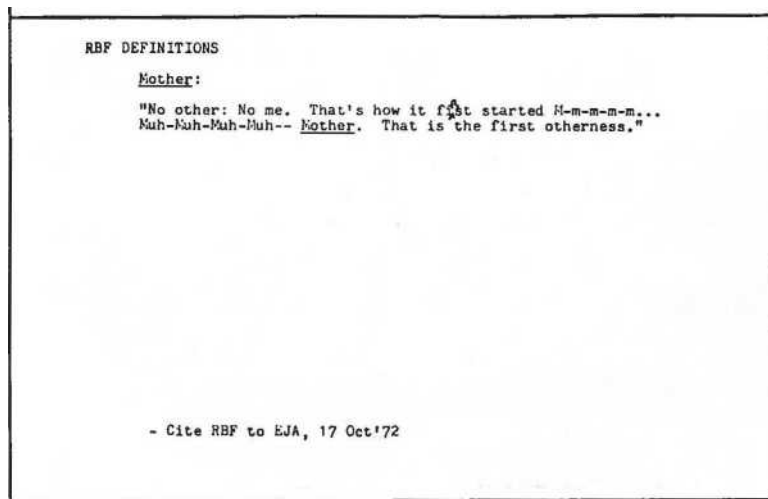
Closest Packing of Spheres Sequence, (1) Comprehension, 1969
Cube, 6 Nov'72 Cube: Diagonal Of 20 Dec'73 Energy Eventt, i960
Focus, 22 Jul'71 Icosasphere, 30 Dec'73 Interterminal, 23 Sep*73
Line, 28 Oct'73; 1971 Nature. Jun'66

Octet Truss, 24 Sep'73

One, 1960

Package, 23 Sep'73 Physics, Jun'60 Quantum Wave Phenomena Se-
quence, (2)

See Scheme of Reference, 24 Sep*73 Short Cuts, 9 l-ay'57 Sphere,
Jun'66; 9 Jul*62 Tetrahedron, 1960 Tetrahedron as Conceptual
Model, 28 Jan'73 Time Vector, 24 Sep'73 XYZ Coordinate System,
(1) Gravity, 23 Sep'73 Six Degrees of Freedom, Dec'71 Symmetry &
Asymmetry, 13 Nov*75



RBF UtFINITIONs

Mothers:

"Loving mothers prohibit here and promote there, often in ways irrelevant to realized evolution. . . Help guard against suppressing in children a profound contribution trying to emerge."

- Cite RBF in AAUW Journal, p. 174, May *65
rtddb JhrlKlTIUtJt

"'...Ve should initiate with operationally verified reality, the first geometrical forms known to humans, the hemispherical breasts of mother against which the small human spheroidal observatory is nestled."

- Cite SYNEHGETICS draft at Sec. 981.19, 18 Nov'72
See Pregnant Mother
See Babbling, 18 Mar'72

Gravity. 16 Jun'73

Other. >9 Jun'71

Tactile Sequence, (1)

'./hole, Dec'72

Apprehension + Comprehend on `` Awareneas, 26 Jan'76

Psychiatry, (1)-(3)

Human Beings tc Complex Universe, (3)

Motion:

"Everything in Universe is in notion and everything in notion ie always traveling in the direction of least resistance..."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 703.12, 10 Nov'73

RbF DLF1UITIU.NL

Lotion:

"All anywhere about man, within and without, is eternally, ceaselessly motion, whether he senses it or not."

- Cite RbF quoted by Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72
RBF DEFINITIONS

Motion;

"Motion is not relative to standing still. Motion is relative to eternity, which is No-time-at-all. No-time-at-all is Inherent in the generalised principles which to be valid must have no exceptions and be eternal, thus eternally true. The beginning of awareness, of intellect, is otherness. The whole complex of different and nonintercontradictory all interaccommodative generalised principles are eternal. Complexity is eternal. The principle of mass interattraction of complex otherness is eternal and relates all this eternal complexity to our eternal system interfunctionings.

"Newton's norm, as disclosed in his first phrase in his first law of motion, was 'at rest.' The stars were 'fixed.* The planets and the moons of planets, as well as comets were in motion because hurled by explosions from fixed stars, etc.

Oito~ "motion¹?

Einstein's philosophy did not hold the speed of radiation unfettered in a unified vacuum to be very fast. It assumed this speed to be normal, and all other lesser speeds manifest in the physical Universe to be occasioned by local interferences, shunting independent phenomena into local circuit reappearings."

3200 Idaho, Wash DC, 27 May*72m as rewritten/RBF

Motion:

"Motion is not relative to standing still. Motion is relative to eternity, which is no-time-at-all. because no-time-at-all is inherent in the generalised principles. The beginning of awareness of intellect--- is otherness, the mass attraction of another which exerts a pull, which relates it all to our system."

- Cite RBF to EJA 3200 Idaho, Wash, DC, 27 May*72

Motion:

"Only the afterimage gives a sense of motion— as in the butterfly"

- Cite RBF to EJA, 1970

Motion;

‘ ‘ The sense of motion is produced by an overlapping continuity of afterimages of a plurality of optically tunable separate and sequentially occurring electromagnetic frequency events just as music is produced for the hearing by a metrically momentumated sequence of both separate and resonantly overlapped sound frequency notes. Motion is visual music made possible by the spontaneous retention in the brain of a series of separate still picture frames of our separate sense experiences scanned and reviewed in the brain at a vastly accelerated sequence rate. Our brain discovers that each successive electromagnetic picture is just a little different from the ones before and our dawning awareness of that increasing difference constitutes our motion sense."

- Citation and context at Optical Motion Spectrum (2)_t 4 Mar'69

Lotion:

"...The relative rates of transformation which we speak of as motion..

- Citation and context at Space, 1968

Motion:

"... We discover that our Earth or any system that we might have reference to is a closed system and comes back upon itself. • . We're dealing in a sphere or a polyhedron. . .

Nor or any of the systems motionless. Our particular spaceship Earth is moving at an extraordinary speed through the sky."

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb '68,- p. 2.

. Motion is only measurable in dimensional units of energy, time, and □□werac*?' which are mostly infra or ultra to the dimensions which personal faculties of man are accustomed to detecting by direct sensing and by conscious awareness of relative comparisons made by himself to previously established measures of any conscious experience with motion.

Thus self-limited he fails to comprehend the astronomical speeds or the infinite host. - Cite NO MORE SECONHAND COD.

.otiom.se PP.38-41, 9 Apr.40

"In his carelessly accepted scenic environment...

"He fails to comprehend the exquisite speeds at which infinite numbers of atomic components course....

"But he cannot see light Which moves at 500 times the speed of the fastest moving propeller tip...

"For, though sensing motion only relatively, and that to limited degree, man has nevertheless measured and fixatingly accumulated first by subconscious stoijajp--- later by records in books--- his constantly re-experienced engagements with motion, such as the days, tides, and heartbeats, and finally music."

- Cite NO MOKE SECONDHAND GOD, pp.38-41, 9 Apr'40

Kotion:

"it is central to my philosophy that everything in the Universe is constantly in motion, atomically if not visibly, and that opposing forces throughout this kinetic picture are always in neat balance; furthermore, that everything invariably moves in the direction of least resistance.

"The history of man's creative effort is the story of his struggle to control 'direction' by the elimination of known resistances.

"To the degree that the direction of least resistance is controlled by vacuumizing the advance and de-vacuumizing the wake, the course of society can be progressively better charted and eventually determinable with a high degree of certainty."

- Citation and context at Rationalization Sequence (2), 1yj8
friction Apprehension:

"Surrounded macrocosmically by and consisting microcosm!cally of a Universe of omnimotion: orbital, axial, convergent- divergent, inside-outing, twisting, and precessing-- evolutionary transformations transpiring at an astronomical variety of speeds and frequencies of repetitive cycle rates, humanity has a very limited range of ipotion apprehending capability, ran cannot see his own spaceship's motion, nor the motion of any of the celestial entities, nor any of the atom's component motions. He cannot even see the big hands of the clock move, nor see the tree grow. Likewise the span of his sensorial tuning-m capability, within the vast ranges of the electromagnetic spectrum of physical realities, is minuscule. Only through detection of the generalized principles operative within the special-case experiences, v/hich his sequence of afterimage senses do apprehend,

is man able to devise step-up and stepdown frequency and Velocity transforming instruments which can convert the nondirectly-tunable frequencies into his sense- tunable range, and thus is man able to learn about the invisible behaviors of his universal relationships."

- Cite BEA:(1ELAKJ STu«Y, galley p.5, 19t>8

Motion Apprehension:

'"Man . . • has a very narrow spectrum of motion apprehension. He cannot see the hands of the clock moving or the stars or any of the atoms in motion."

-Cite Tito-WAR---£000;---barr-'Jose State College Mari6.

- Citation i context at Tunability. Far* 66

Motion Apprehension: (1)

See Afterimage Lags

Invisible Motion

Optical Motion Spectrum

Visual Symphony

See Charts: Economics Charts, 13 Mar'73

Spaceship Earth (e)(f)

Ninety-two Elements: Chart of Rate of Acquisition.

(4)(5)

Tunability. Mar»66

la_k = (1)(2)

See Dynamic Equilibrium, 24 Apr'76

TEXT CITATION

I-.otion Economics:

See Leonardo Type, 10 Apr*73

See

Rest of Universe

See Additive Two, 21 Mar*73

Co-orbiting of Earth & Moon around Sun, Apr'71

Triangular-canuned, In-out-and-around Jitterbug Model.

12 Nov'75

See Triangular-cammed, In-out-and-around Jitterbug Model, 11 Dec'75

Spinnability, 24 Apr'?fe

See Oscillation Precession Tidal

Pulsation

ijjtion: Six. Positive and Negative Motions:

'There are five notions that we are very familiar with and each one of them has a positive and a negative:

- spin (horizontal or vertical)
- orbit (srxnning and orbiting together is dancing)
- turn inside out (that is, anythin? with a hole in it)
- expand iconvergence ar: divergence)

* torque (twist, north pole spins right, other pole left)

'There is a sixth motion which very few pwoole are familiar with called precession,"

~ Cite OREGGL Lecture .4 - p. 143, 6 Jul*62

- Incorporated in SYNERGETICS 2 draft at Sec. 400.6-.

See Energetic Functions

Inventory of Proclivities

Structural Functions

Four Intergeared Mobility Freedoms Six Fiction Freedoms & Degrees
of Freedom Basic Motions

See Precession of Two Sets of 10 Closest-packed Spheres. (2)
System, 2\$ Aug'71 Transformations, 10 Oct'50 Pulsation, 9 Nov'72
Equilibrium & Disequilibrium, (1)

See All-motion Universe Apparent Motion Associability Brouwer's
Theorem Brownian Movement Dynamic Frame of Reference Im-
mobility Inventory of Motions Newton's First Law of Motion: RBF
Restatement Of Newton's Second Law of Motion: RBF Restate-
ment Of Optical Motion Spectrum Orbiting Random Rotate Scenario
Shunting Torque Twist Basic Motions

See Acceleration, 19 Feb'72; 14 Feb'73
Additive Twoness, 17 Feb'72
Afterimage, 1970
buildings as Machines, (2)
Charts: 13 Mar'73
Lecturing, (1)(2)
Omnidirectional: Physical Existence Environment

Surrounds, (1)-(3)

Optical Motion Spectrum, (2)*
Perception, 24 Apr'67
Precession, 6 Jul'62
Rationalization Sequence,(2)*
Ruddering Sequence, (3)
Space, 1968*
Twelve Universal Degrees of Freedom: General Systems,
Universal Joint: Tetrahedron, 9 Nov'73
Universe, 8 Jan'66

Cheese Polyhedra, Nov'71

General Systems Theory, (1)

Motive : Motivation:

See Fear & Longing, 193&

fetor:

See Engine Electric Motor

Mound •

See Snow Mound

Mountain-pass Tie-downs:

See Unsettling vs. Settlements, 20 Sep'76

PWth; Mouthfuls:

See Mental Mouthfuls

Movement:

"The physicists have two ways of clasifying the movements of the universe . . . they have angular and linear acceleration."

- Cite OREGON Lecture j'6, p. 210, 10 Jul'62

Movement: Moving:

See Degrees of Freedom Immobility Motion

Moving Picture:

"I find that unless people see things move they don't pay much attention to them.'*

- Cite World Game (A), Feb'73

"It is the nature of all our experiences that they begin and they end. They are packaged. For instance we see, in 60 separate picture frames per second as in a moving picture continuity. Each frame is a finite increment. Our brain's afterimage lag is so powerful that it

gives a sense of absolute 'eccentricity* to our only-subconsciously packaged •seeing.' We wake up and go to sleep. Our experiences are all finite beq&yse they all begin and end. An aggregate of finites is finite. Therefore the Universe, which includes both physical and metaphysical, is finite."

- Cite NASA Speech, p.32, Jun'66

Sec *Sai*.OX

See You it I as Pattern Integrities, 22 Jan'75

See Afterimage

drain's TV Studio

Moving Pictures Hun Backwards Scenario Universe

Single Frame

See Child Sequence, (3)

Dynamic Frame of Reference, (6) eccentricity, Jun'66 tags, (1)(2j

•/orId Game, 4 Mar¹69; Feb*73

Structural Sequence, (C)

Frequency Islands of Perception, 13 Nov'75 Machines vs. Structure,
13 Nov'75

i-iozart:

See Thinkable You, (1)

uch: Muchness;

(1)

See Subtlety 6c liuchness of the Unfamiliar

no

Se Cosmic Accounting Sequence, (1) Modules' A &. B Quanta Modules, 18 Oct*72
Compoundings of Systems, 10 May*76

Mullion:

See Window, 22 Nov*77

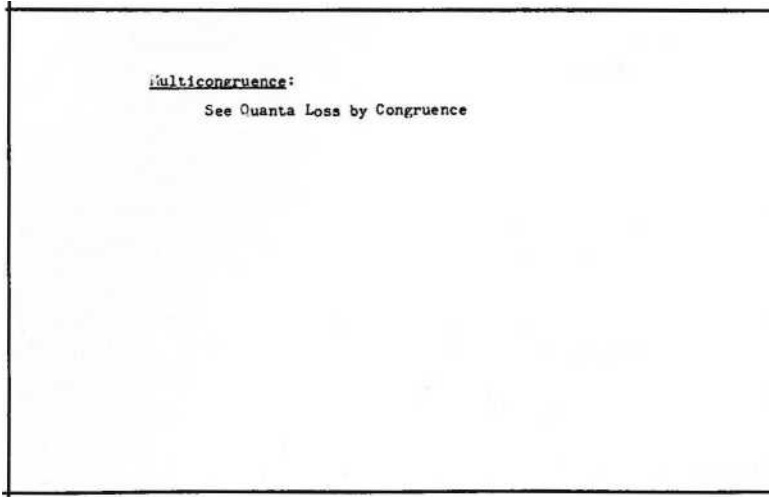
Multlatory ;

See Single Atomic vs. Multiatomic

See Halo Concept

Multiorbital

Tree Rings of Experience



KBF DEFINITIONS

"Frequency is multicyclic fractionation of unity,"

- Cite SYLcRGUTICS, "Corollaries," Sec. 240. 51. 1971

teletdrametric:

(1)

See Omnidrametric

See Radiation, 2J Sep'73

Multidimensionality: (1)

"Multidimensionality has a center

"Multidimensionality has an inherent modular center.

"Multidimensionality has a volumetric center.

"A multidimensional mass has a center of gravity.

"Cube has all three of above.

"You cannot make big tetrahedra or octahedra out of littler tetrahedra or octahedra respectively. Octahedron and tetrahedron may not be realized independently of one another.

"Tetrahedron is inherently positive or negative. It is not multidimensionally modulatable except in frequency greater than two, which is unity. Tetrahedron cannot be realized out of tetra alone; ergo, has an octahedron.

"Whereas a cube etd-2 has eight cubes around one central point, vector equilibrium edged-2 has a volume of 160 tetra around a central point."

- Cite RBF holograph scroll, Pacific Palisades, 11 Sep'63

Multidimensionality: (2)

"Inside cube of tetra volume of $192 = 2^3 \cdot 3$. $160 = 2^5 \cdot 5$.

"Unity in tetramension 2^5 ; i.e., two to the fifth power times five.

"Where vector equilibrium $\ll 5$

cube ≈ 6

§ - 1

"The sum of all relationships, i.e., understanding, is tetrahedral.

"A cumulative tetrahedral matrix of successive relationships of our additional experience interrelationships, the sum of all interrelationships, means understanding of all experience interrelationships."

15,268 Earham, Pacific Palisades,

- Cite RBF holograph scroll CA; 11 Sep'63

RBH DEFINITIONS

"Vectors---as with all real experiences---are inherently terminal. The relative lengths of the vectors are the products of the mass and velocity of the energy events, as expressed in unified scale in relation to other co-occurring energy events. All co-occurring vectors have unique angles of direction as angularly referenced multidimensionally to a given observer's system axis, spin orientation, and system-orbit direction at the time of observation. All angularly referenced relationships inherently involve fourth-dimensional accommodation (and fifth-power accommodation when referenced to the cosmic scenario). These relationships can be conceptually comprehended in synergetics but can be expressed only in complex formula terms in the XYZ-cgs system."

- Cite SYNnKGETICS, 2nd. Ed. at Sec. 540.41; RBF rewrite of

11. Dec'75

See Pauling, Linus, 1965

Multidimensional Tapestry;

See Status Quo, 15 Sep'71

See Invisible Circuitry, (1)(2)

Matrix, 13 Nov*69

Synergetics, Dec*61

Vectorial Geometry Field, 22 Nov'73

See Individual Universe, 28 Oct'73 Universe, 5 Feb'56 General Systems Theory, (A)

MultienerEied Complex:

See Triangle, 9 Nov*73

Haitiexperience;

See Out-lining, 22 Nar'76

See Individual Universe, 28 Oct*73 Universe, 5 Feb'56

See Degrees of Freedom

See Field of Cosmic Formabilities, 28 Jan'73 Scheme of Reference,
26 Sep'73

See Multiconcentric

See Ecology Sequence, (2)

dBf DEFINITIONS

Multiorbital,:

' 'Regenerative means nultiorbital. cyclic, precessionally concentric.'¹

Citation and context at Regenerative, 1960

See Dual Personality

Split Personality

See Fairchild Camera, 1938

Self-now, 1938

See Chemical Bonds; Quadruple Bond, 1y Dec'7J

frlulU Plication:

by separation.”

- -Cite 6yrn-ry.eti ioo Draft at See >--l>oe- x-?4-
- Citation at ConpraBalon,. Doc'71

multiplication:

. • A Latin,

Living in Carthage in North Africa,

Wrote the fii*-st treatise explaining what the cipher made possible:

‘isijii.silisaiAaa,
Which with Roman numerals,
Had been impossible.

Consequently, few significant calculations had ever been nade.

Ko matter how intuitively

A man might have felt about the science of falling bodies,

He could never arrive at any valid conclusions
Without multiplication.”

- Cite NUMEROLOGY Draft, April '71, p. 6

"Quantum mechanics assumes conservation: Energy can be neither created nor lost. Cosmic energy is plural or synergetic unity: there may be infrequent big events or frequent little ones. Multiplication can be only by

"The show opens with only experimentally demonstrable physical proofs. All proofs---and their explicitly manifest whole rational numerical values---derive exclusively from subdivision of the minimum-physical-system tetrahedron. There is no multiplication involved in the refractionation of ~~minimum~~ structural systems of Universe."

- Cite STNERGETICS 2 draft at Secs. 100.07 +.0\$; 20 Jan*77

"If expanded by unit radius, sphere-colonized, omniembracing, concentric layer multiplication, additional new locally operative nuclei are progressively born with every four successive concentric generations of symmetrical omniembrfcing layer multiplication. We use here the concept of multiplication only by division of the conceptual sizeless whole in a greater number of coordinate parts.

a Cite RBF rewrite of SYNERGETICS galley at Sec. 445.01,
4 Nov'73

"In synergetics--- as in quantum mechanics--- we have multiplication
only by division."

- Citation and context at Unity of Universe. 24 Sep'73

BHHB Multiplication By Dlylapp; "Multiplication ia accomplished only
by division. Universe expands through progressively differentiating
out or multiplying discrete considerations."

- Cite OMNI HALO. p. 134 as amplified by KBF in Synergetics draft Sec
614.01 - 19 June 1971.

See Bits: Bitting Differentiation Division

See Compression, Dec'71

Division, 1960

Expanding Universe, 19 Jun¹71

God, Oct*66

Infinity & Flinity, (2)

Starting with Universe, 31 May¹75 Unity of Universe, 24 Sep*73',`

Tunability, 24 Apr'76 Radiation, 11 Feb'76

Multiplicative Twoness:

"... Concave-convex, non-mirror-imaged, exclusively- and-only-
cofunctioning, multiplicative twoness."

a Cite Ltr. to Dr. Itobt. W. Horne, 14 Feb '6b, pp. 3-4

**"The multiplicative twoness is one of the constants of relative abundance. The
multiplicative twoness is inherent in the disparity of the convexity and the concavity
of the system."**

- Cite SYNERGETICS Draft, June 1971.

See Heavenly Twins

Duality Twoness

Synergetics Constants

Twoness: Additive & Multiplicative Two Kinds of Twoness

Unity as Two

See Axis of Spin, (6)

Constant Relative Abundance, 29 Nov*72

Synergetics, 29 Nov'72

Vacuim, 1y Feb'72

Somethingness, 16 Nov'72

See Intermultiplicative

Poweri ng

"X" as Symbol of Symmetrical Expansion

See Special Case, 8 Feb'73

Individual Universes, (1)

ryiUramificaUpng:

See Tetrahelix: Continuous Pattern Strip, 19 Dec*73

J'klt.XreBOWERinES

See Scheherazade Numbers: Declining Powers Of 22 May*75

tiulclrearoduction:

See rteproducible. 1968

Multivalent:

See Bivalent Tri valent Quadrivalent Octavalent Bonds: Bonding,

j-hrder ?

See «Var, 10 Dec*73; 13 Dec*73

Muscle •

"Muscle is still in the saddle of world affairs.¹

- Cite RBF to Sanate Foreign Affairs Subconriitee, 15 May*75

fruscle & fteflex Jobs:

See Population explosion, (2)

See Desovereip:ni«ation Sequence,

(4)(5)

See Invisible Muscular Field

Mind Over Muscle

See God, 10 Feb»?3

DlviJ & Conquer Sequence, (E)

Museum:

"Some large number of human beings will be engaged in archaeological research as humanity will want to know a great deal more about the historical occupancy of our planet by humans. The important original buildings of huimnity will be rebuilt or restored as Babylon is now being rebuilt, and artifacts from world-around museums will be returned to original sites and reintroduced to function as of yore. Thus research teams can live experimentally at various historical control periods of history thus to elucidate much of the wisdom gained in the past."

- RBF interview/by Philadelphia journalist given to Stwwart Brand for Co-Lvolution Qtrly., Francisco, 9 Jan'75

kuseum:

"In Thailand archaeological diggings have been badly plundered. They need protection and I have been asked to design a geodesic dome to lock up the sites. This will be a very economical unit and could become a local museum after the work is finished, rather than have the excavated objects taken somewhere else."

- Cite RBF to Australian Journalist Jane Ram; Hongkong, 17 Dec'7k

Museum:

"The Duseuia la unquestionably one of the Dost extraordinary spontaneous educational tools of the reorientation of humanity today."

- Cite RBF at Museum's Keynote Address, Denver, 2 Jun'71

S®@ Tool of Reorientation

{2)

Feb'75

Seo Private Property, undated Froepecta for Hunanity, 1 Technology, 22 Jan'75

Music:

"Popular music is getting more and mor* noisy, raising more and more of a row; it is purely physical."

(3)

- Citation and context at Eternal Slowdown, circa 1970 A

Music:

"...Music is produced for the hearing by a metrically momenturned sequence of both separate and resonantly overlapped sound frequency notes. Motion is visual music made possible by the spontaneous retention in the brain of a series of separate still picture frames of our separate sense experiences scanned and reviewed in the brain at a vastly accelerated sequence rate..."

- Citation and context at Motion. 4 Mar'69

Music:

"Music is design..."

- Citation and context at Design (1}, 9 Apr'71

Blank Music Linen:

See Consciousness, 1971

See Invieible Architecture, (0)

Muaic Stand*

See Force Diagram as Kusic Stand Form

See Basic Notes

Canned Music

Chords t Notes Flats i Sharps

Heard & Unheard Resonances

Harmonic: Harmony

Mozart

Note: Notes

Radio Set is Not the f'kislc Visual Music

Visual Symphony

See Acceleration. 1970

Design (1)*

Dwelling Service Industry (6)(7) Eternal Slowdown (3)* Frequency,
1970

Invisible Aesthetics, 1968

Invisible Architecture (B)(C); (A) Motion, 4 Mar'69*; (2) Precession,
Nov'71; May'72 Pythagoras (1)(2)

Surf Poundings, Spring'66 Standardisation, 13 May'30 Thinkable You,
5 Jul'62 Verb, Aug*72 Octave, Jun'69

Nature Permits It Sequence (2)

Pole Vaulter, 2 Jul*75 Nonsimultaneous, May*71 Energy Involvement
of 92 Elements, (1) Verse vs. Prose, 11 Dec'75

Mites & Quarks as basic Notes, (3)

Musical Chairs:

"It's no longer a matter of pulling the top down, or Jailing the heretics.
It's pulling the bottom up, and every body can be brought into the
success we'll all enjoy.... The top can react as it will. To the extent
that it's not thinking, it'll be fierce.... They'll pull every trick they can
just when they don't need to anymore.

"We've always played musical chairs. You start with 100 people
and 99 chairs. Well, you could play it another way. You could start
with one chair and a thousand people. That was the old condition
on Earth. But then you begin manufacturing a few more chairs. The
players increase but the chairs increase faster. Now we know that
the chair manufacturer can make enough for everybody to sit down.
When there was only one chair you felt pretty god damn exclusive
when you sat down."

- Cite RBF to Barry Farreli; Bear Island; Tape #9, Side A Transcript pp.
2-3, 23 Aug'70

See Improvement, May'49

Mute Communication;

See Communications Hierarchy, (1)

Mited;

"Muted: i.e., with action suspended as in a holding pattern...

- Citation 4 context at Mite 4 Coupler, 13 May'73

Muted:

See Neutral, 1 Feb*75

See Individual Freedom vs. Mutual Emergency

"It is mathematically probable that the unprecedented physical and geographical magnitude of the United Nations' war effort will win a military advantage over the unprecedented military challenge to the as yet adolescent cause of democracy.

"However, the educated individual, thinking responsibly upon the problems that confront personal, family, state, and national fate, if not survival of the human race itself, is well aware that a military advantage gained over the enemy, no matter how tactically incisive, cannot represent a solution to the greater problems in principles governing a workable system of mutual survival.

"The unheeded challenge of these overgrown mutual survival problems themselves precipitated the war. Rather than diminishing in the emergency, they have been heightened in degree of general recognition and of popular language definition. Because the problems are now total in scope and therefore astronomical in dimensions, there is a tendency to assume that the answer must be found in physical plans of unprecedented might.

- Cite Introduction to Motion Economics; May'll

RBF DEFINITIONS

"In contradistinction to the latter assumption, the body of thought here presented holds that solution lies not at all in physically Gargantuan innovation but rather in the direction of exquisite and delicate universal attunement of the individual and ergo of society in general, to truths and principles everywhere at hand.

"While some of these principles have already been theoretically accepted, few have been realistically digested, because they have never been compounded to reveal their integrated dynamic significance.

"It is the second principle of this thesis that no one can 'tell' another something they do not already know. One can report events to others, but beyond that one can only communicate developing awareness of the significance in phenomena also experienced similarly by others. Significance--- itself a relative phenomenon---is developed by correlation. And significance is increased by compound correlations.

"Pursuit of this theme leads to unveiling of a natural panorama, systematic and reassuring in its revelation of"

- Cite Introduction to Motion Economics; May*44

• vival Principle,

(3)

"universal orderliness. Development of such progressive significance must start, however, with reinspection of the seemingly simplest yet most profound phenomena of experience, i.e., the thought communication processes.

"If the reader will take heed of each of the first ingredients of the problem---no matter how seemingly familiar---the whole thesis will soon move to form into subassemblies of significant thought. Ultimate function of the subassemblies of significant thought, if not at

first obvious are soon intuitively recognised. This in turn will develop progressive awareness of a dramatic grand ensemble of principles governing total world economic integration by science-paced industry.

"The third principle of this thesis differs widely from the popular misconception that man has 'built up a body of knowledge' as a synthetic stockpile of mental stuffs accumulated on shelves of brick buildings requiring experts and even colossal mentalities to interpret. This third principle has it that the universal phenomena always exist--- that man out of a chaotic sensorial relationship to his Universe, has" from time to time transcended his confused self-preoccupation¹?

- Cite Introduction to Motion Economics; May'44

"long enough to dimly discern those phenomena of ever present universal and dynamic principles. That learning, instead of 'advancing' as a progressive invention of accessory complications related only to the affairs of 'civilised' man, is instead a process of progressive simplification to universal reality. That the answers are always so simple as usually to be overlooked. For the grownups this means unlearning, or divestment of error.

"In view of this premise of infinite and omnipresent wisdom to be progressively discovered as principles of sublime simplicity, we also discover the initial advantages accruing to the scrupulous humility of creative science."

- Cite Introduction to Motion Economics; May'44

See Intersupport Complementary Reciprocal

See Awareness. 6 Nov'72 Ecology, <5 Feb*73 Pattern Generalisation, (1)(2) Words, 12 Nov'75 Pronouns: I - We □ Us, (1)

Myopia: Incaatlng YC. B_{rp}fldcAg£lw

"... There are great varieties of periods of nonmeshing which altogether make the physically observed totality appear to take up ever more room, anywhere within which expansiveness the locally predominant events occurring within short spans of time appear to be omnidisorderly.

"When we compound that realization with the now-known millionfold greater span of electromagnetic reality and the lesser span of direct sense ranging of the human organism, we begin to comprehend how readily humanity fits into the trap of dismay, fear, and negativism in general.

"Impatience engenders further myopically disorderly incrementation of information receipts. Those who are impatient for the receipt of the next news broadcast are only beguiled by negative information. That is what myopia looks for. Chronic shortsightedness spontaneously seeks and tunes in only the broadcasted entropy. Syntropy incases in contradistinction to entropic broadcast. Syntropy can be apprehended only through overall or comprehensive review of the totally recalled information of long-term experience.'*

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1052.58; RBF rewrote of 22 Jan'75

Myopia of Yeaterdag:

See Boltzmann Sequence, (4)

See Theoretical Myopias

See Obvioua, Jan*72

Myriad :

See Reduction of Myriadness to Unity

I Wgulfl LjKfi ,t£ bfi MY8elf-

See Identity, Kay¹⁷⁰

Mygterioug Source:

See A Priori Mystery, 8 Mar'73

Mystery?

"Mystery ie nonconsiderable: subordinate and superordinate.

- Cite RBF to EJA, J200 Idaho, Wash.,DC. ; 24 Jan'76

Mystery:

"Mystery is not properly accredited. Newton's mass Interattree tion le sublimely reliable--- but why an absolute mystery? Because no constant eharacteristies of the respective interattracted mass entities foretells their second-power rate of change of interattractive integrity as their relative proximity varies.*

- Cite RBF to Tale students at Berkely College breakfast, New Haven, 10 Dee'73; rewritten by RBF 1j Dec'73

hmedX:

"Mystery 1b not properly accredited. Newton*s nasa attraction 18 sublimely reliable--- but an absolute mystery!*

- Cite RBF to Yale students at Berkely College breakfast, New Haven, 10 Dec*73

Mystery;

I spend every waking moment'Mn a world of absolute mystery."

(In the context of describing the role of intuition in life.)

- Cite HBF to Joyce Z. Applewhite, J200 Idaho Avenue.

Washington, DC, 2 Oct. 1971.

See A Priori Mystery

Absolute Mystery

Inexplicability

Integrity

Life's Original Event

Mystery of Totality

Objective Intellect

Unexplained: As-yet Unexplained Unknowable

Pyramid Mystery Cults

Mystery ?

(2)

See **How Little I Know. 1 Feb'75**

Perceptual Peephole as Fraction of Reality, Dec'69 Synergetics, 19
Jun'71 Mistake, 7 Nov'75

Mystical;

"Complementarity requires that where there is conceptuality there must be nonconceptuality. The explicable requires the inexplicable. Experience requires the inexperienceable. The obvious requires the mystical. . . "

- Citation *k* context at Complementarity. 12 Sep'71

- to Beverly-Hotel , New York ~_f 12 Sept. 1971.

Mystical:

"'Why universe?' is at present an unanswerable inquiry into the mystical. Though 'mystical' sound like a contraction of 'metaphysical.' they are not the same. For this reason, I consider all the time spent in speculation regarding the inherently unanswerable to be inherently profitless and a squandering of the opportunity to answer those questions which are answerable by man.

"It is, however, experienced by us that the undjswerables provoke a sensation in us to which we allude--- only'* intuitively--- as 'mysterious.'"

- Cite DOXIADIS, p. 311, 20 Jun'66

See Synergetics, 19 Jun*71

Young World, 28 Apr'71

See Christian Legend &. Philosophy

Custom: Lest One Good Custom Should Corrupt the World

Galahad

History

Pandora's Box

Robin Hood

N

RBF DEFINITIONS

N:

"fP " Prime Number

"A capital N is a precessed Z,

"Z - Vector,"

- Cite ABF to EJA

Beverly Hotel, New York 7 Far ch 1971

"Goldy then introduces Naga, the sea serpent: god of the oceanic world of the ancients. Naga is the wave. Naga is a live tetrahelix. At sea the wavelinear profile of Naga's back always rims the horizon.

"Influenced by the language of previous millennia of long distance ocean-traveling sailors coming originally from the atolls of the South Pacific and Indian Oceans into the Arabian Sea to reach Mesopotamia, and by the subsequent tracing of those world-encircling, deep sea routes by the Phoenicians, the ancient Hebraic language of the earliest Biblical scripture came to contain the word nachash. which means 'serpent,' or 'whisper,' or 'divine,' (the ch being a guttural or 'g' sound); i.e., naga and nachashot" (or nagashol) means the sea, and the root verb Nacha (-naga) means to lead, conduct, guide, and Nacha (pronounced naga) is also the name of the ancient seafarer Noah. (O) (A) (CH--- Noah.

"Nachan* (pronounced nagan) is the word for copoer or bronse alloy, the latter being the high-strength form of the nonrustable metal with which all ship fastenings, fittings and instruments have of necessity been fashioned since copper's first discovery,"

- Cite GOLDBLOCKS, pp, 11,12, 30 May'75

Naga: (2)

"and its alloyed production as bronze by humans 5»000 years ago at Ban Chiang in Thailand, where the bronze age first took over from the stone age, in what was once a Venice-like complex of canals leading from the sea into all of the Southeast Asian lowlands on the Indochina coast nearest to all the seafaring activities of the Southwest Pacific in the region where the Naga nation long ago came off the sea and out upon the mainland, and as yet lives, where Hanoi now exists.

"Two thousand years ago there existed a place called NCanna.

"This bronze age birth occurs at the final peak of the Austronesian civilization, of which there are evidences going back 16,000 years or more. These ancient water peoples' world embraced the Central and South Pacific, South Indian Ocean all the way westward to include Madagascar, and all the way eastward to include Easter Island, and all the way northward to include both Japan and the Hawaiian Islands, and southward to include New Zealand. This is the world of Naga, the *na' prefix' being the 'na' of na-vy; na-tivity; na-vi-ga-tion; na-tion. 180 million of these Austronesians as yet are alive and many are as yet living with the same maritime and insular artifacts as those of"

- Cite GOLDBLOCKS, p.12, 30 May'75

Naga: (3)

"their possibly millions-of-years-ago forbears.

"When the god of the sea, Naga, tidally enters the river mouths of the land, as seen from the high mountain, his snake shape is clearly revealed by the river's shape. The Japanese word for river, •Magala,' indicates that the ancient water people looked upon the river's banks and bed as constituting the female organ of the land being sexually intruded by Naga, the god of the sea, as the oceanic tides pulsed inwardly and outwardly for great distances at the lower extremities of the rivers. The early humans sensed and revered the greater pattern events of Universe as manifesting an ever and everywhere presence of a knowing, life-giving, supporting and terminating competence vastly greater than that of humans. They saw themselves and all that they could see, including the Sun, Moon, and stars, as having only minuscule local parts in an organic whole whose shape and site transcended both the ranges of their vision and the scope of their imagining."

- Cite GOLDYLOCKS, p.J1, 30 May'75

Nfirca to Msa:

"I work on different books at the same time— like a painter. Kaga to Eden goes from a speculative prehistory to the stage of humanity gradually coming out of the Pacific onto the land. I've been exploring that side of history since I was in the Navy in World War 1. This book will reconstruct history from the sailor's and shipbuilder's viewpoint,"

- Cite RBF to Australian journalist Jane Ram; Hongkong, 17 Oct*74

Naja.: Haza Theme: Haga to Eden:

(1)

See Rafts: Early World Drifting on Rafts

Secrecy of Mathematical Knowledge

See Diacovary, 11 Jul'62

Nail:

See Wind Stress 4 Housing, (1)

RBF DEFINITIONS

Naiveto:

"Naivete means not knowing it all, not being a aucker about everything, not pretending to know about the safety rator in the pyramid. Too many people miss things because they dismiss them when they think they know all about them. De as a child and a child is naive. Adults say young people must get over that sensibility but I say we must open it up again. I feel very much about life as I did as a child. Once I was blase about flowers as something for funerals but now I try to look at a flower as a child seeing it for the first time."*

- Cite RBF in videotaping session, Philadelphia. PA., 1 Feb*75

Naive:

"I often think that the motto on the shield of Milton Academy--- "Dare to be True"--- ought really to have been "Dare to be Naive." In 1927 I tried to recapture what it was to be young, to recapture naivete . . . , which is innate I wanted to recapture the innate.

"Man cannot invent naivete: it is innate.

"Like Chris Morley's poem:

In your unstained, transparent eyes There is no conscience, no surprise
Life's queer conundrums you accept Ypur strange divinity still kept.

So I think that divinity and naivete must be akin."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 23 Jan *72;

RBF DEFINITIONS

NaivetS:

"Much of the most exciting and important part about tomorrow is not the technology or the automation at all, but that man is going to come into entirely new relationships with his fellow men. He will retain much more in his everyday relations of what we term the naivete and idealism of the child. This will be completely justified and not exploited or exploitable in any way. I think then that the way to see what tomorrow is going to look like is just to look at our children."

- Cite THc. YEAR 2000. San Jose State Collegi Mar'66

See Creativity of Children

Dare*to Be Naive

How Little I Know

Invisible: Nothing bo Invisible as the Obvious Spontaneous Truth of Childhood

Unknowable

See Tomorrow, Feb'67

(2)

Children as Only Pure Scientists, 28 Apr'77

See Ecology. 15 Feb»7J

Anger, (1)(2)

Naked Universe:

"Pure science events represent openings of windows through the wall of ignorance and fiction to reveal the only- reality--- the behavior of the naked Universe that always was, is, and will be. True it is that the first glimpse may be hazy and imperfect, but the behavior itself is absolute and progressively clarified. Therefore, this comprehensive

curve of the chronological rate of acquisition of knowledge concerning the pure science absolutes, separated out from all other events of history, may be inspected as the basic means of prediction of inherent technical and social events --- immediate or somewhat distant."

- Cite--EarthKlInc., Part II, Fuller Research Foundation, p.13, 1947
(Aiae-eiied at Science, 1947)

- Citation & context at Science, 1947

jiaXed UIUTOCW

See Reality, 1947

(1)

See Helpless: Humans Born Helpless

Naked Girl on the Bed

Naked Universe

Stark

See Monosexuality, 1972

Names:

"The brain has a limited number of memory cubbyholes for names, like a stack of magazines. When the Smith smithed and the Miller milled it was clear and easy to remember, but once 'Miller' becomes a sound word it has to be filed in the limited place for names.**

- Cite RBF videotaping Session Philadelphia, Pa., 20 Jan'75

RdF DEFINITIONS

Names:

"Names don't have meaning, therefore they are harder for our mental retrieval system to remember."

- Citation & context at Thinking. 12 Mar'71

See Angular Name for Tetrahedron Local Identifications Number:
Names for Numbers Remembering Names Sound Name Untitled
Sound Word Interrelatedness vs. Names

See Environment. 22 Sep'73 Etymology, Aug*71 Human, 22 Sep'73
Memory, 2 Jul'62 Noun, 1938 Rationalisation Sequence (6) Televi-
sion, Feb'73 Trinity: Equation of Trinity, 1938 Thinking, 12 Mar'71*1
6 Nov'75 Iceland, 7 Bct»75 Democritue, 1970 Teleology, 1938 Sub-
conscious, 20 Feb'77

Nameless:

See Ineffable

Pattern Integrity □ Untitled Nonverbal Wordless

Phenomenon Without Name

See Conversation Sequence, (1)(2)

Self-communicate, 8 Apr'75

Narcotica as a Political Strategy:

DSI Press Conference, NYC, p. 17, 28 Jun'72

Playboy Interview (Barry Farrell), p. 200 - Feb'72

See China (A)

Nation:

"All the customs, all the languages, all laws, all accounting systems, viewpoints, cliches, and axioms are of the old, divided, ignorant days. The corollary of 'divide and conquer' is 'to be divided is to be conquered.' To be specialized is to be divided. The specialization which humanity perseveres in was invented by yesterday's armed conqueror illiterates. The separation of humans into more countries made them easy to manage. Nations may unite, as at present, without success. Strife is proliferating. Not until specialization and nations are dispensed with will all humanity have a chance of survival. It is to be all or none."

- Cite RBF Intro, to Gene Youngblood's EXPANDED CINEMA. P. 32 Oct'70 *

Nations As Inventions:

See Inventions, 9 Feb'64
See Countries
International Affairs
Invented National Hates
Local Identifications
Overspecialization of Biological Species &. Nations
Sovereignty
Transnationalism
Transnationalism vs. Colonialism
United States is Not a Nation
United States
Ethnic
Race
Homogenizing of Nations
Settlements
See Invention, 9 Feb*64

Revolution by Inadvertence, 10 Oct'63 ./orId l-lan, 10 Jun'71

World Pattern vs. Local Pattern, 29 Jan'75

Naga, (2)

Building Business, {2} Spaceship Earth, 21 Jan*77 Enough to Go Around, (2)

Natural:

"The child's book of ducks and pigs was as unfamiliar as a polio virus to our child Alexandra as an infant.

"When people say something is 'natural' it means that's the way they found it when they checked in. Our parents' traditions are just no longer appropriate. What's natural for them is not natural for their children.

"If you were a lily you might think you'd grow up as a seed and not be at all prepared to become a flower.

"Unfamiliarity / unnatural."

- Cite RBF videotaping session, Philadelphia, Pa., 20 Jan'75

Natural:

"And people talk about artificial and we point out that if nature permits it, it's natural; If nature doesn't permit it, you can't do it

- Cite HBF Saturn

£?, Wo £ld Gaae at 11 Studio School, 12 Jun-31 Jul'69 Film Transcript, Sound 1, Reel 1, pp.83-84.

Natural:

"If nature permits a formulation It is natural.

If nature's laws of behavior

Do not permit the formulation

The latter does not occur.

Whatever can be done

Is natural,

No matter how grotesque, boring, Unfamiliar, or unprecedented.

In the same way

Nature never 'fails'.¹

Nature complies with her own laws.

Nature is the law.

When man lacks understanding Of nature's laws

And a man-contrived structure

Buckles unexpectedly, It does not fail.

It only demonstrates that man /Man's knowledge or estimating
Did not understand \Was inadequate.

Nature's laws and behaviors. JZ"

.Nothing failed., ———

Cite HOW LITTLE I KNOW, Oct. '66, P. 55.

See Periodic Experience, (S)

Natural law:

"... Those generalized principles constituting natural law.

-For citation and context see China. May '65

Marriage of Social & Natural law

See Relativity;

Natural Uw: (2)

See Generalization: Second Degree, 1959

natural Time Increment:

See Heartbeat

Time Increment

Nature:

"Nature doesn't have goods and bads. We must get away from this
idea of good and bad people."

- Cite RBF to EJA, Pagano's Rest., Phila., PA, 22 Jun*75

Nature:

"Nature has never at a loss about what to do about anything."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 504.03, 6 Nov'73

Nature:

•»N - Nature: The totality of both all that is known, U (Universe), and
all that is unknown, O. N is the integral of all the integrities always
manifest in the progressively discovered generalized eternal princi-
ples."

- Cite SYNERGETICS text at Sec. 1056.13, 13 toy'73

Nature

"Nature is all that we think that we do know plus all that we don't know whether or not we know that we don't know. Whatever nature permits is natural. If nature does not permit it, it cannot and does not occur."

- Cite SYNERGETICS draft at Sec. 1056.02, 13 May'73

Nature:

"Nature la all that we think we do know plus all that we obviously don't know."

- Citation and fc context at Unknowable. 8 Mar'73

Nature?

"Man does not recognize technology other than his own so he speaks of the rest as something he ignorantly calls nature."

Context and citation at Technolorv. 13 Mar'73

Nature:

"Nature has a very basic pattern governing frequencies and energy event magnitudes*"

- Citation and context at Universal Requirementa of a Dwelling Advan-
tage (1), Dec'72

Nature:

"How do you get nature to keep you going? You don't know why the little thing grows into the big things, but it does. And you've just got to take advantage of that fact."

- Citation and context at Fire (B), 20 Apr '72

rtBF DtFIM'ilUhS

Nature:

"Little man is not running this Universe. If nature permits it, it's natural. If it's unnatural, nature doesn't permit it."

- Cite KBF to LJA recapitulation of a common theme, J200 Idafeo, DC, 13 Feb. '72

Nature t

"Nan has invented the word 'failure.' Nature never fails; nature never goes backward."

RBp qUOted by Lee Dembart, New York Post. 26 April 1971

Nature:

"l.ature has matheuatic behaviors."

~~-----
17 March 1971~~

- Citation at Mathematics. 14 Mar*71

Nature:

"I am very eager to have humanists participate with me in my feelings about the phenomenon of technology--- a word that is bandied about constantly and often thought of as the cause of our troubles and pain, I do not see technology as something that is foreign to man. I hear the word 'natural*' and I hear the word 'artificial*' and I am convinced that those words are words of ignorance,

"I am convinced that whatever nature permits is natural, and that which nature does not permit, you cannot do.

And if nature has this as a generalized principle, it has in it the option that man can employ to alter the environment to the advantage of his fellow man. There are ways in which you can alter the environment to decrease the freedoms of your fellow man. But you can also go very far in increasing his degrees of freedom and accelerating the rate at which he can comprehend, communicate, and be effective. That is what we are doing,**

- Cite CO5u- JTt-'.E-NT TU HUMANITY, p. 32, May'70

Nature:

"Nature never pauses her cycling at the equilibrium phase. She always closes her transformative cycles at the maximum positive or negative asymmetry stages.

See the delicate crystal asyninetry in nature."

- Cite NEHRU SPEECH, p. 27 13 Nov'69

Nature:

"There is nothing in nature but structure.'*

- Citation and context at Trees (I), 7 Nov'67

Nature;

"Nature always employs the most energy-economical tactics.'*

- ~~Pile. Gaibomlditr Draft-~~

Nature:

"Nature, which is ever pulsive and impulsive, refuses to get caught unrecoverably at the zero phase of energy. Therefore there will always be positive and negative sets which are ever interchangeably intertrans- formativel with uniquely differentiable characteristics."

R>tnmn~e--~~ModelabiXitx D. JtTtb~~

- Cite NASA Speech, p. 83, Jun'66

Nature:

"We have vector equilibriums mildly distorted as nature goes positive and negative in respect to the equilibrium and everything that we know as reality has to be either a positive or negative condition."

- ~~Cite CaFbendaJjB-OeaX-e-~~

) i t.y t p,, Y.16

- Cite NASA Speech, p.83, Jun*66

Nature:

"Nature does not use rectinear coordination in its Continual inter-transformings."

- Cite NASA Speech, p. 23, jUn *66

Nature;

"Nature always Insists on being most economical. Nature 'triangles.' Nature accounts all of her etructuring entirely rationally when measuring with triangles."

- Cite KBPSB, Caption Fig. 8a, p.85

1965

See Patterns of Experience Return Upon Themselves Returning Upon Itself: Systems Return Upon Themselves

See Congruence, 25 Jan'72

Nature in a Corner.

"Getting nature in a corner is a way of making a aomething- ness out of a nothingness."

Cite RBF to World Game Workshop'77; Phila., PA; B Jun'77

"Getting nature into a corner---the windows of nothingness and the nuclear sphere---it all comes from getting away from the up-and-down language and bringing in all the in-out-and- aroundness in the language of frequency.^{1*}

- Cite RBF to EJA by telephone from Beverly Hotel, NYC; 17 Nov'75

"Getting nature into a corner is the essence of synergetics. It is the coordination of thought and physical action, the genesis of geometry, system and structure. Physics and metaphysics are resonantly integral: the integrity of their intertransformative mathematics into all the special case, variably enduring associabilities cognized by humans as structural design. The frequency rates are the separate static frame rates of inspection and are recognized by humans' brains as mechanics when the frequency of inspection by humans synchronizes with the cinema frames' running. The difference between structures and machinery is the same as the difference between "moving" and "static" pictures as both relate to human* information comprehending. This is the grand strategy."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 261.01; 13 Nov'75 **"The synergetic coordinate of nature and its hierarchy of ascending or descending components provides human mind with a means of resolving problems by bringing nature into a corner—a four dimensional corner of the four-dimensional planes of the tetrahedron. Only with the four-dimensional convergence and divergence of synergetics can the human mind resolve comprehension by minimum limit corners. The minimum polygon is a triangle; the minimum polyhedron is a tetrahedron: both of their structural behaviors are unique. Because humans think only in terms of parallel and rectilinear coordination, they tend to hold to the parallel conditions of their**

lives, seek to maintain the status quo, and fail despite birth and death and organic and biological manifests, to be able to take advantage of the cornerability and the positional fix provided by the four-dimensional synergetic convergent- divergent coordination.”

Cite SYNERGETICS, 2nd. Ed., at Sec. 260.1.2; 12 Nov'75 "You can never figure out what nature is up to if you are working in parallels and perpendiculars. You have to deal in convergence and divergence. That's the only way you can get nature into a corner. And when you have nature in a corner, then you don't need anybody to mark your paper.”

- Cite RBF to EJA, enroute Union Station, Wash. DC; 6 Nov*75

See Conceptual Genesis

Omnidirectional Terminal Case Corner Minimum Limit Case Terminal Condition

Starting Point

Event Embryo

See Polyhedra, 18 Jul'76

Tetrahedron, 22 Mar* 76

Tetrahedron as Microsystem, 12 May*77

Convergence & Divergence, 1 May*77

fat-ure Always Knows What To Do:

See Coin Toes into the Air

(1)

ass

Nftwr? Alwm Known wim T_9 D_P ;

(2)

See Surf Poundings, Spring¹66

See Aesthetics of Uniformity, (1) Belief, 6 Jul'75

Nature Modulates Probability:

See Reality, 26 Sep'73

See Doing What Needs to be Done

Making the World Work

See Individual Economic Initiative, 13 Jul'74 Rearrange the Scenery (1) Teleology,
15 Jun'74

RBF DEFINITIONS

"And wherever they came from Ththoughts arranged in this book Are discoveries of its author Since he first came in 1913 To think that nature did not have Separate departments of Mathematics, Physics, Chemistry, biology, History and languages, Which would require Department head meetings To decide what to do Whenever a boy threw A stone in the water, With the complex of consequences Crossing all departmental lines. Ergo, I crme to think that nature Has only one department--- And I set to discover its Obviously Omnirational Comprehensive co-ordinate system.

- Cite BRAIN KIND, p.?71 May '72

"When I grew older I was intrigued with the geometry of mathematics and I kept thinking a lot about the alleged ineffability of the so-called fourth dimension. When I left Harvard and went into the Navy I remember saying to myself, "If nature has a department of physics, a department of chemistry, a department of biology, and a department of mathematics it would have to have meetings of all department heads in order to decide what to do when I throw an apple core into the water. The omni-departmentalization seems too awkward a system. I think nature has only one department and I think she has

one comprehensive coordinate system to interaccommodate any and all events, and that system is probably rational as nature's chemical associating and disassociating is all done with whole, low order numbers."

- Cite RBF marginalia in old Chap. 2, "Synergy," 1.11, 18 Mar'6?

"Now. in order to understand universal structure one must consider the fundamental coordinating system employed by nature. It occurred to me half a century ago that nature might have a coordinating system of her own--- which might not be the same system as that which man has arbitrarily invented.

adopted, and applied to his measuring of nature. It also occurred to me that nature probably did not have separate departments of physics, chemistry, biology mathematics, and sociology, etc. In formulating the quadrillions of bubbles per second in the waters of Niagara Falls nature has no time in which to refer her structural formulation decisions to bureaucratic conventions of departments heads of academic categorical states."

- Cite Conceptuality of Fundamental Structures (Kepes) p.68, 1965

See Bubbles in the Wake of a Ship

Orderliness Operative in Nature

See Mathematics, 18 Apr'63

See Tensegrifcy: Unlimited Frequency of Geodesic Tencegrities, (8)

Trees, (2)

Nature Has So many Options:

"I say: if nature permits it, it's natural. If nature doesn't permit it, you can't do it. And you can see that nature has so many options. And we're used to using only a few of the options and we think that the not-frequently used options are unnatural. But they're just as natural. Soleri: "So the typewriter is a natural phenomenon?" hBE: "Absolutely."

- Cite WATTS TAPE, 19 Oct '70, p.23

Nature*8 Subvisible Order: (1)

"Man talks carelessly and ignorantly of such words as 'chaos* ... 'turbulence'... 'turmoil', and (the popular, modern) 'pollution*... where nothing but absolute order is subvisibly maintained by nature and her transformation arrangements unfamiliar to man. Universe does not have any pollution. All the chemistries of Universe are always essential to the integrity of eternal intertransformation and eternal self-regeneration.

Physicists invent nothing Chemists invent nothing.

... They find out what nature does from time to time and learn something of what her laws of rearrangement may be, and fortunate humans employ those rules to cooperate consciously with nature's evolution.

"All humans, endowed at birth with a billion capabilities beyond the knowledge of the parents, evolve in ways that are utter mystery to them. The exquisite, myriadly endowed child employs that mysterious endowment and intuitionally apprehends itself as inventor of ways of using the orderly laws of Universe to produce tools, substances, and service integrities, to communicate and allow humans to participate in Universe's ever-transforming"

- Cite SyNEHGETICS text at Secs. 1024.22 &.23; rewrite of 27 Dec'73

MaW* a SubYlalM* Order •' (2)

”evolutionary events in an as yet preposterously meager degree, which has given rise to a nature-permitted variety of little humans on tiny planet Earth each becoming Mr. Big, with a suddenly mistaken sense of power over environmental transformations— participation in which permitted him to feel himself as a manager of inventories of logistical multiplicity which, at the most ignorant level, manifests itself as politically assured mandates and political-world gambling - gambling- ideological warfare - national sovereignties - morally rationalising public - body politic - individual nations as United Nations.”

- Cite SYNERGETICS text at Secs. 1024.22 *k* .23; galley rewrite of 2? Dec»73

tom Pgmlta. (1)

”Stress-producing metaphysical gas stretches and strains nature to yield into social-evolution conformations such as the gas- filled plastic tube of Universe. There is an a priori universal law in the controlled complexity that tolerates man's pressurized nonsense, as nature permits each day's seemingly new Universe of semifamiliarities, semiwonders and semimystery, what humans might think of as history unfolding on this little planet. There is the Game of Cosmic History, in which Universe goes on approximately unaware of human nonsense while accomodating its omnilocal game-playing. Flies have their game. Mosquitoes have their game. Microbes have their game. Lion cubs have their game. Whatever games they may be playing, positive or negative, realistic or make-believe, all the games are fail-safe, alternate circuits, omniconsequential to eternally regenerative Universe integrity. It's all permitted. It all belongs.

”Only humans play 'Deceive yourself and you can fool the world'; or *1 know what it's all about': or 'Life is just chemistry'; and 'We humans invented and are running the world.' Dogs play 'Fetch it' tp please their masters, not to deceive themselves. The most affectionate of dogs do not play 'Burial of our dead'--”

- Cite SYNERGETICS text at Secs. 1024.24 & .25; rewrite of 27 Dec'73

"'Chemistry is for real.* Only humans play the game of masks and monuments. Fictional history. Historical architecture. Crabs walk sideways; but only human society keeps its eyes on the past as it backs into its future. Madison avenue aesthetics and ethics. Comic strips and cartoons... truth emergent, laughing at self-deception... momentary, fleeting glimpses of the glory, inadvertently revealed through faithful accuracy of observation— lucid conceptioning— spoken of as the music of the stars, inadequate to the mystery of integrity,,

All the poetry, all the chemistry, all the stars

... are permitted transformations of all the eternal integrity. All the constants, gravitational constant, radiational constant, Planck's constant,

... above all mathematics, geometry, physics, are only manifests of the eternal mysteries, love, harmonic integrity beyond further words." - Cite SYNERGETICS text at Seem. 1024.25, rewrite of 27 Dec'73 "The isotropic vector matrix yields to palm trees and jellyfish as a complex of mathematical integrities. As one will always be to one other. But no other: no one. Other is four— but whereas one has no relations; two have only one interrelationship; three have three interrelationships; but four have a minimum of relationships synergetics. No insideness without four. Without four, no womb; no birth: no life... the dawning awareness of the integrity of Universe. For humanity the Only permitted infallibly predictable is the eternal cosmic integrity."

- Cite SYNERGETICS text at Sec.

1024.25, rewrite of 27 Dec'73

**See Nature, U May*73 Industrialization, (A) Heduction to Practice, 2y
Jan'75**

Nturg - Sgenapjo UjilygrM:

See Cosmic Accounting, 20 Sep'76

See Man as a Function of Universe

Nature Trying to Make Man a Success;

(2)

See Desovereignisation Sequence, (3) (4) Doing What Needs to be Done, (B)

Nature¹⁶ Technology vs. Humans* Technology:

See Load Distribution, 17 Oct'77

Nature ShiDB Tendon:

"This is a whole new generation, where you ship tension. Nature ships tension patterns and uses locally available compression."

- Cite RBF to Ron Goodfellow, Philadelphia, PA; 29 Jul'76

See Angle k Frequency Modulation

See Angle t Frequency Modulation, Jun¹66 Angle k Frequency Design Control, Jul'71

bee Animate & Inanimate Artificial Automation of Metabolic k Regenerative Processes Charting Alternate Experiences of Man & Nature
Clams Coin Toss in the Air Control Line of Nature Coordinate System of Nature
Crocodile Environment Geodesic Design in Nature: Confirmation Of IrrtAmey. $gLth$ -Hatm-a'a every Phase Radiolaria Tetrahedral Coordination of Nature Trees Wilderness Resource Worms Unnatural
Society Does Not Understand Nature Congruent with Nature No Right Angles in Nature

See Impounding Sun Energy: Nature's Most Important Trick Intimacy with Nature Attic Window, 20 Jan'75

See Anticipatory. 3 Nov'64; 6 Jul*62

Fire (B)*

Mathematics, 14 Mar'71*

Reality, 26 Sep'73

Trees (1)*

Universal Requirements of a Dwelling Advantage (1)*

Unknowable, 8 Mar*73*

Why: The Unanswerable Why, 8 Mar'73
Symbolism in Buildings, 1 Feb'75
Science Opened the Wrong Door, 30 Dec'73
Technology, 21 Jan'75
Success, 29 Jan'75
Gestation Rates, 1 Mar'77
Tetrahedron, 26 Apr'77
Experiment: We Are Not the Only Experiment, 30 Apr'78
See Natural Law
Natural Time Increment

**Nature Always Comes Back on Itself Nature Always Knows What To
Do Nature: What Nature Needs to be Done Nature Has No Separate
Departments Nature's Logistical Strategy Nature Has So Many Op-
tions Nature's Subvisible Order Nature Permits Its Sequence Nature's
Basic Designing Tools Nature Modulates Probability Natural Educa-
tion**

**Nature Trying to Make Man a Success Nature is Neither Good Nor Bad
Nature Ships Tension**

**Nature - Scenario Universe Nature's Technology vs. Humans' Tech-
nology**

Naught:

See How Little I Know, 13 May'73

See Nose-to-navel

Umbilical

"Probability could not get you to a given port. Navigation can do so. Navigation
is discrete and is a powerful tool."

- Citation and context at Probability, Sep'73

Navigation to Faraway Places to bring Hack Kilauea QMafia:

See Wisard, 18 Jul'77

Navigation vs. Probability:

See Navigation, Sep'73

Navigational Science:

Intuition, p.55 May '72

See Sea Technology

Naga Theme

Rafts: Early World Drifting on Rafts

See Cartography: Conventional Projections, (2)

Probability, Sep'73*

Pretending, 8 Apr'75

Navy: Theory Of, 22 Dec*74

Navy Phonetic Sequence, 23 Jan*75

Halo. 1938

Naga, (2)

Dymaxion Airocean World Map. (a)

SaiUaUB;i;

(D

Rafts: Early World Drifting on Rafts ^{3ee} Secrecy of Mathematical Knowledge

Kaga Theme

K₁»<»»tor8: Early ^NavllSt°r»:

(2)

See Death, 1970

Discovery, 11 Jul'62

Raft, 3 *pr'75

See Aetrogator

Fog-shrouded Navigator

See Mark Your Own Paper, late*70

Naw Sequence; (1)

"... I look in various directions because I'm interested in big patterns is one reason why my intuition solves some big patterns... And my Navy experience brought me into celestial navigation. Goodness gracious! My navy experience brought me into...logistics, ballistics, controlling the trajectory of missiles. This brought mLnTo the realization of variables where I realized I had never heard anybody say this, they didn't say this in the Naval Academy, the flight— shooting from a fixed position to another fixed position is not in the same category as flying from a moving ship on a heaving sea against another moving ship on a heaving sea. And not on a planar base either but on a spherical base. It turns out that all the variables in the Universe in a spherical planet are in the latter base and not a fixed one. I find that really so much of man's thinking is on the fixed-position-to-fixed-position.

"So I then got into the concept of what I call the Theory of the Navy, the theory of ships, of designing the ship itself, what its particular function was, then designing the blast furnace to make the steel... all of this just to get that platform out there and taking you 2\$ years before you get* all the things done... and then the forward supply bases;"

15 Jun'74 - Cite Tape transcript #5, p.9; RBF to W. Wolf, Phila. Pa.,

RBF DEFINITIONS

Navy Sequence;

"the industrial fflMBHBBHI fallout rebuild bases; ships of the train ana ships of the line... finally the line then was in contact and we did all these things against possible contact and when contact came after 50 years then you had an obsolete battleship...

"You have to have all this general industrial comprehensive anticipatory design science. Not a single thing in the Navy was there at the university until the principles discovered by man were actually reduced to practice and this extraordinary package could float all these things... Could float a fantastic power plant, to drive anything you wanted. So I realized that I'd really been trained in an extraordinary field where at that time there was nothing comparable to what was on land. We've put a lot on the land since that time. And I was really not just a passenger but was trained to know where everything was on that ship and how it worked. I got to know navigation dealing with the stars and the Universe. I got to understand the laws of storms. I learned to understand the social behaviors of peoples as well as the storms of humans and the ways they behave. These are great responsibilities and the line officer was a line officer because back then you were in line of command"

- Tape transcript #5, p.10; RBF to W.Wolf, Phila., Pa., 15 Jun'74

Navy Sequence;

"immediately if your seniors were killed, you had to take over the ship. If the other seniors were killed you had to take over the fleet. You had to be trained this way. You might be young, but that's the kind of training given you to be a comprehensivist. ... Then came finally contact. And it was said that in the first and second world wars we would know who was going to run the world for the next 25 years. You knew what the other man's tonnage was but you wouldn't really know what he could do with the same, or more with less, until you came into contact: And the other one went to the bottom. So he didn't know either. And these were kept secrets. This was what was meant by classified information. Anyway, I was privy to all this...

"And of all things, here I was in the Navy at an extraordinary moment of history where the masses of the water-ocean world were running the world < the British Empire at that time; and they suddenly were about to lose if they couldn't get America in because the submarines had not been anticipated and they were sinking their great line of supply. If they couldn't keep up their line of supply the war would come from Europe on to the British Isles and whoever controlled the British Isles was"

- Tape transcript #5, p.10; RBF to W. Wolf, Phila., PA, 15 Jun'74

Navy Sequence: (4)

"going to run the world. That was considered the unsinkable flagship that commanded all the harbors of the customers of Europe... where you cashed in everything you stole from the Orient.

"The Navy at that time was very secondhand... This was before World War I. Our chief battleship was Admiral Dewey's flagship. Because of their enormous sinkings they had to be refurbished from America; enormous production, and they wanted all these ships, and many men brought across the ocean to fight; and above everything they needed to build up their naval strength.

Therefore, they had to allow the American Navy to come to parity with the British Navy... And I was at the Naval Academy and they had to have the men that ran ships: That was the big show.

"I want you to realize, then how very different this whole complex of events is... And I'd become so familiar with my filing problem. In those days we didn't have a computer. The only thing we had was something called the Ford Range Keeper. And that became the property of the Sperry Corporation. We had it on the bridge of ohly the very biggest ships., and we had to do everything longhand. And they had, down in the plotting room down in the bowels of the ship; it was really the command"

- Tape transcript /5> p»11; RBF to W.Wolf, Phila., Pa., 15 Jun'74

Navy Sequence: (5)

"position of the ship. It was the most armored of all and in that plotting room we had enormous charts with all the variables that went into the firing problem. And anything you could put in there... the logistics were broken down into two things: the internal and external ballistics. And the internal ballistics were all the things that happened before you fired the gun. And the external were all the things that happened to the missile after the gun was fired. You could get all the previous... temperature, what the wind was blowing, direction, speed of your ship, keeping track of the speed of another ship, all those things were in there. Suddenly then, we had to get this... and there was a spotting problem. You're only firing still at visible range in those days. Five thousand yards; you're talking about three miles, five miles, ten miles. Ten miles was a very long one.

"Anyway, having learned what I just learned... immediately after World War I a series of things happened. We learned to scramble all the radio. We had never dared send messages by radio. But then we radioed information coded and ciphered, but you really didn't send any strategic ones. But the messages couldn't go any faster than the coding. For this reason the authority in"

- Tape transcript #5, p»11» RBF to W. Wolf, Phila. Pa., 15 Jun'74

Naw Sequence: (6)

"the Navy remained in the Navy and the commander in the Navy had to make decisions way away from home. After Abraham Lincoln decisions were made by telegram: all the land controls went into central position. Only in the Navy were decisions made way out there. After the war we then learned to ecramble messages and from this time on they no longer needed to have comprehensivists. ... They wanted specialists. Men became Naval aviators, or submarine, and so forth. I was the last of the breed of the comprehensivists being trained in that way. This is very relative to the problem you're up against now.

"I was fascinated with the things that some people improved on the firing data. They introduced theis and they introduced that and I said I wonder if some of thtse things aren't redundant. We put them all in to calculate. So I tried firing where you dropped this out; and if the answer was so badly altered that you could fire anywhere in the sky with equal success, then I put that one back in. 'hen I found it really hardly varied at all, I said which one of these should be dropped out. And I could weed out. I feel that's what brought me down to Earth, (hmm - eja) down to what I called min-max-fam-fax— the minimum-maximum family of facts."

— Tape transcript j?5, p»12; RBF to W. Wol, Phila. Pa., 15 Jun'74

Navv Sequence: "Now I did that in 1927 when I was out of the Navy and was trying to think how it could all be reestablished. But I had to start with the Universe. The Navy started with Universe. We're dealing in the celestial. It's important to realize that this long, long training had been in really a very diff- erant category. The

Navy automatically looked on the whole Earth. You assume there's only one Navy. And the other ones go on the bottom so you have any resources of Earth. You didn't have to think in terms of the barriers the Army had. That was when the great war games were the world games. That's when I turned those into positives."

- Tape transcript #5, p.12; RSF to W.Wolf, Phila. Pa., 15 Jun'74

Phonetic Sequence: "Navy — Na-tive — Nativity — Navigate..."

- Cite RBF videotaping Penn Bell Studios, Phils., PA, 23 Jan*75

Navy: Theory of the Navy:

"In the Navy I became exposed to the really big patterns. It was unlike the maps of early men where you would go from flat empire wildtfgpess off the nap -> infinity.

"AH the law belonged to the land. Three-quarters of the Earth is covered with water and when you're out there on the water you soon learn that physical law is the only law!

"The British Isles were simply the western terminal of the East India Company.

"That's what the Theory of the Navy is: a feralized theory of all the variables as in general systems Theory. This is how you develop those great forecasting capabilities in both ballistics and in navigation."

- Cite HBF to State Dept. Senior Seminar, Rosslyn, Va., 22 Dec'74

Navy: Theory of the Navy:

See Navy Sequence (1)

See Sea Power Battle Ship Sea Technology

See Secondhand, 1946

Naga, (2)

General Systems Theory, (1)

Psychiatry, (j)

Halfway-round-the-worlding, 12 May* 77

See Vectorial Near-miss

Nebula:

EJA: Is nebula a complementary of nucleus?

RBF: "No. A nebula is a random aggregate of nuclei."

^w Cite RBF to EJA, 3200 Idaho, 29 Oct'72

See Nuclear i Nebular Zonal Waves

See davity, (B)

Mass, 29 Bee*58

See Need : Necessity

Neck:

See Stick the Neck Out

Necklace:

"A necklace is unstable. The beads of a necklace may be superficially dissimilar, but they all have similar tubes running through them with the closed tension string leading through all the tubes. The simplest necklace would be one made only of externally undecorated tubes and of tubps all of the same length. As the overall shape of the necklace changes to any and all polygonal shapes and wavy drapings, we discover that the lengths of the beads in a necklace do not change. Only the angles between the tubes change. Therefore, stable refers only to angular invariability.

(A)

"A six-edged polygon is unstable; it forms a drapable necklace. If we make a five-sided polygon, i.e., a pentagonal necklace, it is unstable. It,too, is a drapable necklace and is structurally unstable. Why? A necklace of three rigid tubes also has three flexible angle-accommodating tension joints. Here are six separate parts, each with its unique behavior characteristics which self-interfere to produce a stable pattern. How and why? We are familiar with the principle of lever advantage gained per length of lever ana from the fulcrum. We are familiar with the principle of the shears in which two levers hhare a common fulcrum, and the stronger and longer the shear arms,"

- Cite SYNERGETICS text at Secs. 608.01-.02; galley rewrite

9 Nov'73

Necklace:

"the more powerfully do they cut. Steel-bolt cutters have long lever arms."

"In every triangle each corner angle tension connector serves as the common interfulcrum of the two push-pull, rigid lever arms comprising two of the three sides of the triangle adjacent to their respectively common angular corners; each pair of the triangle's tubular necklace sides, in respect to a given corner of the triangle, represent levers whose maximum-advantage ends are seized by the two ends of the third, rigid, push-pull, tubular side of the triangle, whose rigidity is imposed by its command of the two lever arm ends upon the otherwise flexible opposite angle. Thus we find that each of the necklace's triangular rigid tube sides stabilizes its opposite angle with minimum effort by controlling the ends of the two levers fulcrumed by that opposite tension fastening of the triangle. Thus we find the triangle to be not only the unique patternself-stabilizing, multienergied complex, but also accomplishing pattern stabilization at minimum effort, which behavior coincides with science's discovery of the omni-minimum-effort behavior of all physical Universe."

- Cite SYNERGETICS text at Sec. 608.03; galley rewrite 9 Nov»73

Necklace: (C)

"The six independent energy units of the triangle that interact to produce pattern stability are the only plural polygon-surrounding, energy-event complexes to produce stabilized patterns."

(The necklace corners can be fastened together with three separate tension-connectors, instead of by the string running all the way through the tubes, wherefore the three rigid tubes and the three flexible tension connectors are six unique, independent, energy events.)

"We may say that structure is a self-stabilizing, pattern integrity complex. Only the triangle produces structure and structure means only triangle, and vice versa.

"Since tension and compression always and only coexist with first one at high tide and the other at low tide, and then vice versa, the necklace tubes are rigid with compression at visible high tide and tension at invisible low tide; and each of the tension-connectors has compression at invisible low tide and tension at visible high tide; ergo, each triangle has both a positive and a negative triangle congruently coexistent and each visible triangle is two triangles: one visible and one invisible."

- Cite SYNERGETICS text at Secss 6OS.O5-.O6; rewrite of 9 Nov '73
KBF DcFIMTluNb

Necklace:

"A necklace has no pattern stability."

- Cite KBF to H.U.D. Engineers, .Washington, 2b Jan '72

Necklace:

"In a necklace the angles between the pieces are transformable until you reduce them to a triangle.

The triangle is then not transformable."

- Cxte RBF to EJA, 3200 Idaho, DC, 23 Jan '72

Negkace;

"Chali-linkage necklace structures take advantage of the triangulation of geodesic lines and permit us to encompass relatively large volumes with relatively low logistic investment. Slackened necklace geodesic spheres can be made as compactable as hairnets and self-motor-opened after being shot into orbit."

- Cite SYNERGETICS text at Sec. 608.07; Nov'71

Necklace: H)

- Necklace flexibility is a function of angular tensions and not of the compressional Islands or beads. Relative flexibility decreases as beads are progressively removed. When the numbers of beads are odd the waves in the necklace are blocked; when the number is even the waves are continuous.

"When the number of beads is reduced to six, continuous wave flexibility is permitted. When the number of beads is reduced to five the waves are blocked so the necklace is flexible. When reduced to four beads the necklace can be draped over human shoulders; one "V" in front and one "V" in back. When the beads of the necklace are reduced to three all flexibility ceases. Each angle is stabilized by the opposite side, exercising its push-pull effectiveness upon the two lever-ends of the angle's adjacent sides, RS would a pair of scissors be held in fixed opening by a pencil with the pencil's two ends tied respectively to the two finger circle terminals of the scissors, (drawing.)

****If we take out one more bead the scissors become closed; There is no opening or area between them. The opening**

- Cite JtiJF dictation to Alexandra Snyder, New Delhi, I.ov. *71

RBF DLF1K1T1U1.S

necklace:

"For area is always bound by push-pull energy actions and mass attraction interlinkages identical with the necklace in principle. The triangle is the only self-stabilizing polygon. By structural we mean energy patterns whose polygonal patterns are self-stabilizing; that is exhibiting inherent properties of the mass attractions and mass repulsions of the radiational and gravitational laws, we discover that the triangle is the only self-stabilizing polygonal pattern integrity."

- Cite Ruffin to Alexandra Snyder, New Belhi, Nov. *71

RBF DEFINITIONS

Necklace;

"A necklace is unstable. The lengths of the beads in the necklace do not change. Only the angles between them change. Stable refers only to angular invariability. By structure we mean self-stabilizing. The triangle is the only self-stabilizing polygon."

Tie>;«Cui<»ri<>W - Sec

KBF UtFlhlTluHS

Necklace;

"I have a very crude necklace. That is unique about the necklace is its flexibility, so it can be draped over the shoulders. . . . Looking closely to see how and why it can flex, we find that the individual pieces of wood here are not changing their length at all /hat is changing are the angles. All the flexing is in the terms of the angular change and not linear. . . . In other words an angle is an angle independently of the length of its edges. So these are angular behaviors. I'm going to take several pieces out of the necklace. IT's still very flexible so we take another one out. Still very flexible. Take out another piece. Still very flexible. Now I'll take out one more piece--- we're down to four pieces and it's still very flexible. This we'll drape over my shoulders

with a triangle in front and a triangle m back. Pan calls this a square, but we see this square as completely unstable. I became extremely interested in this when 1 was young, the fact that the square does not have any structural integrity of its own. It only behaves the way it did because the teacher put it on a rigid blackboard and it couldn't change there. Now I'm going to

take out one more piece. . and for the first time it will no longer flex."

- Cite RBF at Sh-.b Seminar U.i-Ass, Amherst 22 July '71, p. 17

Necklace Structure:

". . .Tube-and-cable 'necklace¹ structure • . takes advantage of triangulation of geodesic lines /and/ entitles us to the encompassment of relatively

large volumes with relatively low logistic investment. . .

Slackened necklace geodesic spheres, compactible as tight as hair-nets, may be shot to the moon and tensibly self-motor opened."

-Cite PREVIEW, I&I., Pp. 222,223 1 Apr'49

src. fcOt-07)

TEXT CITATIONS

Necklace:

Synergetics text was rearranged at galley stage, 9 Nov'73: New citation for Necklace is Sec. 608.00 ff.

KtsliUct; M.ssklasa-Ssxsas:is:

(D

See Chain Linkage

String-connected Polyhedra
See Transformable, 23 Jan¹72

Stable & Unstable Structures, 7 Jun'72

Cube t VE as Wave Propagation Model, 2J Feb'72

KU? UcFlnlTIUllS

Need: Necessity:

''Anything man needs to do he can afford to do,"

- RBF-Dembart, New York Post. 26 April 1971

- Citation at Afford, 26 Apr'⁷1

See Doing What Needs to be Done

Nature: What Nature Needs to be Done Determinism

Spherical Necessity

KfiSil! NacaBflity:

(2) 0

See Fuller, R.B: Crisis of 1927, 26 Sep'6fl

Needham, Joseph:

See Synergetic Hierarchy, 5 >-ay*74

Needle:

"... The point of a needle is a pile of oranges."

- Cite SYNERGETICS draft at Sec. 1009.41, 10 Feb'73

fleedlfi FIgaUng..fln 'at. er'-

See Fourth Dimension, 6 May'48

Needle:

See Rowing Needlee Knitting Needlee

See Crystallography, 17 Aug*70

Negative:

°hach vector is reversible having its negative alternate.

Cite SYNERGETICS Corollaries, Sec. 240. 1971

Negative:

"Science ia remiss and unnecessarily prejudicial in calling one of a pair of complementary behaviors negative. There are always much better descriptive terms,"

- Citation and context at Complementarity. 2 MarJ.68

Negative:

"The negative is never the mirror-image of the positive.

- **Citation and context at Complementarity. Spring*66**

Negative Accounting;

See Wealth, (E)(F)

ftemiYfl EnxroBY-

See Antientropy

Syntropy

NfffUra.Matt+r?

"Negative Matter is coequal with positive matter

- Cite NO MORE SECONDHAND GOD, p. }6, 9 Apr'40

See Antimatter

Matter & Antimatter

MatterleBeneeee

See Antientropy, 10 Oct'63

Negative Tetrahedron:

"entropy is not random;

It is always one negative tetrahedron."

Cite OMNIDIRECTIONAL HALO, p. 157 i960

Negative Tetrahedron:

See Antitetrahedron

Invisible Tetrahedron

Inside-outing Tetrahedron

Negative Tetrahedron:

(2)

See Tetrahedron: One Tetrahedron. 1960

Black Hole# A Synergetics, 1 Mar*77

Negative Universe:

"The star tetrahedron may explain a 'hole new phase of energetic Universe such, for instance, as the Iterative Universe,"

- Cite 5YL~KGETICS draft "Antitetrahedron," 8 Oct, *71, p. 10.

synt/Wrics- vrf.'vefciF-

Negative Univerae:

"**Negative Universe** is the complementary but invisibl Universe."

- Cite RBF to EJA, Bear Island, 25 August 1971.

J-ffjeA.ℰ'Grici jffc. 3s7)

Negative **Uni** verge:

' 'Physics finds only waves. Some are of exquisitely high frequency, but inherently discontinuous because

consisting of separate event packages. They are oscillating to and from negative universe, that is to say, in pulsation."

"Somerset

- Citation & context at Wave, 22 Apr*71

Negative Universe:

"Those subsequently isolated elements beyond the 92 prime chemical elements constitute super atomic*; they are the non-selfregenerative chemical elements of negative Universe."

(Rearranged and amplified.)

X Cite MUSIC, p« 45. 10 Dec*64

- -Sec 35i'|

(1)

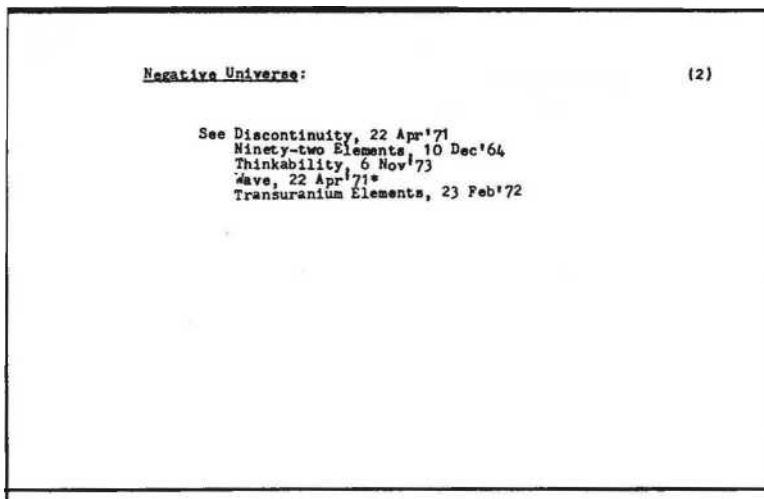
UniTtrao:

See Black Hole

Superatonice

Mite: Positive & Hegtaive Functions

Stars: Implosive Forces Of Star Tetrahedron Inside-out Universe In-visible Universe



See Twelve Universal Degrees of Freedom, Feb'72

EQuillbrium:

"The non-mirror imaged complenwtary /"Star Tetrahedron_J7~ is not *u* negative vector equilibrium. The vector equilibrium haskts own integral negative."

(Sec. 636.01, footnote)

- Cite SYNEuGTICb draft 'anti tetrahedron," b* Oct. '71, Footnote, p.6.

See Star Tetrahedron & VE

Negative Weight:

See Zero Weight
See Degenerative Negative Limits
(D
Integral Negative
Positive & Negative
Positive / Negative
Againstness
De-structures Inside-out

Trap of Disney, Fear & Negativism Anti

Prohibition
Invisible / Negative
See Complementarity, Spring*66*
Electron, 18 Aug'70
Radiation, 1y5y
Entropy, (p.157) 1960
Optimism: I Am Not an Optimist, 26 Apr'77
Negentropy:
See Antientropy
Syntropy
Neighbor: Neighborhood:
See Proximity *f* Neighborliness
(1)
Karlito: Neighborhood:
(2)
See County,
Neo-Platonism;
See Fuller, R.B: His Neo-Platonism
tea C.1EW1V
See Sensings 4 Events, 28 Apr'77
Nestable: Nestability:

"There are in closest packing, we find, always alternate spaces that are not being used so that triangular groups can be rotated into one position or 60 degrees to an alternate nestable place. . . In other words you take the vector equilibrium , rotate it 60 degrees to the next nestable position and suddenly it is polarized.**

11 Jul»62

- Pitr---fti rgnn Iirmnn i/T, jiji ?15 Citation at Sixty Deereeness

See Closest Packing

Innestlble

Internestability

Basic Nestable Configurations: Hierarchy Of

See Octahedron, 16 Dec¹73

Sixty-degreenees, 11 Jul'62*

Vector Equilibrium: Polarisation, (1)(2)

See Industrialization, (A)

Neat:

See Blrd'aNeat aa a Tool

Nat Bat:

See Corporation, (2)

Net Set:

See Radome Sequence, (4)

See Balloon

See Abeolute Network

Dwelling: World-around Network Dwelling Service

Electrical Network

Industrial Network

Tool Networks

Wave Network

See Boats at Anchor Retard the River's Flow, 1960 Satellite: World Satellite
Sensing, 25 Jan'73

See World Game, (T)

Neuron:

N.Y. Times. 15 Feb'72, H.M. Schmeck, Jr., ' ` Immunology: A Code
Spelling Life or Death': "And some scientists see links between the
brain and the immunologic system as possibly highly rewarding to
study,"

R.B.F. Marginalia: "Neurons are tetra structures."

- Cite RBF marginalia presumably 15 May'72

Neuron-transfigured;

See drain's TV Studio, 22 Nov'73

Neuron:

See Brain Bank: Brain's Neuron Bank

Neutral:

"Everything should be neutral until muted. A piano, like a house, or
like fog, should be neutral. I found in building that the grays of alu-
minum were not neutrtj. enough. Brown Earth is what the human eye
is most accustomed to; it is the best color for floors and walls. SetK
first for the neutral tones, but arrange them so that the human occu-
pant can change things."

- Citation &. context at Harmonicq_f (1), 1 Feb'75

Neutral Angle;

The spherical excess of 6° (one quantum} may be apportioned totally to the biggest and littlest corners of the triangle, leaving the 60-degree, vector equilibrium, neutral corner undisturbed. As we have discovered in the isotropic vector matrix nature coordinates crystallographically in 60° and not in 90° . Sixty degrees is the vector equilibrium neutral angle relative to which life-in-time aberrates."

- Cite SYNERGETICS text at Sec. 905.64, 16 Dec'73

hbf definitions

Neutral Axle:

- 'Every system has a neutral axis with two polar points (vertexes - fixes). In synergetics topology these two polar points of every system become the constants of topological inventorying. Every system has two polar MHMB vertexes which function as the spin axis of the system. In synergetic the two polar vertexes terminating the axis identify conceptually the abstract--- supposedly nonconceptual--- function of nuclear physics' 'spin* in quantum Theory."

Cite SYNERGETICS, 2nd. Ed. at Sec. 1007.29, 1 Jan'75

See Additive Twoness

Plus Two

See Axis of Spin, (2)

Brouwer's Theorem, 1960; 1 Jan'75

Centers of Equilibrrious Symmetry, May* 72

Euler, 11 Jul'62

Sphere, 1971; 2 Mar'68; 15 Oct'64

Two, (1)

See Interrelationship Twoness, 2? Dec'74

See Neutral Angle, 16 Dec'73

See Invisible Quantum as Tetrahelix Cap Closer.

23 May'75

Octahedron as Conservation k Annihilation Model, (4)

See Cosmic Neutral

Nine: Ninenesa

Sixty Degreeneaa Zone of Neutral Resonance

Medio: Macro-medio-micro Middle: Middleness: Midway

77

See Precession & Degrees of Freedom, (1)

Sixty Degreeness, 8 Dec'72

Vector Equilibrium, 18 Sep*69

Hole in the Victrola Disc, 24 Jan*75

Information Transmitting ft Nontransmitting Model, 27 May'75

See Electron & Neutron Nucleon Proton i Neutron

See Modules: A & B Quanta Modules, Apr'72

Meyer-never land:

See Perfect, 193fl

New;

"Society only takes on the new when nothing else will work."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

New Forms v». Reforms:

WDSO Doc. #1, p.54, 1963

New Form6 va, Reforma:

See Robin Hood Sequence (2)

.Kjw Lift;

See Continuous Kan Old Life Young World Young i Eldere

See Environment Events Hierarchy, (2) Evolution: Man as Evolution
Modifier. May*49 Poets, 1970

See Adoption of the New Only as Last Heeort Emergence Future

News:

"Today's news consists of aggregates of fragments. Anyone who has taken part in any event that has subsequently appeared in the news is aware of the gross disparity between the actual and reported events. The insistence of reporters upon having advance 'releases' of what, for instance, convocation speakers are supposedly going to say, but in fact have not yet said, automatically discredits the value of the largely prefabricated news. We also learn frequently of prefabricated and prevaricated events of a complex nature purportedly undertaken for purposes either of suppressing or rigging the news, which in turn perverts humanity's tactical information resources. All history becomes suspect. Probably our most polluted resource is that of the tactical information Wo which humanity spontaneously reflexes."

- Cite SYNERGETICS text at Sec. 'Introduction,' p.12, 25 Jul'72

News & Evolution;

"Daily news is a major ingredient of human evolution. Advertising alone provides the economic sustenance of the western world's news media. The magnitude of paid-for advertising received by each news media is directly proportional to the number of MB its buying readers. News media management searches for the type of news that sells the best. Year after year the publishers find that 'bad*' news attracts the most paying readers—possibly because the readers can congratulate themselves on not being the unfortunate ones. Whether or not this is the right explanation, it is a demonstrable fact that powerful economic sustenance for negative voices exists. Though the majority of humans are born positivists, popular acknowledgement of the effectiveness of their expressions is difficult to come by, and has little or no economic support. Positivist poets are proverbially poor.

"While there are many positively committed institutions— religious, academic, and political—we are considering here only the few independently thoughtful, positive individuals alive today whose work has come to be generally recognized in this era of billions of humans integrating into a common world culture, in contradistinction to the few millions of"

- Cite RBF Ltr. Yasuji Fujita re Ruth Asawa; i'.ar'77

"10(11 vidua Is. of yesteryears who were physically deployed in a myriad of small local cultures,

"One needs to know nothing in order to be negative. One need only be clever with words or cartoon to become famous as an amusingly consistent sceptic or a dramatically devastating cynic. To be creditably positive, not just optimistic, one needs to know a great deal as learned only by direct experience. To be productively positive, one must also have great vision and the confidence of proven technical accomplishments manifest as physical products that work. To be effectively positive and also to inspire others to envision and realize humanity's constructive options is to be a great artist.

"In the 20th century's unprecedented and utterly unforeseen transformation from a local to a universal culture, Ruth Asawa Lanier's ever earthly pure, exquisitely ephemeral sculptures, sculptural murals, paintings, drawings, and her innumerable other exploratory formulations are probably the most embracing and exciting arts and artifacts of an emerging, world-around, classless democracy."

- Cite RBF Ltr. to Yasuji Fujita re Ruth Acawa; 15 i-ar'77

A. Evolution (3)

"This historically unpredicted, swiftly emergent, world embracing classless democracy is. both evolutionary and revolutionary. Unlike all past revolutions which were accomplished by destroying the successful few, this total emancipation of humanity and the integrity of its sustainability Is being realized instead only by increasing the physical and metaphysical advantages of all humanity. This greatest of history's

evolutions inadvertently ipakes obsolete the technical effectiveness and relevance of the older cultures' artifacts and value structures, and thus painlessly and spontaneously abandons the privileges enjoyed exclusively by the few in yesterday's class-stratified and Selfishness-rationalizing society....

"As of 1977, human evolution on planet Earth has attained enough know-how to operate this planet to the enduring high physical advantage of all; but nature's checks and balances of human fear, ignorance, and Ill-conditioned reflexes have the scales of human fate in dynamic balance. They may readily tip in the negative to terminate human occupation of the Slanet. Preponderant hope for tipping the scales to the asting living advantage of humans lies in the world of

- Cite RUF Ltr. to Yasuji Fujita re Ruth Asawa; 15 Mar'77

RdF DEFINITIONS

"children. Each child is born in the presence of less misinformation than were their predecessors. Each is born in the presence of a vastly greater amount of reliable information. Each child is born free of the mis- and ill-conditioned reflexes of the older hurans. Each child is born with the innate artistry and imagination capable of realizing new and increased advantage for the many. Evolution seems Intent upon giving humanity every opportunity to win successful continuance. Clearly, all of our hope lies in the hands and minds of the young.^h

- Cite RHP Ltr. to Japanese Deputy Consul General in San Francisco, Yasuji Fujita in support of nomination of Ruth Asawa Lanier for Japan's Medal of Honor; 15 Mar'77

See Communications & Culture

Invisible News

World-around Communication Transcends Politics

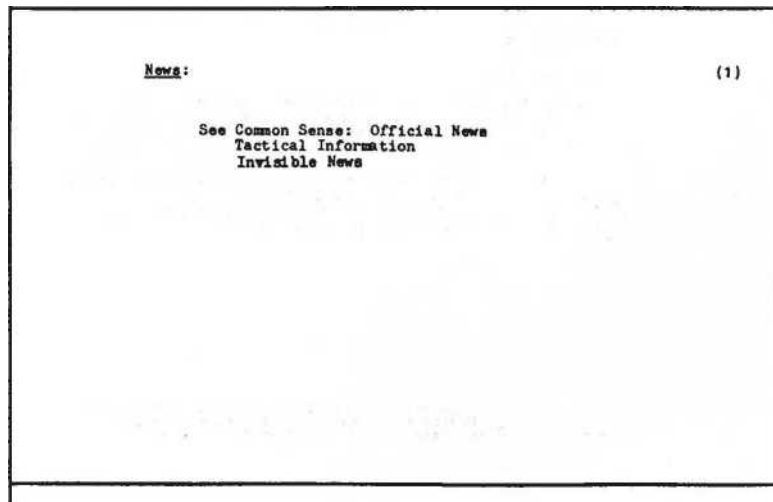
fc Evolution:

News

See Impossible: Only the Impossib. ippens, (A)-(B)

News Ignorea Invisible foallty:

See Generalization 4 Special Case, 12 May'75



NWB:

(2)

See Metabllical Cord, (1)

Myopia: Incasting vs. Broadcasting, 22 Jan'75

Television, Feb'73

Telegraph, 8 Jun»75

Transnational Capitalism &. Export of Know-how. (2)(3)

Propaganda, 29 Mar*77

Ngwgpaper:

"It isn't really very important what we read in the newspaper because all the very extraordinarily rapid evolution is going on in the invisible spectrum and the press and TV are really missing the big show. What I'm saying is that right now all of humanity is really breaking through to a completely different way of looking at Universe."

- Citation and context at Cosmic Fish Sequence (1), 16 Oct'78

...'.I Newsprint:

See Rolls, 14 Kar'72; 20 *pr'72

Individuality i Degrees of Freedom, (3)

Wood Technology, (1)

See Instant Universe

Norm of Einstein as Absolute Speed Instant Universe vs. All-motion Universe Immobility: Immobilized

See Invisible Architecture, (1) Omnimotiona, May'72 Dictionary, (1)

30

"Isaac Newton discovered the celestial gravitation interrelationship and expressed it in terms of the second power of the relative distance between the different masses as determined by reference to the radius of one of the interattracted masses.

The gravitational relationship is also synergetically statable in terms of the second power of relative frequency of volumetric quanta concentrations of the respectively interattracted masses. Newton's gravitational constant is a radially {frequency} measured rate of spherical surface contraction, while Einstein's radiational constant is a radial (frequency) rate of spherical expansion."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1052.21.

9 Jan'74 '

Newton va. **Einstein:** (i)

"Beginning in 1917 I determined to make myself a gujOea pig in a life-long research project, documenting the life of an individual born in the gay '90's... having his boyhood during the turn of the century and maturing during humanity's epochal graduation from the inert materialistic 19th into the dynamic, abstract 20th century.

"Had I the perceptivity at the time equal in magnitude to the scale of my Intuitive prospecting of forward events this case- history era might have been more accurately identified as that which terminated Sir Isaac Newton's normal at rest and myriadly isolated hybrid world cultures to which change was anathema on the one hand, and on the other, opened Einstein's normally dynamic, omniintegrating world culture to which change has come to seem essential and popularly acceptable...,

"The experience pattern of my generation was not to be just one more duplicate generation in a succession of millions of generations of humanity within an approximately imperceptible degree of environmental change as compared to the immediately previous generation. I was convinced that unannounced by any authority a much greater environmental and ecological change"

- Tape transcript #6. Side A, pp.12-13; RBF to Barry Farrell: Bear Island, 16 Aug'70

Newton vs. Einstein; (2)

"was beginning to take place in my generation's unfolding experience than had occurred between my father's and grandfather's and my grandfather's and great great grandfather's successive generations. It was clearly an environment that was changing; and though the environment changes might not alter man's genes, changes in his external conditions might permit man to realise many more of his innate capabilities. Dwellings are environment modifying machines; so are automobiles. Automobiles are little part-time dwellings on wheels. Both autos and dwellings are complex tools within the far vaster tool complex of world embracing industrialization. Life continually alters the environment and the altered environment in turn alters the potentials and realities of life. The environment is basically a complex of nonsimultaneously occurring but omniintegrating or interstimulating, and therefore interregenerating, mutations of man's integral, internal metabolic regeneration organism, on the one hand; on the other is his external, invention- realized, metabolic regeneration organism, which we think of and speak of as industrialization."

- Tape transcript #6. Side A, pp.13-14; RBF to Barry Farrell; Bear Island, 16 Aug'70

Vj. Einstein;

See Pendulum Model vs. Scenario Model Instant Universe vs. All-motion Universe Universal Integrity: Principle Of

(1)

iiairton vn. Slnatain:

See Immobility 4 May*57

New York, <970; (2)(3)(12)

Kadlatlon-gravitatlon: Harmonica, 3 Jan'75

Time, 2 Jul<62

See Quick & the Dead: Song Of, Oct*66

Newton's First Law of Motion; W MffWMilt °f

"Ask Newton what gravity is and he will answer, 'It a covarying inter-relationship of two or more bodies inherently nondieclosable by any one of the bodies considered separately.'"

- Cite RBF Tribute to Josef Albers; Dec*77

"I have attempted a new generalized statement of a 'First Law of Acceleration,' which goes as follows:

All local event systems (Newton's 'bodies') are in relevant continuity of frequency accelerations with a plurality of local and comprehensive patterning consequences, and all other local systems of macro and micro degrees affect all other local systems of Universe in varying degrees of angle and frequency modulation; and the effect of all the local systems of events upon any and all other systems of local events is precessions!."

- Citation and context at Tetrahedrpal Dynamics (1), 4 May'57

See Intereffects, 23 Sep¹73

Interference (2)

Precession (1); 6 Jul¹62

Otherness Restraints & Elliptical Orbits. (2)(3)

New fork City, (2) ` ` '

"The astrophysical chain of events altogether compounded to permit Newton's discovery of the only-metaphysically-statable gravitational law which showed that the intensity of the interattraction of any two celestial bodies is initially proportional to the product of their masses and varies at a rate of the second power of the arithmetical distances progressively intervening--double the distance and reduce the interattraction to one-quarter of its previous intensity."

- Cite RBF tribute to Josef Albers, Dec'77

RBF DEFINITIONS

"Synergy... is a part of the great mystery Which always remains unexplained By such discoveries as Newton's Of the first-power arithmetical Vs. the second-power augmentation Rates of constantly intercovarying Gravitational interattractiveness Of separate bodies in Universe..."

- Cite WHAT I AM TRYING TO DO, p.2 revised, 10 Sep'74

"Isaac Newton discovers

The rational geometrical rate of change Characterizing the Interattractiveness Of any two celestial bodies

While their relative distance apart

Vary only at an arithmetical rate

Which attractiveness itself

Let alone its inverse

Second power rate of gain

Is not manifest

In any of the physical characteristics

Of either of the celestial bodies

When either is considered only separately

And only in terms of its

Integral dimensions, mass, chemistry

And independent electromagnetic properties..."

- Cite WHAT I AM TRYING TO DO, p.1., 4 Aug'74

**"Acceleration is second power, multiplying the number times itself.
As a hypothetical arrangement, when you doubled the distance apart
you decrease the interattraction fourfold.**

You have this increase in fourfold, which is second power."

• Cite tape transcript RBF to W. Wolf, Gloucester, Mass., p.12 2 Jun'74

Nekton's Second law of Motion: HBF Restatement Of:

**"Gravity.., is the variable interattractiveness of nonmagnetic bodies,
which interattractiveness varies at a second-power rate inversely pro-
portional to the relative distances intervening the masses, as those
distances vary only at an arithmetical rate of change."**

- Citation at Gravity. 31 May'74

**"The relative interattraction increases as the second power of the rate
at which the interdistances diminish."**

- Citation in context at Hanmering Sheet Metal, (2), 30 Dec'73

"Gravity is omnidirectional mass interattraction which, as Newton discovered, is directly interproportional relative to the respective mass involved, and varies as the second power relative to the interproximities of the respective bodies considered: Halving the distance between any two will fourfold their interaction."

context at

Hadlation-Krayitatlon Sequence.

(1),

"...As one energy event comes into critical proximity with any two. the mass attraction fourfolds every time the distance between them is halved."

- Citation & context at Critical Proximity, 10 Feb'73

Newton¹B S.ftoond law Q£ Motion: :

"Newton's interma8a attraction increases at the second power as the time-distance between is halved."

- Citation & context at Mass. 16 Nov'72
- Cite SYNERGETICS draft at Sec. 960.12, 1b Nov'72

Synergetics text at Sec. 1052.21

1052.44

Rbf Address to YPO, transcript p.33, 11 Mar^f73

| | | | |
|--------------------------|--------|-----------------|----------|
| Synergetics text at Sec. | | <u>960.12</u> | 8621.30 |
| 103 | 646.03 | 1009.93 | 81052.81 |
| 111 | 710.01 | 1024.14 | 81052.88 |
| 112 | 723.06 | 1051.53-1051.55 | |

| | | |
|--------|---------|---------|
| 120.01 | 960.12 | 1052.21 |
| 251.25 | 961.09 | 1052.44 |
| 518.02 | 1009.33 | |
| 645.01 | 1009.80 | |
| 645.03 | 1009.82 | |

See Critical Proximity. 10 Feb'73* / t

Gravity, (1)(2); 31 May'74*; (b)-(d) ; 11 Feb'76 Hammering Sheet Metal, (2)* Inverse. 11 Jul'62

Mass, 10 Nov'72*

Mystery, 13 Dec'73

Newton vs. Einstein, 9 Jan*74

Universal Integrity: Second-power Congruence Of Gravitational & ``adiational Constants, (1)-(3) VE A Icosa, 9 Jan'74

Radiation-gravitation Sequence, (1)*

Gravity: Circumferential Leverage, (4) Radiation-gravitation: Harmonics, 3 Jan'75 Co-orbiting of Earth & Moon around Sun, Apr'71 Human Beings & Complex Universe, (2)

Newton: As Newton Might Have Said It But Did Not:

See Newton's First Law of Motion: RBF Restatement of Newton's Second Law of Motion: RBF Restatement Of

Newton;

Intuition, pp.25-31, May '72

Synergetics draft Sec. 1052.20, et. seq.,

Synergetics draft at Sec. 1009.80 et. aeq.

529.03

529.23

530.02

645.01

960.10

960.12

982.81

1051.54

1210 {pp.728 & 738)

Mar'73

8 Mar'73

s201.22

a935.13

a1052.88

See Inatant Universe

See Acceleration, 1 Apr*67

Axis of Spin (2)(3)

Blind Man's Buff, 1 Oct'71 Energetic Words. 1 Jul'62 Gravity. 5
Jun'73; 5 Feb'71 Interefrechts, 23 Sep'73

Isotropic Vector Matrix, 16 Nov'72

Mass, 16 Nov'72

Motion, 27 May'72

Omninotions, 27 May'72

Whole System: Synergetics Principle Of (1) Tetrahedral Dynamics (1)
Time, 2 Jul'62

Universal Integrity: Second-power Congruence of Gravitational 1 Radiational Constants (1)

Conceptual Physics, (2)

See Newton's Cosmic Nora of "At Rest"

Newton vs. Einstein

Newton Was a Noun

Newton's First law of Motion: RBF Restatement Of Newton's Second law of Motion: RBF Restatement Of Newton: As Newton Might Have Said It (But Did Not)

NW "DXYPreq: PiscloBure of Entirely New Universe in Next Decade:

"Since Earthians' astronomical measurements have only been conducted for a few thousand years, and nine-tenths of the information has been accumulated in the last five centuries, to be conservative, we can say that 11,000 years exploration has brought in data covering 11 billion years.

**The ratio 11.000 - 1 clearly manifests a

11 billion 1 million high-order experiential acceleration in the rate of information gaining. Thus we take note of how MHBI really little we know and alert ourselves to the probability that the next decade will disclose what in effect must seem an entirely new Universe--- so much more of the cosmically eternal a priori mystery will have been vouchsafed to us."

- Cite HiiARTBEATb AND JL1L1UN, World Mag. p.23, 27 Mar*73
New York City:

"The appropriate metaphor for New York City is that of a ship. All of the equipment and the data are there. The ship is not sunk. The pumps all work.

"The people of New York could take one of several routes:

-- U.S. Army; they could turn it over to the Army to run it, but this would be fascist.

— Communist; to go communist would be equally unthinkable.

— Unions; they could accept the leadership of the unions.

"The union heads with all their talent and leadership could decide to operate the city. The confrontation of the unions has not been so much with the city itself as it has been with the banks, the bankers, and their paper money game. The union leaders should issue their own paper money scrip and enlist the support of all the other union leaders in the country. It is a game of paper money; they might as well play their own."

- Cite RBF via telephone from Djakarta to EJA; revised statement for N.Y. Times, 31 Jul*75

New York City;

"The city physically will stay there, but New York is obsolete. Factories, harbor, warehouses--- all these have gone elsewhere. The only way to make New York work would be if the people decided to make it work. If everybody said, »My life is involved, my family is involved,¹ and started to work cooperatively, it could be made to work, I don't know any other way."

□Cite RBF in reply to Query from Israel Shenker about the economic crisis of New York: N.Y. Times, p.31, JO Jul'75

New York City:

"When I was young the architects and their patrons assumed, and in fact hoped, that their great buildings would be permanent contributions to the world scene. Though the architects... thought of their buildings in this way, I have seen three separate sets of permanent buildings in New York City pulled down to be replaced by another set of assumedly permanent buildings, with the whole unexpected evolutionary displacement phenomenon repeating itself again, I have, in effect, seen three permanent waves of architecture forsaken and replaced by other permanent waves as the waves flowed northward on Manhattan Island. In the last 15 years I have seen two- and three-story-high cities of the world transformed into identical-building type skyscraper cities,**

- Cite RBF Foreword to "Great Architecture of the World,**

13 Mar'75

New York:

"New York is a continual evolutionary process of evacuation#, demolitions, removals, temporarily vacant lots, new installations and repeat. This process is identical in principle to the annual rotation of crops in farm acreage--- plowing, planting the new seed, harvesting, plowing under, and putting in another type of crop....

"most people think of the building operations blocking New York's streets as temporary annoyances, soon to disappear in a static peace. They still think of permanence as normal, a hangover from the Newtonian view of the Universe. But those who have lived in and with New York since the beginning of the century have literally experienced living with Einsteinian relativity."

(Original citation <fc context at New York City. U)(2), 1964)

- RBF quoted by Alvin Toffler in FUTURE SHOCK, p.51, 1970

"Viewed from a ship entering New York harbor or from a plane coming in over the city, New York appears as an enormous complex of hard, permanent towers---crystalline asparagus* But these 'permanents' are as impermanent as women's hairdos. New York City's permanent-wave architecture is in fact a progressively rippling dynamic wave system. The last half-century has seen three successive replacements of would-be-permanent New York City buildings.

"New York is a continual evolutionary process of evacuations, demolitions, removals, temporarily vacant lots, new Installations, and repeat. This process is identical in principle to the annual rotation of crops in farm acreage---plowing, planting the new seed, harvesting, plowing under, and putting in another type of crop.

"New York's dynamic pattern of continually accelerating transformation was entirely unpremeditated by its static-minded, permanence-intending designers and their patrons. Up to the time when its earliest skyscrapers were built (the first was the Tower Building at 50 Broadway, completed in 1889 and demolished in 1914), its stone buildings, fine" - Cite WAVE TRAILSFCEI'ATIOW. OF THE CITY, N.Y. Guidebook, 1964 "residences, banks, and commercial structures were thought of by architects, owners, and the public as 'permanent' monuments of their conceivers' era. And the building arts being the most laggard of all men's activities, this conception of buildings as 'permanent' still persists in most men's minds. Most people look upon the building operations blocking New York's streets---the piles of sand and brick, the huge cranes fishing steel girders from curb-parked trucks-- as temporary annoyances, soon to disappear in a static peace. They still think

of permanence as normal, a hangover from the Newtonian view of the Universe. But those who have lived in and with New York since the beginning of this century have literally experienced living with Einsteinian relativity.

"Said Newton, in the first phase of his first law of motion, 'A body persists in a state of rest' (and then as an afterthought, 'or in a line of motion') except as it is affected by another body. This Newtonian norm of 'at rest' which means without change, has long been the base line of all our economic charts. From this point of view all events and"

-Cite »/AVL TRANSFORMATION OF THE CITY, N.Y. Guidebook, 1964

"their growth curves are abnormal. On such charts the curves of industrial and economic performance rise abnormally above, or more normally fall back to, or parallel with, the base-line norm of 'no change.' The would-be conservators of peace and of economic health have throughout history sought to 'iron out' the abnormal humps, to 'return to normal,' to no change.

"Einstein's relativity theory, evolved early in the century, made the static verities of Newtonian mechanics untenable.

But it took almost a half-century for the dynamics of Einstein's relativity to emerge in the daily papers as the atomic bomb, followed by a pattern of dynamic events clearly demonstrating that accelerating change is normal---just as normal as the human appetite for news of the accelerating accomplishment of breakthroughs that swiftly expand man's domain in the Universe.

"To the Newtonian conservative, the deliberately accelerated obsolescence of structures and equipment, such as we see everywhere about us in contemporary New York, constitutes waste. To the Einsteinian conservative, obsolete structures and equipment are a new mine of selectively concentrated chemical elements---a fundamental resource of the industrial"

- Cite WAVE TRANSFORMATION OF THE CITY, N.Y. Guidebook, 1964 "commonwealth. The materials from this mine are the means of realising ever more advanced design out of our Improving scientific potentials. As a consequence, metal scrap and plastic scrap now recirculate increasingly.

"New inventions increase our productive capacity per man- hour and per pound of resource---our 'performance capability', as it is called. Every time we mine obsolete structures or equipment for metal or plastic to use in improved designs, we get increased performance out of the same tonnage of fundamental chemical resources. Which suggests, for instance, that we should take all the obsolete two-ton automobiles off the road, melt them up, and produce from the resulting scrap twice as many one-ton automobiles, each of higher capability than the former cars in terms of performance per passenger and of fuel gallons per safely accomplished higher-velocity mile.

"All the world's great cities that grew up prior to New York were products of the Newtonian 'no change' norms. Their romance lies in their preoccupation with man's historical- bastioned past. 'What makes New York City 'the most important something* in all history is that long before the atomic" - City[®] JAVE TRANSFORMATION OF THE CITY, N.Y. GUIDEBOOK, 1964 "bomb hit the front page, this city had become the first Einsteinian reality. Its romance is its living manifestation of history continually in the making. Its streets and districts gradually grow, swell, transform, and disappear altogether. In the 'gay'90s' New York's great exposition and sports building on Madison Square

was known as Madison Square Garden. In 1924, the owners of that building built a new modern Madison Square Garden li miles north of Madison Square on Eighth Avenue. New York's Bowery, now the deadbeat's lingering threshold to death, was once the most splendid of growing New York's districts and boasted its Bowery Savings Bank. The Bowery Savings Bank now has Its main office five miles north of the Bowery on East 42nd Street. The Madison Avenue of the 'gay '90s' meant the area between Madison Square and 42nd Street, dominated by the J.P. Morgan residence at 38th and Madison. Madison Avenue of the first half of the 20th century referred to shopping section from 42nd Street to ?2nd Street, dominated at its base by Brooks Brothers, the Biltmore Hotel, and the Hoosevelt Hotel. So attractive did the Madison Avenue vantage appear to so many corporate newcomers that they, in effect, have pulled down all the old"

- Cite rfiVE TRANCFORJ'jiTIOH OF THE CITT, N.I. Guidebook, 1964

"buildings and thus terminated all the old enterprises that constituted Madison Avenue, They have built a new canyon in the Universe, whose preoccupation with the abstract function of shaping men's condition-able reflexes, through advertising, has caused the words 'Madison Avenue' to hold an entirely new meaning---having nothing to do with a physical avenue itself, but with their 'corporate image'---the collective archpropagan- dist, proselytiter, inducer, and seducer,

"Propaganda, like most of New fork's manufactured products, has little weight or physical substance. Pittsburgh produces steel; Chicago warehouses wheat, steel, and cattle. New Tork manufactures pattern abstractions, London's stock market.

the Paris Bourse, and other world exchanges long predate New york in the exchange of abstract enterprise equities, but New Tork today centralises all the world's anticipatory discounting of forwardly reckonable values.

"The United Nations' world headquarters came naturally to New York as the most concentrated pattern processing and exchanging center. New York is today the world's chief publishing'

- Cite WAVE TRANSPORTATION OF THE CITY, N.Y. Guidebook, 1964
KfM YQI* City: (7)

"headquarters, its leading drama and art market* One Oklahoma stockyard, last year, collected and sent forward to the slaughter house a nose-to-tail chain of cattle 550 miles long. New York's two million typewriters and calculating machines last years produced rows of letters and figures long enough to run 20 ribbons between the planets Earth and Venus when these two are in closest proximity.

"The ideas in which New York traffics emanate from all around the Earth. It is the world's greatest import-export idea exchange. New York is not an idea factory, nor an idea mine, nor an idea garden, but it is the world's point of highest velocity in idea exchanging. As such, New York is the world's greatest traffic center in hopes and fears, valid or invalid.

"There are but relatively few native New Yorkers. Its population is transient. The average residence is three X^{earB}« Visitors to New York from around the world frequently assert antipathy to New York's coldness and bigness. They have not seen the New York we have been describing. They have seen one frame of a moving picture. It looks static."

- Cite WAVE TRANSFORMATION OF THE CITY, N.Y. Guidebook, 1964

"Only the old-time New Yorkers can know the great transforming dynamics and, more importantly, the city's myriad, of rich abstract resources. Because pure abstractions such as love, hate, happiness, and inspiration are as invisible as they are nonmerchandisable, all the real meaning of New York is both invisible and nonmarketed. The lucky few millions who are old-time New Yorkers usually love New York passionately for they know not why specifically.

"While the statistical voices warn us that the world population threatens to crowd itself off the Earth, It Is comforting to discover that New York City's buildings could contain the whole population of the Earth with no mere crowding than that experienced at a cocktail party—not room for anyone to lie down but all under cover. New York is so knit together with underground wires, tubes, cables, and pipes—that In effect Manhattan Island could be lifted in one piece and stood upon end, its roadways and tunnels acting as its supporting columns with Battery Park on top and Harlem as its base. In such a position its subways would become elevators and its elevators subway shuttles."

- Cite WAVE TRANSFORMATION OF TNL CITY, Y.Y. Guidebook, 1Q64
RBF DEFINITIONS

"Its street level is not the bottom level of New York. Legal statutes adopted by early Knickerbocker burrs required that when the utility companies dug up its streets and inserted pipes, cables, and subways, they should thereafter put all the same earth back where they found it and the city would then resurface it. This the public utilities have done to the letter. The earth tucked back into the street is no more the Earth's natural top crust than is the earth tucked into the flower pots high above in Manhattan's skyscraper apartments. The concrete and steel intrusions, below the streets and buildings, have become so multitudinous and penetrate at so many levels that they reach hundreds of feet below the theoretical surface. Like an Iceberg, structural and mechanical Manhattan is now chiefly below the surface.

"Old-time New Yorkers remember the unique commercial districts--- the leather district around Gold Street; the tea and spice districts along Water, Front, and Pearl Streets; the cotton and linen district on White Street; the machinery exchanges of Lafayette Street; and the great Gansevoort, Washington, and Manhattan market districts. These districts have been almost wholly diffused into uptown invisible districts. The real

- Cite WAVE TRANSFORMATION OF THE CITY; N.Y. Guidebook, 1964

"The real long-time New Yorker knows, however, that nothing has gone from New York and that its interests have multiplied a thousandfold. The unique vortexes continually transform and interchange.

"Old-world church and cathedral spires were originally conceived and built to reach high above the surrounding houses and stores. In New York one can look down from on high into a deep valley wherein minuscule spires reach up from the bottom like fine jewelry spicules, for, unlike business enterprises, the churches have usually been able to move and have been swallowed by the commercial avalanche, being no longer the centers of their parish dwellings. But their spires as yet inspire when, in our thoughts, our eyes wander down into those New York depths wherein approximately all that is physically left of yesterday is wedded with the physical of today, and we remember that we are as yet 'quick' and not dead, and that yesterday only the dead were normal, and that New York City is now being synchronised with the dynamism of the quick whose norm is Einstein's c , that is 186,000 times 186,000 miles per second, the normal rate at which we see."

- Cite WAVE TRANSFORMATION OF THE CITY, N.Y. Guidebook, 1964 "•I lift up mine eyes unto the hills from whence cometh my help'—possibly because of all our faculties, it is only our eyes that can apprehend the distant presence of the high hills— a presence of which we are informed by radiation from the Sun, reflected from

the hills to our eyes at 166,000 miles per second, all of which seems so instantaneous that we mistakenly say that we 'lift our eyes.' And we know that no man--no mere human being—invented that velocity, nor its reliable regularity throughout the full spectrum range of all electromagnetic wave phenomena, nor the regularity of its ultra-high-frequency inter-trafficking.

”Men of yesterday looked outwardly self-helplessly to the macrocosm, praying for miraculous salvation; today they look inwardly self-disciplinedly to the nuclear microcosm for yast sources of reliable physical power. What men thought they understood yesterday of their local experiences seemed regular, orderly, and logical; what they did not comprehend, extending outward to the macrocosm and inward to the microcosm, they thought of as turbulent, random, and chaotic.”

- Cite WAVE TRANSFORMATION OF THE CITY, N.Y. Guidebook, 1964

Now York_Cjtv: (12)

”Ken of the Einstein Age are discovering the universal orderliness of constant, comprehensive transformation, utterly transcendental in the exquisite and magnificent orderliness of its wavelength and frequency when compared to the crude, disorderly, conscious thinking and articulation of mere humans.

”And as the bees intent upon their honey-commerce are utterly unaware of the pollination-function of their bumbling tails, which inadvertently and unbeknownst to the bees service the organisation of tomorrow’s flowers and honey sources, so are the little, local real-estate manipulators and separate venture builders who redot the New fork City map utterly unaware of their part in the—only retrospectively scannable—comprehensive orderliness of New York City’s transformative growth. That growth is an invisible function of all men's experience of all history, translated now into the world-surrounding, dynamically functioning industrial network-system in which New York City is, for the moment, the most radiant communicationrelaying center on Planet Earth.” - Cite WAVE TRANSFORATION OF THE CITY, N.Y. Guidebook, 1964

Hew York City:

"new York City! A one-piece dormitory, work, and play snop 300 square miles m the horizontal plane and 30 to 1,000 feet m thick-ness." *

- Cite NINE CHAIMS 10 'iHt fuOUW, p.2, 1938

**See Population Density: Manhattan Cocktail Party Population Den-
sity: Manhattan Jet Dispersal University: New York City as a Vast Uni-
versity Dome Over Manhattan**

See City, (B); (3)

City as Center of Abstract Intercourse (1)(2)

Everybody's Business, (1)

North-south Mobility of World Man, (1)

Fortress Mentality, 12 May'77

Niagara Falla:

See Nature Has No Separate Departments, 1965

Nice:

"Nice means comprehensively adequate and of incisive fit.

- Cite RBF to Ron Goodfellow; Philadelphia, PA: 29 Jul'76

**See Nothingness of Night Rotation of Night as a Shadow UndiMen-
sional Night**

Nine:

"Each prime structural system in Universe has nine separate and unique states of existence--- four positive, four negative plus one schematic unfolded nothiness state... the same schematic 'game' set-up as that of physics' quantum mechanics with four positive and four negative quanta as we go from a central nothingness equilib-rium to first one, then two, then three, then four, high-frequency, regenerated, alternate, equi-integrity, tetrahedral quanta."

- Citation & context at Geometrical Functions of Nine. (3)(4)
16 May'75

"Remember the original subtitle of 'Nine Chains to the Noon*' was 'an Adventure Story of Thought.' Not very different from the subtitle of 'Synergetics.'"

- Cite RBF to EJA, 28 May'75
KBF DcFIMTiU^{NS}

"The title Nine Chains to the Koon was chosen to encourage and stimulate the broaaest attitude toward thought. Simultaneously, it emphasizes the littleness of our Universe from the mind viewpoint. A statistical cartoon would show that if, in imagination, all the people of the world were to stand upon one another's shoulders, they would make nine complete chains between the Earth and the Moon. if it is not so far to the toon, then it is not so far to the limits--- whatever, whenever, and wherever they may be."

"Limits are what we have feared, so much has been done to make us conscious of our infinite physical smallness that the time has come to dare to include the complete Universe in our rationalizing."

- Citation and context at Rationalization sequence (5),

See Continuous Man

See Local vs. Comprehensive (1)

Hine: None: Zero:

"There is an octave pattern in every system and every time we come to nine--- whether it be $3+6$, $2+7$, or $8+1$ --- it is zero. Waves are octave and one reason they do not interfere with each other is because of the zero "

- Cite SYNERGETICS, "Numerology,** pp. 11-12. Oct. *71. fling r_flgng. r, zgxg-'

'Nine is lero Nine is none None (Lat.) is none N-one • not one □ none."

- Cite RBF holograph at Table of Indlgs, 2 Mar*73

Kins.," None - z\$rg;

"Indigs can be played only with one through nine* Nine is aero - nein
- none - nothing. Zero effect.

"•Casting out nines,¹ aeans working only with the energy left over after the nines have been taken out."

- Cite RBF to EJA, Chea H. Wolf, Fairfield, Conn., 18 Jun»71

See Eightnese: 'Begeted* Eightnees Interwave behavior of Number
Nucleus - Nine □ Nothing Octantatlon Zero-nineas

Geometrical Function of Nine

Nine: Ninenesa: (2)

See Cube: Volume-3 Cube. 16 Dec'73 Indig, 3 Mar • 73 Synergetic
Constant, Jul'57

Zero Wave, 9 Mar'73

See Fuller, R.B: Crisis of 1927

Nineteen ^s.6YentY-ttfg* 1972: History's Most Critical Year:

See Economic Accounting System: Human Life-hour Production, (1)

Gross World Product Sequence, tZ) (3 J

Nineteen:

See Closest Packing of Spheres, 29 Kay'72 Tetrahedroning, (2)(3 J
Twenty, (1J

'Gradually humanity as a whole is beginning to realize that it is not
Just a matter of Idealistic 'unselfishness' but a synergetic effect of
all the great generalized principles governing the Universe that the
Universe and its evolving transformations are cooperative only in 90
degrees, or orbitally interlinking directions; that is, circumferentially.
'I go for my honey' is linear, specialized, disintegrative. Ideologies
sovereign states, corporations, bureaucracies, bureacrats--- all are
linearly programmed, biased, and competitive."

- Citation and context at Ecology Seoenco (E)(F), 5 Jun'73

Ninety PegreeneaB va. 180-degreeneaa;

See Critical Proximity, May¹71

See Charts: We Need Only Rotate Our Charts 90 Degrees Normal to
Universe Rectilinear Right Angle Trigonometric Limit XYZ Coordinate
System Precession i Degrees of Freedom Precession of Side Effects &
Primary Effects Primary vs. Side Effects Sixty Degreeeness vs. Ninety
Degreeeness

See Distaff, 22 Jul'71

Ecology Sequence (H)(Ih (E) (F)* Octahedron: One-eighth Octahe-
dron (2) Spherical Octahedron, Aug'72; 29 Nov'72 Precession (a)(b)
Compression, 19 Jun'71 Triacontrahedron, 31 Jul*77

Ninety-two Elements:

"...The chemical elements are not things, they are behaviors...."

- Citation & context at Communication. 21 Jun*77

"Nature does not have any pollutants. She has only chemical elements. The eternally regenerative Universe depends very heavily on the very valuable total inventory of those chemical elements. They are not things; they are behaviors, all the reciprocal behaviors of the regenerative Universe having their Innate frequencies."

- Tape #2, transcript p.5; RBF to W. Wolf, 15 Jun'74

'•All the fundamental nuclear simplexes of the 92 inherently self-regenerative physical Universe elements are a priori to human mind formulation and invention and are only discoverable by mind."

- Citation and context at Design: Apriori Design vs. Deliberate Design. 13 Mar'73

"The 92 regenerative chemical elements themselves are only non-dissipatable and are only re-circulatable."

- Cite World Game, 29 Jun'72

"Each of the chemical elements are pattern Integrities formed by their self-knotting, inwardly precessing, periodically synchronized self-interferences."

- Citation at Pattern Integrity. 25 Aug*71

"Unique pattern evolvment constitutes elementality."

What is unique about each of the 92 self-regenerative chemical elements is their nonrepetitive pattern evolvment which terminates with the third layer of 92."

• Citation at Elementality. 25 Aug*71

• i -reptfFtf ML ITM || ||_ nun iiHih

"... Planets, stars, galaxies, and their contained behaviors such as the periodic regularities of the chemical elements are all design -a ccomplishnjents."

- Citation and context at Design (1), 9 Apr*71
NIUftY-TWQ ^Elcmcnfrg:

"...The 92 regenerative chemical elements of associative energy or of the various radiations of energy in its disassociative phase."

- Citation and context at Optical Motion Spectrum (1)(2).
4 Mar'69

"rfhat is unique about each of the 92 regenerative chemical elements is their unique behavioral--- or energetical--- characteristics."

* - Cite HO!..' TO MAINTAIN KAB AS A SUCCESS Utopia or Oblivion, p. 216, 18 Mar'65

"Each of the chemical elements are pattern integrities in the form of local self-interferencee."

- Cite OREGON Ucture #5 - p. 164, 9 Jul '62

"No longer do I want to talk about the chemical elements as things, but as pattern integrities. Each one Is a unique pattern integrity and each one of them is in a sense a form of knots. So we get where there are chemical compounds and the knots tend to be interlinkable and they will catch on one another. This one is holding together all right, but this ball of twine and this ball of twine, suddenly one weaves into the other every so often and associates."

- Cite Oregon Lecture #5 - pp. 164-165. 9 Jul '62

"The 92 regenerative chemical elements are the basic inventory of Cosmic Absolutes.

"The family_A consists of 92 unique sets from 1 to 92 electronproton counts inclusive, and none other.

"Those subsequently isolated elements beyond 92 /constitute per atomics/; they are the nonselfregenerative chemical elements of negative universe.'*

- Cite MUSIC Pp 45-50, 10 Dec'64

"The original chaotic disposition of (the) ninety- two regenerative chemical elements is gradually being converted by the industrial principle to orderly separation and systematic distribution over the face of earth in structural or mechanical arrangements of active or potential leverage-augmentation,"

"... the aspect of energy as mass, inventoried as the ninety-two regenerative chemical elements which constitute earth and its enclosing film of alternating liquid-gaseous sequence."

- Cite COKPREHEKSIVE DESIGNING (I&I), P. 177, 1 Jun'49

RBF DEFINITIONS

Ninety-Two Elements:

'Unique behavior constitutes elemental!ty.^{rt}

- Citation & context at Science (2), Jan'49

'All the first ninety-two chemical'elements'

are the finitely comprehensive set

of purely abstract 'physical* principles governing all the fundamental cases

of dynamically symmetrical vectorial geometries and their systematically self-knotting

process Ionally regenerative in-shunting events.”

- Cite Comprehensive Anticipatory Design Science (Ltr. to Jonas Salk.)

- Cite NO i-DfU SECOND HAL? GOD, p. 103

9 Apr*40

NinetY-tMO Elements as Careoea of Energy:

See Wealth, 1947

"I have sought fundamental information on the experiences of man on Earth which might govern the shape of all developments men are experiencing. Charts of inventions, for example, are not satisfactory as the list is open-ended and is difficult to assess in terms of the relative importance of specific inventions. The significant area of information is the rate at which scientists have successively isolated the chemical elements.

"` This is the most important pattern of discovery with which man deals, embracing, as it does, all physical phenomena. The rate at which man found chemical elements seems to be the key controlling the development of the application of science to technology, and following from this, the application and effect of that technology on economics and, ultimately, the effect of the new technology on society itself."

"The chart... 'Profile of the Industrial Revolution,¹ begins"

- Cite THE YEAH 2000, San Jose State College, Mar'66

- Cite The YEAR 2000, reprinted in AD, Feb'67

"begihs with ,the year A.D. 1200 going up to A.D. 2000. We begin with a list of nine elements: carbon, lead, tin, mercury, silver, copper, sulphur, gold, and iron, which were known to man at the opening of our history. We do not know when they were first isolated or knowingly

used. The first known isolation of a chemical element is arsenic, in 1200. Following this, there is a 200-year gap and we come to antimony; another 200-year gap and we come to phosphorus. Then the gap narrows to 75 years and we have cobalt. From here on we average an isolation of an element every two years. It is an extraordinary period in history that the rate begins to accelerate.

"If you check the date 1730, not long before the American Revolution, you will notice that there are some separate shoulders or plateaus, appearing on the chart. Those shoulders are slowdowns when we have major wars--- the American Revolution, various civil wars, and World War I. They show that pure science does not prosper at the time of war--- which is contrary to all popular notions. Scientists are made to apply science in wartime, rather than' look for fundamental information.

"We can also see that in 1932, which was thought to be the"

- Cite THE YEAR 2000, reprinted in AD, Feb'67

"depth of the depression, man made his 92nd isolation of a chemical element. This completed the element table representing the full family now mastered by man--- in the sense of his ability to repeat element isolation and to rearrange elements, as fundamental ingredients of physical environment, in preferred patterns of use. From this point on we may notice something strange. Previous to completion of the table, element isolation occurred irregularly--- for example, element number 19 would be the 43rd element isolated; the 45th isolation would number 30, etc. With the post-uraniums the isolations show an absolute regularity of increase--- they come in by number. Man begins to control consciously the rate of development of his capability.

"We must note this in reviewing the contiguous developments in environment control {as shown at the top of the chart). Just as man is able to go into cold climates by putting on fur skins, or into hot by taking off clothes, he enters more hostile environments by having more control devices. The development of these devices is a fundamental measure of man's degree of advantage over his environment. The first time, to our knowledge, that he goes around the world in an invention was, as"

- Cite THE YEAR 2000 reprinted in AD, Feb'67

"shown on the chart, in a wooden sailing ship. It comes after the second isolation. Then there is a gap of 350 years and he now goes around the world in a steel steamship. This is an entirely new magnitude of control, no longer dependent on the wind. Itpon this, there swiftly follows the world journey in an aluminum airplane, then in an exotic metals rocket. There is a very great contraction in time between these developments. The wooden ship takes two years to circumnavigate the Earth; the steamship, two months, the airplane two days, and the orbiting satellite just over an hour. We have at least three accelerations of accelerating accelerations involved here.

"The consequence of what we have considered then, in relation to our charting is that the next point for a significant new chapter would be around 1975, nine years from now. What that will be we can only guess at--- sending ourselves around the world by radio?

"The key realization is the degree of acceleration of change, and that better than 99 percent of all important technologies affecting such change are invisible. Man cannot see what is going on. He cannot 'see' the chemistries; he cannot see the**

- Cite THE YEAR 2000 reprinted in AD, Feb'67

Ninety-Two Elements: Cfrm Q£ fotC Qi Acquisition (5)

"alloys. Most of the important rates and patterns of change cannot be apprehended by him directly in a sensorial manner. Not only does man have a very narrow range of tunability in the electromagnetic spectrum where he can actually see, but he also has a very narrow spectrum of notion apprehension. He cannot see the hands of the clock moving, or the stars, or any of the atoms in motion."

- Cite THE YEAR 2000 reprinted in AD, Feb*67

"Thia comprehensive curve of the chronological rate of acquisition of knowledge concerning the pure science absolutes separated out from all other events of history mqy be inspected as the basic means of prediction of inherent technical and social events--- immediate or somewhat distant."

- Citation and context at Science, 1947

See Industrialization: Curve Of Industrial Revolution: Profile Of

See Science, 1947

Science: Pure & Applied, 8 Sep'75

Ninety-Two Elements; Periodic Regularities of;

"The omni-interorderliness, per se, characterising the chemical elements' component periodicities, as well as the electromagnetic wavelength and frequency regularities of the 92 regenerative chemical elements, which hold true--- and exploratorily reliable--- throughout the macro and micro- cosmic behaviors of energy--- as radiation or matter--- is consistent throughout the thus-far explored multibillion light-year ranges of the astrophysical, symphonic scenario Universe."

- Cite RBF Ltr. to Prime Minister Indira Gandhi, 4 Jan '70, p.1.

(The generalised laws first disclosed by Avogadro, compounded with Boyle's chemical law, to informedly inspire Menmdeleyev...)

"To differentiate out and predict
The existence of a closed family
Of ninety-two
Regenerative chemical elements.

These elements, when found. They said would display Such-and-such

Unique and orderly characteristics,
And they mathematically identified in advance

The respective constituent quantities
Of the as yet undiscovered discrete characteristics Of the as yet undiscovered elements.

All the memwbers of this interregenerative Information relay team
Did not know one another personally.

Their accumulatively inspired prediction occurred

At the historical moment When, a century ago--- Only fifty-two

- Cite INTUITION, p.18, May »?2

"Of the ninety-two
Of those heretofore unexpected chemical elements
Had as yet been discovered
And physically isolated
By humans on Earth— . . .
Mendeleyev, attempting scientifically
To find an order
Jn which to set

{he first fifty-two chemical elements nadvertently uncovered

A previously unknown
System of regularities
Common to all fifty-two,
Which, if their implied generalization
Proved in due course
To hold true,
Would require the presence in Universe
Of the additional unknown forty
To fill in the membership vacancies
Occurring in the revealed periodic behaviors
Of the already discovered chemical elements.
- Cite INTUITION, pp.18-19, Kay '72

RBF DEFINITIONS

"Since Mendeleyev's prediction,
Every few years—
One by one—
All ninety-two have been identified
As being present in various abundances
In all the known stars of the heavens,
While ninety-one of them
Have been isolated by scientists
Somewhere on planet Earth,

**And all of them have the exact characteristics Predicted by
Mendeleyev and his colleagues.**

"And all the foregoing
Subjective harvesting—
Accomplished by individuals
Bound together

By naught other than intellectual integrity—
Has enabled still other
Remotely exploring
Educatively inspired individuals
First to discover
Then inventively to employ
- Cite IN WITION, pp.19-20, May >72
"The originally unknown
Uniquely recombining
Synergetic behaviors—
In structural groupings—
Of those ninety-two regenerative elements,
Thereby attaining utterly surprising
Structural, mechanical,
Chemical and electromagnetic characteristics,
Which have enormously increased
The relative advantage
Of ever-increasing numbers of humans
To cope with the challenges of life

By accomplishing ever more difficult tasks, Previously considered impossible to do;

With ever less
Time, weight and energy investments,
Augmented exponentially
By ever-greater investment of unweighables
Of the metaphysical resources—
Of hours of thoughtful reconsiderations,
Anticipations, conceptualising,
Searchings and researchings
Calculations and experiments."

- Cite INTUITION, p.20, May '72

See Periodicity

See Resonance, 18 Jun'71

Individuality 1 Degrees of Freedom, (2)

Ninety-Two Tendencies to Self-Imposition of Energy;

"... As we come to explore for the fundamental principles and Attractions called atoms, we find that, despite the astronomical number of aspects and events Unreflected principles of behavior pervade the whole of the field of energy." ^{Einstein} ~ tendency to self-impoundment.

- Citation anti context at Reciprocity (1), May*49

RBF DEFINITIONS

/Four Ninety-two Elements: Unique Frequencies:

"This is just what Einstein was working on in his $E = mc^2$ trying to explain a given mass and the way it interfered with itself to give itself this local uniqueness of relative concentration, because these precessions can give you angular changes and it gets tighter and tighter, which will give you unique frequencies and every one of our chemical elements has these unique frequencies and you can actually pick them out of the electromagnetic spectrum by a plurality of usually four unique frequencies characterizing each of the elements."

- Citation *k* context at Mattey, 9 Jul*62

See Number: Cosmically Absolute Numbers

Family of Unique Frequencies

See Integer, 15 Oct'72 Physics: Difference Between Physics and Chemistry, 22 Jun'72

Railroad Tracks: Great-circle Energy Tracks on the Surface of a Sphere

(A)(B)

Reality, 14 Oct'69

Matter, 9 Jul*62*

Meshing k Nonmeshing, 1970; 19 Oct'70 Domains of Actions, 21 Dec'71 Sweepout: Spherical Sweepout (1)(2) Chess: Game of Universe, 7 Oct'71 Orbital Escape from Critical Proximity, (3) Alloys, 30 May*75 Geometrical Function of Nine, (7) Cube & VE as Wave Propagating Model, 23 Feb'72

Electromagnetic Spectrum, 26 Jan'?6

Heard & Unheard Resonances, 17 Jan'75

Quantum Mechanics: Minimum Geometrical Fournesa, (1)

Nlnetv-two Elements:

(1)

See Atom

Chemical Phenomenon

Cosmic Absolutes

Elementally

Man: Relative Abundance of Chemical Elements in

Man and Universe

Minimum Set of Patterns

Periodic Atomics

Periodic Table and Closest Packing

Rdative Abundance

Superatomics

Energy Involvement of 92 Elements

Family of Chemical Elements

Isotopes

See A Priori. 19 Oct*70

Complex & Simplex, May*72

Cosmic, 3 Oct*72

Design Science, 29 Jun'72

Design (!)□

Design: A Priori vs. Deliberate. 13 Mar*73*

Economic Accounting System (A)(D)

Elementality, 25 Aug'71*

Eternal Designing Capability (3)

Frequency, 1970

Industrialization (2)

Industrial Principle. 1 Jun'49*

Intereffects. 25 Sep'73

Integer. 15 Oct'72

Invisible Colors, 4 Mar*69

Meshing & Nonmeshing, 1970

Octahedron: Nuclear Asymmetric, 1 Apr*73

Optical Motion Spectrum (1)(2)*

Human Beings *he*. Complex Universe. (6)

See Pattern I_tegrity (A); 25 Aug'71*

Pollution, 24 Feb'?2

Pollution Control (2)
 Railroad Tracks: Great Circle Energy Tracks (B)
 Relative Abundance, 9 Jul*62
 Reciprocity (2)
 Science (2)*
 Universe, 4 Jan'70; 9 Jul'62; 15 Dec'71
 Wealth. 1947
 World Game, 29 Jun'72*
 Scrap Sorting *tc.* Mongering (1)
 Individual Universes, (1)
 Single Integer Differentials, (1)
 Coupler, 27 Jan'75
 Orbital Escape from Critical Proximity, (4)
 Geometrical Function of Nine, (7)
 Darwin: Evolution May be Going the Other Way, 5 Jun*75
 Closed System, 10 Nov'75
 building Industry, (11)
 Mite as Model for Quark, 3 May* 77
 Communication, 21 Jun'77*
 MnW-eight Point SW
 See Degrees: 98.6
Niwrad:
 See Darwin: Evolution May be Going the Other Way
Nixon: Richard M:
See The One: Waterhate, 13 May*73

United States: Most Difficult Sovereignty Break Up, l2>

Building Industry, (6)
 See Debt, 1944
 Deficit Accounting, Feb'6?
 See Chaos, 1971

Entropy, (p.90) May'72

Primordial, (p.156J May'72

Ha Absolute Identity:

See Noun, 1938

AA

« no abolut division of energetic Universe Into Isolated or noncommunicable parts..."

- Citation 4 context at Sphere Integrity: There la No. 1962

RBF DEFINITIONS

MB No__ Absolute Enclosed Surface or Volume:

"As there may be no absolute division of energetic universe into isolated or non-communicable parts, there is no absolute enclosed surface or absolutely enclosed volume; therefore, no true or absolutely defined surface sphere integrity."

- Citation *k* context at Sphere Integrity: There I» Ho. 1962 U U191 Kf ESEC. 3
0151

See Realms vs. Surface

See Frequency, Jun'71

See Eternity vs Energy, 2 Fay* 78

No Absolute Understanding:

See Invisible Reality, tiay'72

Ho Absolute Void:

See Halo Concept; 25 Apr'71; Jun*71

See Ko Absolute Division into Parts

No Absolute Identity ilo Absolute Enclosed Surface or Volume

No Sphere Integrity

No Absolute Understanding

No Absolute Disorder

No Absolute Debt

No Absolute Void

No Absolute Time

TITLE OF HUF PAPER

Noah¹⁸ Ark:

"Project Noah's Ark

Discovering New Klan Advantage

Summer, 1950"

Ng.Altlt»udaXe8g-Irl°ntlc =

See Systematic Realization, 20 Dec'74

Nob«l Prize:

See Fuller, K.B: Nobel Prize

Mobility: Noblaa:

(1)

Sea Kings and Nobles

Nobilltv: Noblpw:

(2)

See Design Revolution: Pulling the Bottom Up Race, (2)(J)

See Mark Your Own Paper: Nobody to Mark Your Paper

lift Prwdth ?

See Systematic Realisation, 20 Dec'74

No Building Block:

"All monological explanations of Univerae

Are inherently inadequate

And axiomatically fallacious.

There can be no single key

Nor unit building block of Universe."

- Cite INTUITION, p.13, May '72

No Building Blocks:

"Kan haa an innate proclivity for wanting to monopolite, or to be monological. He wanta to fibd the key, the building block. Every news reporter tries to talk "in terra of 'finding the building blocka of universe.' But the physicists keep tryingt to tell society that it takes fundamental 'complementarity.' That is to say two different and complement?i|a|y 'building blocks.' They are the proton and the neutron. The two are intertransformable. But if one transforms to the other, the other does likewise. But they are always unique in themselves. You cannot build universe with just the rightness or leftness 'blocks' exclusively of one another."

- Cite NASA SPEECH, Pp. 67,68, Jun'66

' • Starting with the elementary viewpoint: you get a few things and put them together... The Darwinian idea. At his time the smallest thing you knew much about, you could look at It with a microscope, was a cell. We had again, Dalton, and his atoms, but not much was known about them in physics and basic chemistry. It came as a pretty nice idea from Darwin that he could seem to find the same cells occurring in all the things. You could say he started with the simplest cells and built up to the more complex cells. Cells were the building blocks.

' 'We have to note that man loves the idea of a building block. Itan has a tremendous propensity for one thing. He wants the key. He loves to talk about the building block or the key.

• 'What the modern physicist has found, and what Oppenheimer was giving us in his farewell address on TV (although it was not his discovery) was the idea of fundamental complementarity.

We discover that we are dealing in a Universe of functions and there is a plurality of unique patterns. They are not the same patterns and fundamental complementarity means that you"

- Cite Oregon Lecture /5, pp.168-169, 9 Jul'62

No Building Blocks:

"cannot talk about the Universe in terms of any one of them. There is no way you can talk about it in one. The oneness, or key, or building-block idea, has been found completely irrelevant by the physicists. It has no meaning at all."

- Cite Oregon Lecture #5, p. 169, 9 Jul*62

Np Building Blocks:

"... All present economic criteria ... generated generated from the limited facets of generalization which seek 'keys' or 'basic building parts' from which to predict wholes is fallacious and obsolete."

- Cita, ion and context at Hierarchy of Patterns. 1954 to Ltr. to Jim Fitzgibbons, '

See Amoeba as Building Block

Darwin: Evolution May Be Going the Other Way Key-keyhole Sequence

Monolog!cal

See A Priori Four-dimensional Reality, (2) Cosmic Accounting. 20 Dec'73 Democritus, May'72 Dictionary, (1) Education, 6 Mar*60 Four-dimensional Reality, 30 Apr*77 Hierarchy of Patterns, 1954* Intertransformable. Jun* 66 Mutual Survival Principles, (3) Particle. 6 Jul'62 Quantum Sequence. (3) Tetrahedron, 26 Apr'77 Twenty Questions, (1)(2) You & I as Pattern Integritys, 22 Jan*75 Human Beings & Complex Universe, (2)(j)(6)

See Gravitational System Zone, 14 Jan'55

See Changeless

Rest: At Rest

See Charts, 3 Oct'73

Now, 14 Feb'72

Truth as Progressive Diminution of Residual Error,

1 Feb'75

See Integrity, 24 Jan'72

See Life is Not Physical, (2) Life, 5 Jun'75

No Physical Entity Cold:

See Cold & Vacuum, 1946

"Conceptual totality Is inherently prohibited. But exactitude can be bettered And measurement refined By progressively reducing Residual Errors, Thereby disclosing The directions of truths Ever progressing Toward the eternally exact Utter perfection, Complete understanding Absolute wisdom, Unattainable by humans But affirming God Omni permea t i ve, Omniregenerative, All incorruptible As infinitely inclusive Exquisite love."

—T- =±_ -£lte LOVE p.l?6 May >72

C<> H CC t T _ 3ec I JO I. oi |

See Structure, Nov `71

No Continuity:

See System, 26 Dec*74

No Continuums;

"There are no Impervious surface continuums:"

- Cite SYNERGETICS text at Sec. 240.61; draft 1971

See Discontinuity, Jun'66

Event, 26 Jan'72

Radiation: Speed Of,(C)

Frequency, Jun'71

Subvisible Discontinuity, 19 Oct'72

Experiential Mathematics, 1\$ Oct'76

0 Module, 29 Sep'76

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

See Rationalization Sequence, (6)

Node? Nodal:

See Topology: Synergetic i Eulerian (1)

See Domain, 29 Jan'75; 11 Feb'73; 31 May'71; 11 Jul'62 Domain of
an Area, Dec'?1

,NQ ^E_{n4} la

"... There are no 'absolutes*

--- No 'ends' in themselves-- no •things' --- Only transitionally trans-
formative verbing.

- Citation at Absolute, (p.52) Oct*66

End in Itself:

See Teleology

U)

See Pencil, 1938

Bo Energy Orf sia: (A)

"The Universe is nothing but energy. There is no energy created at all. It's a crisis of ignorance, fear, wrong thinking, an overblown bureaucracy, and conditioned reflexes.

"The poor President Carter_7 has a cabinet without an Inventor on it.... to switch to coal is just deferring the crisis to another time, leaving it to another generation.

You can't do it by politics, Carter is a politician. He is at the tail of the dragon where things are really snapping....

"Money-makers say they don't know how to put a meter between the people and the wind. This amount of energy is not being employed because people don't make money off it....We continue live on the cream and not on the milk. We go after high-grade oil, making money on high-grade power, but what you're actually doing is using up nature's own savings account. The Universe has accumulated that energy over billions of years by impounding photosynthesized energy. With people making billions of dollars it's difficult to stop that kind of thing....

"When the German oil wells were bombed, they got by on _n alcohols, converting trees into fuel, and they also were the

NQ Energy 'rlala'

(B)

first to make synthetic rubber from alcohol...⁴⁷ But America in World War II didn't have enough high-octane energy to satisfy both our aviation and our synthetic rubber needs, so the U.S. furtively made enormous amounts of synthetic rubber from alcohol. Then, when Eisenhower came in, the oil companies and the administration were careful not to let the public realize they were ever able to do it.

"Nature doesn't have pollution. Pollution is valuable chemicals in the wrong place....

"I don't get any gold medals from the oil companies, but I do know David Rockefeller was Impressed by the book 2 Medard Gabel's 'Energy, Earth & Everyone.!./. He knows that it's so. I've been asked to speak at a luncheon given by the chairman of the board of Atlantic Richfield. They al-o know it's so. They don't say *I hate you' or anything like that. They Just don't know how to let go of a hot. poker. It's not that they're bad human beings, but some are hooked on a bad game....

"Settling the energy crisis on the basis of how to make money may accelerate the coming of something we might not like---'

fidF DEFINITIONS

»o Energy- Crisis?

<C)

"socialism or communisn....

'The whole thing started with Yankee ingenuity. The Yankee inventor was well-thought-of. He gave people a service and people admired him because of his product. Then the conglomerates came along and reduced that human pride. The power of money was equated with progress. For the moment, we are losing something tremendously

47 Cite RBF to Susan Watters in W tWomen's Wear Daily); 13 Kay'77

valuable. If the energy crisis isn't properly handled, it could bring on another political system which promises to divide more equally an energy supply which people have incorrectly been led to perceive as limited. We could end up losing a very great battle."

^{NQ} Energy crisis (ti)

"We are on a tiny little planet. Our nervous system still sees the sun set, even though the sun doesn't set... we're just rotating out of its sight. We talk about things being 'up' and 'down' even though there are no such directions. We say the wind is blowing from the northwest when it is really being sucked from the southeast.

"The depth of ocean is really only 18,000th of the diameter of our Earth and yet we think of it as huge.

"They talk about the drought as if there had been no way to prepare for it... but we've known how to desalinate since the steamship. Instead of putting some pipes up through the hills, which takes enormous amounts of energy, we should have taken some of the billions we're going to lose now and desalinate some of the vast Pacific Ocean.

"When we go to the bathroom we waste four gallons of water to get rid of one pint of liquid. We should try dry toilets that don't splash. There's no energy problem, it's ignorance--- not recognizing that the solutions have always been available until the crisis is upon us.

- Cite R3F to Karen Winner, Copley News Service; 9 Apr'77

No Energy Crisis: (2)

"We have this philosophy that there's not enough to go around, therefore we're obsessed with 'survival.'

"There's ample to go around, we just need to understand how to use and dispose of it properly. People don't want to listen---they just want to forge blindly ahead with their drives and curiosities.

"This is a totally regenerative Universe. There is energy all around us. Take windmills---one windmill would provide the needed energy per household instead of diminishing coal, natural gas, or oil resources. There is the

problem of converting wind from direct to alternating current. So you take the wind and put it in the main public utility lines where you can store it."

with Kaeen Winner. Copley News Service Baton Rouge, LA ''Advocate,'' ; 9 Apr'77

- Cite RBF interview as clipped from
Enirr' Crisis:

- Thera is no energy shortage. There la no energy crisis. There is a crisis of ignorance."

- Cite RBF quoted in Medard Gabel's "Energy. Everyone," front matter, Jan'75

Earth, and
No Energy Crisig:

- 'There is no energy problem. The physical Universe is naught but energy. It is a matter of educating all humanity regarding these matters, thus nullifying the fears which paralyze human competence and adequately comprehensive thinking and acting. Th® crisis is not an energy crisis. It is a crisis of fearfully sustained self-deceit and lack of faith in the cosmic integrity."

NQ 5nwg, 'rslsl.g:

"There is not even a mild energy crisis because energy is eternally regenerative,

"The so-called energy crisis is a myth, We will have a curtailment of O* activities due to our conditioned reflexes, the way we expect energy to come through a pipe or ojrt of a barrel®.

"But there is no energy crisis in our Universe. The Universe is getting on great. It is eternally regenerative.

"Man is using only a tiny fraction of the energy available through all sources, including wind power.

"We are simply in the crisis of conditioned reflexes, inertia, fear, and ineptitude of how to cope.

"This is really fundamental to the alarm and intuition of the younger world about the older world being preoccupied with carrying on in a conditioned reflex way."

- Cite RBF quoted by Marian Brtce in Vancouver SUN, 14 Jun'73

See Exempt: We are Not Exempt from Universe

No Favorites:

"I don't have favorite people, or favorite days, I like fLM the rain and the Sun both."

* Cite RBF to Kay Elliot, Washington Star, Jour et Nuit Restaurant, Wash., DC, 10 Sep'75

No Favprllaff:

See Humanity, 1 Feb'75

See Heisenberg-Eliot-Pound Sequence

Truth as Progressive Dimunution of Residual Error

See Generalized Principle, 28 Feb'71

No Frequency;

See Frequencylese

"There is no generalised boat. There is no physically realised generalisation in our lifetime."

- Cite RBF at Penn Bell videotaping session, Philadelphia 22 Jan'75

No Generalized Boat:

"While Archimedes discovered
The generalized principle
Governing displacement,
We cannot design
A generalized boat.
It must be a specific canoe,
A ferryboat, or sloop--
And each of unique size and capability and durability
For all special-case embodiments

**Are entropically fated To disintegrate in time Whether the experience
episodes Are passive or active--- I.e., involuntary or volunt/y, Subjective or objective---..."**

- Cite INTUITION, p.21, May '72

No Generalized Boat:

"You can abstract
From many experiences
With floating objects
The principle of displacement

As did Archimedes, But you cannot design

A generalized displacement
Nor a generalized boat.¹¹

- Citation &. Context at Generalized Principle (6), 28 Jan'69

(A)

No Generalised Boat;

¹¹ You can design

Only special case boats, Ferries, or aircraft carriers, Or canoes, or
sloops, Submarines or gondolas.

And within those general categories You can only design special
case boats Each having its unique dimensions And performance
limitations, And very special Displacement characteristics."

- Cite GENERALIZED PRINCIPLES, p.4, 28 Jan '69

See Invention Sequence. (I)(II)

Ship, 1954

Generalized Principles, 22 Jun'75

Physical, 12 Nov'75

"There is no geometry of space--- only of local aggregates of princi-
ples, of special cases."

- trmi irTTr~iT_i, IIIIIIIHHI n IXLLUT-gi.sotir
- Citation &. context at Rubber Glove_r, 23 May* 72

ho Half-profile;

See Profile; Tere la No Half-profile

NQ innoconeá Q£ Qyhernoafi'

See No Linear Acceleration, 20 Kay'75

No Instant Cognition:

See Time *k* Cognition, 11 Sep'75

li.a We Can't Really Insulate Anything:

See Trespassing, (1}

ttBF D3FIHITIUNS

Noise:

"Noise is only one of many important human behavior-conditioning mechanical factors known to exist, with the knowledge of that existence recorded and measured, which are as yet popularly unconsidered (beyond the area of the unscientifically phrased •very annoying.')

- Cite NINE CHAINS TO THE i-OUN, p.O, 193S

See No Noise

See Pronouns: I * We " Us, (1)

HQ tainggat Cflcg;

See Time, (p,102) Jun'66

No Uadera:

See Enough to Go Around. (2) Fuller, R.B: On Drinking Liquor, 22 Jun¹77

of Service:

Sa

Seo Rationalisation Sequence, (4)

HQ Ungar ^{At?}c?lcmi.Qn'

"Linear acceleration never occurs because there is never innocence of otherness."

- Citation 4 context at Acceleration: Angular *k* Linear, 20 May'75

No Local Change:

"All bodies of Universe are affecting the other bodies in varying degrees..."

- Citation *k* context at Gravity. Oct*66

j*P Pttfial Change:

"Nothing can change locally without changing everything else

- Citation and context at platonic Solids. 12 Jul'62

No Local Change:

'All parts of Universe act theoretically upon all other parts

- Citation & context at Epigenetic Landscape. May'4V

See Rest of Universe

Intereffecte

Local Events

Tennis Ball Hits the Big Earth

Cosmic 4 Local

Newton's First Law of Motion: RBF Restatement Of

No Local Change;

(2)

See Allspace Filling: Octahedron t VE, 22 Jun'72 Co-orbiting of Earth & Moon around Sun, Apr'71 Epigenetic Landscape, May'49* Gravity, Oct'66* Platonic Solids, 12 Jul'62* Responsibility, 13 Nov'69 Restraints, Dec'71 Step, Nov'71; 22 Jul'71 Tetrahedron: Coordinate Symmetry, 15 Oct'64 Tidal, lay'72 Transformation, 12 Jul'62 Universe as a Kaleidoscope, May'49

Ito. LQgi identifications

"All of humanity will be enjoying not only all of Earth but a great deal of local Universe. 'Where do you live?' 'I live on the Moon,' or 'I live on Mothership Earth,* will be the kinds of answers."

- Cite RBF transcript of "2000, If..." for Philadelphia journalist given to Stewart Brand for Convolution Qtrly,, San Francisco, 9 Jan'75

No Local Identifications:

"This is the new world coining up when local town, county, state, and national Identifications are absurd other than as APO foci for communications between a world-around circulating and Integrating humanity."

- Citation and context at World Corporations. 9 May*57

See Address

Backyard: My Backyard is Getting Bigger Names: "Named" Phenomena

See **Building Business**, (2)

NQ M*K1C Universe

"I try to keep an open mind about extrasensory perception and the things the parapsychology people are doing but it seems to me that these people are inclined to ride the gullibility of humanity, they seem to act as if there were two kinds of Universe: a magic Universe and a metaphysical Universe. And of course there is no magic Universe."

- Cite HBF to EJA, 3200 Idaho, Wash., UC, 8 Apr»?5

No Magic:

See Invisible Tetrahedron, (1)

No Maximum Limits:

See Minimum Limit Case, 9 Jun*75

No Measurement:

See Syeten, 26 Dec*74

Np Mechanical rand:

"I hear quite frequently of someone proposing the idea of a mechanical mind--- a mechanical mind that's going to do all the whole thinking for man. I will point out to you that this is completely impossible because the fact is that what the mind finds is not of the parts;

it is not in the data that you can put in the machine. You cannot program in what is not of the part5. You can program in any of the parts, but you cannot program in a discovery of what's between and not. This is of the mind and mind alone; it will always be of the mind; always only of the mind. It will never be manifest by any calculating machines."

- Cite RBF at Students International Meditation Seminar,
U. Mass., Amherst, 22 July *71, P. 11
No factancfl Mind =

(D

See Feedback Comprehensivity: Computers vs. Humans Artificial Intelligence Intelligence Machines

No Mechanical Mind:
(2)

See Teleology, (2)(3) Life is Not Physical, 12 Dec'75

NonanthroopaioDhlc Cod:

See Intellectual Integrity, Aug*64 Technology: Enchantment & Disenchantment, (2)

Honarey

See Area, 11 Feb*73

See Rigidity, 9 Jul'62

Nonbeing:

See Model of Nonbeing

Nonbiological

See Biologicals

i. Nonbiologicals

See Circuit & Noncircuit

Noqoexiatinx:

See Universe, 26 May'72

Noncompreaalble;

See Water, 12 Nov'75

KbF DwFli'.illuhb

Uonconceotualitv:

"At the indispensable center of the sphere Universe turns itself inside-out. The invisible, a priori, multiplicative twoness, differentially disclosed in the synergetics* tonological systems' hierarchy, is manifest of the integrity of the sizeless, timeless nonconceptualitv always complementing the conceptual system take-out from nonconceotual scenario Universe's eternal self-regenerating."

- For full context see Vacuum. 19 Feb re-write. 19 Feb'72

RBF DEFINITIONS

Nonconceptuality:

. Humanity is frustrated by the fact that scientific evolution ... is almost entirely invisible and its integrated significances are too difficult for total and effective comprehension by society. One reason for the latter frustration is that the language of science has been up to now almost exclusively mathematical, --- i.e., nonconceptual."

[REDACTED]

- Cite DfflXIADIS (UorO), p. J04 20 Jun'66

See Conceptuality &, Nonconceptuality Imaginary Universe Inconceivability Invisible / Nonconceptual Mathematical Symbols Nonunitarily Conceptual Out Vacuum of Universe Stark Nonconceptual Irrelevancy

See Halo Concept. 1960; 22 Feb*72; Nov¹?!

Invisible Hole. 16 Jun'72

Joyce, Janes, 1965

Key-keyhole Sequence (2)

Space, 17 Feb'73

Vacuum, 19 Feb'72*

Powering: Fourth &. Fifth Dimensions, 18 Hot'72

NgnGQnTQraUY¹

See Child Sequence, (4)

See Mite: Positive & Negative Functions, (1)(2)

See Mystery, 24 Jan'76

Noncontiguous: Noncontiguity:

See Critical Proximity, Jun'71

See Convergence *It*. Nonconvergence

Noncrossing:

(1)

See Opening

See Vertexes, Faces & Lines, 1 Jan*75

Nondefinable:

"The limits of an allBspace-filling array are nondefinable.

Nondefinable is not the same as infinite."

- Cite SYNERGETICS text at Sec.780.U, 22 Oct»72

"Not being simultaneous

Universe cannot consist of one function.

Functions only coexist.

Universe while finite is not definable.

I can define many of its parts

But I cannot define

The nonsimultaneously occurring

Aggregate of experiences

Whose total set of relationships
Constitutes the whole Universe

The the latter as an aggregate of finites is finite."

Nondefinable + Infinite:

See Nondefinable, 22 Oct'72

Hondefinable: UMfflWVIC: (1)

See Definite: De-flnita

**See Bias on One Side of the Line, 4 May*67 De-finite, (pp.133-134)
1960**

See Differentiable and Nondifferentiable Undifferentiated

See Integral, 16 Feb*73 Resolution, 19 Jun'71

**"Tension is Shown experientially to be nondjmenaional omnipresent,
finitely accountable, continuous, comprehensive, ergo timeless, ergo
eternal."**

- Cite RBF SYNKRPIFTins <UafL 'TiilslUH and Gw

ofOrgann Leotere pp. I57~-I58T~9 Jal¹

- Citation at Tension. V Jul'62

Nondimenstonal:

(1)

See Undimensional

Ngntoonglonal =

(2)

**See Tension, 9 Jul'62* Pointe, 1 Apr'72* Point-to-able Something, 30
Apr'77**

Nondemonstrability:

"Points are inherently nondemonstrable."

- For citation and context see Points 19 Feb '72, as rewritten 1 Apr '72.

Ngndiacpllnliur

See Dream, 2 Jul¹62

Nondivlalyg:

See Gravity, 11 Feb'76

None: Non: Noneness :

See Nothing: None

Non-empirically-discernable;

See Vector Equilibrium as Starting Point, (1)

BTONEQUAL8: CHECKLIST

See Conceptuality y* Thinkability Compression f Tension* Cause f Reason* Conceptual / Visible

Indexed under other formulation

NfinS-gyaXg; (f) . Checklist: (DJ

See Differentiation f Integration

See Endless f Infinite Entropy f Randomness

See Frequency f One

Fourth Dimension f Time*

See Gravity / Implosion

Gravitational / Radiational*

Geometry: Space f Unoccupied Geometry

NffisauQa: (/) : Checklist:

CH)

See Holism Synergy

See Interattraction f Pressure Invisible j* Nonconceptual Inconceivable f Infinite Inconceivable f Invisible Implosion / Gravity* Integration f Differentiation Infinite Endless* Infinity f Universally Extensive* Industrialization / looney-making Infinite / Nondefinable* Integer f Minimum* Invisible / Negative

See Life / Organism* Layer f Surface*

See Macroundero f MicroHnacro

Metabolic Flow / Man

Money-making / Industrialization* Minimum f Integer

See Negative f Positive* Nonconceptual f Invisible* Normal / Permanence* Nondefinable / Infinite Neighborliness f Proximity* Negative / Invisible*

*** Indexed under other formulation**

Mpnygyalg: (/) : ChecWgt;

(0)

See Organion / Life One t Frequency* Options / Optimism

See Positive / Negative Pressure / Interattraction* Permanence / Normal Proximity / Neighborliness

HsmaaMlj: < f : SAiskllsi:

(R)

See Reason f Cause

Radiational f Gravitational

Randomness f Entropy*

Restrains r Vectors*

See Surface f Layer System f World* Space f Unoccupied Geometry Synergy / Holism*

See Tension f Compression Time f Fourth Dimension Thinkability f
Conceptuality*

See Universally Extensive f Infinity Unfamllarity / Unnatural Universe
t World*

See Visible / Conceptual* Vectors / Restraints

Noneouala: (J*) : Checkliat;

See World / System World / Universe

See Complementarities: Always A Only Coexisting

Equals: Checklist

Paired Concepts: Checklist

Versus: Checklist

Monequals

: tionequality:

See Teleology: Bow-tie Symbol

Nonevent:

See Novent

Nonexoerlonce: NgneXMrllflCtajfUitr:

See hxperienceable & Nonexpertenceable Novent

See Absurd, Jun'66

Systematic Realisation, 20 Dec'74

See Unremembered • Nonexistent

<2)

See Systematic Realisation, 20 Dec*74 Zerophase, (1)

See Formless

Liquid - Nonfom

See Vector Equilibrium, 11 Dec'75

Nonidentically Repetitive:

See Heisenberg-Eliot-Pound Sequence, 28 Jan*69 Irreversible. 6
Nov*73 Irreversibility, 22 Apr*68 Kaleidoscopes, MMSImB Dec'6y
Scenario Universe, Kay*72; Dec'69

NonldonUcali

See Phantom Captain, 1938

Universe, Spring*71; (p.t>2) 19&9

See Interaccommodation: Interaccontnodatlve

See Motion, 27 May*72 Truth, 30 J_un"75

Noninterference Helayinix:

See Valvability, 30 Nov*72

Noninterforine Zero Points:

"Thus we discover the modus operand! by which radio waves and other waves pass uninterferingly through seeming solids, which are themselves only wave complexes. The lack of interference is explained by the crossing of the high- frequency waves through the much lower frequency waves at the noninterfering zero points, or indeed by the vari-frequenced waves through both one another's internal or external zero intervals."

_ Cite SYNERGETICS draft at Sec. 1223.1&; 9 Mar'73

H₉nlnteirarum: H₉nint«r^f*r>r>i;:

Sae Unlnterferabla

(D

Interference-noninterference Relaying

Interference < lioninterference Frequencyless

Mgnlp.Urfqryngfl: NonlnterferiM*

See Carrier Wave, 9 Mar'73 Resonance Field, 13 May*73

12)

Mgplntoraecting Lines:

See Individual: Theory Of(May'65

Noninteraubatitutability;

See General Systems Theory, IB (A)

Nonlimit;

"... In synergetics the energy as Kass is constant and nonlimit frequency is variable."

- Citation and context at Einstein. 16 Nov*72

SsnliBU,:

(t)

See Llalt-Llaltleee

Unlimited

12)

See Hydraulice, 20 Apr*72

See Line *it* Nonline

(1)

See Cosmic

Nonloca:

(/)

S«e Invisible Holo, 16 Jun'72

Nonaeanlng:

See Meaningless

Nonnerchandsable:

See Abstractions, 1964

See Meshing & Nonaeshing Unsynchronised

Nonmirror Image: "Concave is not a mirror image of convex. Ruth Asawa makes them and they don't look like you at all— it's all the rest of the Universe and that doesn't nave a shape, ever. What you see in the mirror is strictly a planar pattern—a reverse series in a plane."

- Cite RBF to EJA, 200 Locust, Phila, PA, 13 Jun*74

RBF DEFINITIONS

"Order is obviously the complementary, but not mirror image, of disorder."

- **Citation & Context at SatrodY It Entropy. 5 May*74**

"The complementary of parity is disparity and not a reflective image."

~~01-Uu k8F mwillmf 'MNMIQOTTTCO-gatney at- SeO7O6_t JZJipY*73~~

- Citation at Disparity, 7 Nov*73

KBF UBFIMITluaS

"Non-mirror image,' i.e., dissimilar complementarity, is the conservation-producing principle."

- Citation and context at Ecology Sequence (A), 22 May*?}

Nga-nXrmr WKC;

"Mite's can fill allspace. They are either positive or negative affording a beautiful confirmation of negative Universe....

They are true rights and lefts and are not mirror images; they are inside-out and asymmetrical."

- Citation & context at Mite: Positive & Negative Functions (1) 27 May'72

"The antientropic metaphysical is not a mirror-imaged reversal of the entropic physical world's disorderly expansiveness,"

- Citation & context at Irreversibility: Principle Of_T Apr*71

RBF DEFINITIONS

Non-mirror Image:

"Negative is never the mirror image of the positive.

- Citation & context at Complementarity. Spring'66

See Complementarity: Principle Of Disparity Irreversibility: Principle Of Left t Right Mirror Image Nonreflective Complementarity Rubber Glove Tetrahedron: Inside-outing Of

See Complementarity, 2 Mar'68; spring*66*: 1971 Complementarity: Principle Of, Mar'71 Complementarity, May'72 Coupler, (2) Disparity, 7 Nov*73* Ecology Sequence, (A); 22 lay'73* In & Out. 13 Nov'69 Ir-reversibility: Principle Of Apr'71* Multiplicative Twoness, 14 Feb'66 Mite: Positive & Negative Functions, (1)* Now, May'72 Negative, spring '66 Negative Vector Equilibrium, 8 Oct'71 Order & Disorder, 5 Kay'71 Proton i Neutron, 13 Nov'69; (1J Relative Asymmetry Sequence. (1) Scenario lay'72 '

Sphere 2 Mar'68 Human deings Complex Universe, (2)

See Syntropy *k* Entropy. 5 May'74'

Zero. 13 Nov'69

Complementarity of Growth *k* Aging, 22 Jan'75

Geometrical Function of Nine, (2)

Cube & VE as Wave Prdpagation Model, 23 Feb¹72

See Zero foment

See Vector Equilibrium ae Starting Point, 8 Apr'75

Model of Nonbeing, 11 Sep'75

Dodecahedron (all frequencies)

Icosahedron (all frequencies)

Octahedron (odd-numbered frequencies)

Tetrahedron (odd-numbered frequencies)

Cube (odd-numbered frequencies)

Nuclear 4 Nonnuclear

Nuclear *k* Nonnuclear Polyhedra

Prime Volumes

Prime Structural Systems

Domains of Tetra, Octa 4 Icosa

Denucleated Phase

Tetrahedron as Prime Nonnucleated Structural
System

Subnuclear

See Omnitopology, 17 Feb*7J

Prime Structural Systems (1)

Carbon, 8 Jun'72

Nucleus vs. Boundaries, 28 Jan*75

Domain & Quantum, (1)

Powering: Fifth Ik Eighth Powering, Cube: Volume-3 Cube, 16 Dec'73

Powering: Fifth & Eighth Powering, 25 Jan'76

11 Dec'75

11 Dec'75;

Basic Nestable Configurations: Hierarchy Of

29 May'72 '

N9ne^bYlwo:

See Obvious it Nonobvious

CIMB No Noise:

"There is no true 'noise' or 'static', • There are only as yet undifferen-
tiated and uncomprehended orders,"

~~-----~~
~~- Uita Syberg's draft, "Symmetry," See 532.04, JULY 1971.~~

~~- Uita NASH speech, p. 10, JUN 1966.~~

- Citation &. context at Chaos. Jun¹66

No Noise;

See Order, 7 Nov*73

"Physicb having found no things, There are no nouns.^w

« Cite A DEFINITION OF EVOLUTION, 15 Sep'71

See Antiparallel

Tetrahedron: , Four Unique Planes

See Fourth Dimension. 14 Sep'71

Sphere, 22 Jul'7»

Three: Number Function of Three in a Four-axial

System, 24 Jan*76

Nfinosrcfflldjulaj::

See Three: Number Function of Three in a Four-axial System, 24 Jan*76

Nonpolarized:

"All systems have poles, ergo spin axes, ergo they are polarizably identifiable. Nonpolarized simply means that the spin axis is unrecognized under the ccations considered. There is no such thing as a nonpolarized point because if you tuned-in the subvisible system---appearing only as a directionally-positioned micro-something---to visible comprehension, you would find that, as a system, it has poles and that it has seven potential alternately employable poles.

"So we may call a point a focal center, i.e., a 'noise* with a direction, but it is an as-yet undistinguished system, with all the latter's characteristics.

"There is inherent polarity in all observation which always introduces an additive twoness;

Nonpolarized = unrecognized

Focal event = infratunable system"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 527.25 fc .26; RBF rewrite 11 Dec'75

Nonpolarized:

"All systems are polarized. Nonpolarized simply means unrecognized. There is no such thing as a nonpolarized point because if you tuned it in you would find that it had ∞ poles. So we may call it a focal center, i.e., a noise with a direction but with nondistinguished system characteristics .

"There is inherent polarity in all observation: that is the additive twoness.

"Nonpolarized - unrecognized."

"Focal event - *Infratunable* system."

- Cite RBF to EJA, 3200 Idaho, Wash. DC; 12 Nov'75

I^NPDP91^aF PQinfrg:

"Nonpolar points, or localities, are four-dimensional--- there is the inside-out (i.e., concave and convex) dimension and three symmetrically interacting, great-circle-ways-around--- producing spherical occupation. with eight tetrahedra having three internal (central) angles and three external spherical surface triangles' angles, each.

- Cite RBF rewrite of SYNERGETICS galley at Sec. 527.22, 7 Nov'73

Nonpolar Points:

"Nonpolar points, or localities are four-dimensional: inside-out and three symmetrically interacting great-circle- ways-around; producing spherical octation with eight tetrahedra having three internal (central) angles and three external (spherical surface) angles each."

- Citation at Fourth Dimension, 29 Nov'72

~~- Cite SYNERGETICS draft at Sec. 527.22, 29 Nov'72.~~

Nonpolar Points;

"The nonpolar point is not fixable or structurally stabilized until it is three-way great circled."

- Cite SYNERGETICS draft at Sec. 527.24, 29 Nov'72

See Nonpolarized, 12 Nov'75

See Constant Relative Abundance. 29 Nov'72; 26 Sep'73

Fourth Dimension, 29 Nov'72

Magic Numbers, 196?

Twelve Universal Degrees of Freedom, Feb'72; 7 Nov'73

In, Out k Around Experiences, (1)

See Focal Event

See Convergence & Divergence, 9 Apr'75

Hsttwelllsal:

See Surprise: The Nonpolitical Surprise Has Already Occurred

See Weightiest

See Finite, 14 Feb'66

Honoredtable:

See Unpredictable: Unpredicted

"The kind of strategies that have been calling for paying for non-production have been done in the terms of man's assuming there's nowhere nearly enough to go around anyway, and it has to be you or me, and those who are looking out for me then find that their particular price advantage is greatly enhanced by the nonproduction. These are always very ego-centric viewpoints that bring about that kind of strategy.**

- Cite RBF to World Game at NT Studio School, 12 Jun4HB*69 Saturn Film transcript, Sound 2, Part 3, pp.80-81.

Nonradial Line:

See Cube Edge

Radial Line

Starting with Parts: The Nonradial Line

Nonrality:

See Status Quo. 1\$ Sep'71

Vector Equilibrium: Zero Condition, 11 Jul'62

See Stable Nonredundant

See Cork: Triangular Corks in Spherical Barrels, 15 Feb'66

Description, 25 Aug'71 Differentiation, 27 Kay'72; 22 Jun'72 Geodesics & Tensegrities, 9 Sep'74 Geometry of Vectors, 15 Jun'74 Insinuability. 6 Nov'72 Probability, (1) Spherical Barrel, 15 Feb'66 Spin Twoness & Duality Twoness, 27 Dec*74 Prime Nuclear Structural Systems, 27 Dec'74 Stable <k Unstable Structures, 7 Jun'72 Cube & VE as Wave Propagation Model, 23 Feb'72 Universal Vertex Center Model, 29 Apr'43

Nonreflective Complementarity:

(1)

See Non-mirror Image

Honrerieictlve Complementarity:

(2)

See Boltzmann Sequence, (5)

See relational

Nonrelationshin:

(2)

See In 4 Out, 7 Nov'72

Nonrepreaentational:

See James Joyce, 1965

Hon-aelf-Interferlnt:

See Radiation, 1959 Spiral, 7 Nov'73

See Negative Universe

(D)

Superatomics Transuranium Elements

Isotope

**See Geometrical Function of Nine, (7) Nuclear Domain & Elementality,
(1)(2)**

Non-aelf-requested:

See Birth: Non-aelf requested

iaaasIX:

See Self & Nonaelf

»gn»«naorlalltv:

(1)

See Cipher

Extrasensory Invisibility

Invisible Reality Mathematical Symbols Infratunable

Tunability: Infra k Ultra

Gravitational Continuum, Nov'71

See Ephemeralisation. 1938 Geometry of Reality. May*49 Pattern
Generalisation (2)

Nonsensae:

See History, 27 Dec*73

^NQuaiaailtaneity:

"Any point can tune in any other point in Universe. Between any two points in Universe there is a tetrahedral connection. Thus systematic connection of two points results in the interconnecting of four points. But none of the four event points of the tetrahedron are simultaneous. They are all overlappingly co-occurrent, each with diffident beginnings and endings. All of the atoms are independently introduced and terminated; many are in gear, but many are also way out of gear."

. Cite SYNERGETICS, 2nd. Ed., Sec. 530.11, 30 May'75

"Because of our overspecialization and our narrow electromagnetic spectrum range of our vision, we have very limited integrated comprehension of the significance of total information. For this reason, we see and comprehend very few motions among the vast inventory of unique motions and transformation developments of Universe. Universe is a nonsimultaneous complex of unique motions and transformations. Of course, we do not 'see' and our eyes cannot 'stop' the 186,000-miles-per-second kind of motion. We do not see the atomic

motion. We do not even see the stars in motion, though they move at speeds of over a million miles per day. We do not see the tree's or child's moment-to-moment growth. We do not even see the hands of a clock in motion. We remember where the hands of a clock were when we last looked and thus we accredit that motion has occurred. In fact, experiment shows that we see and comprehend very little of the totality of motions."

. Cite srHEROSTICS text at Sec. 537.32; galley rewrite 7 Noe'73

•Thought discovers that we divide Universe into an 'outwardness and inwardness,• bo thinking is the first subdivision of Universe, because Universe, we discovered, was finite.

Thinking is a nonslmultaneously recallable aggregate of inherently finite experiences and finite experience furniture--- subh as photons of light. One of the most important observations about our thought is the discovery that experiences are nonsimultaneous. Nonsimultaneity is a fundamental characteristic, and if experiences are nonsimultaneous, you cannot have simultaneous reconsideration. •

- Cite SYNERGETICS text at Sec. 530.01; RBF galley rerwrite 7 Nbv'f
Nonsimultaneous;

"Until the present age, people thought that all of their faculties were simultaneously and instantly coordinate and operating at equal velocities. Einstein showed that neither 'simultaneous' nor 'instant*' are valid, i.e., experimentally demonstrable. Observe that when we send up four rockets one-half second apart, their afterimages are approximately simultaneous. So we say that we see four rocket bursts 'at the same time.' The illusion of simultaneity is one of the most important illusions for us to consider. Musicians may be able to comprehend

nonsimultaneity better than others do. Einstein emphasised the importance of attempted spontaneous comprehension of the nonsimultaneity of all events of Universe--- a concept akin to our discovery that in our Universe, none of the lines can ever go simultaneously through the same points (See Sec. 517.). What Einstein is telling us is that there is no conceptual validity to the notion that everything in Universe is actually in simultaneous static array."

- Cite SYNERGETICS text at Sec. 510.09, May'71

Nonsimultaneous:

"Minimal consciousness evokes a nonsimultaneous sequence, ergo time-."

- **Citation at Timo, 7 Feb'71**

- UHIU—C- V+'A-r-

- Cim RBF LTT-EJA, ? »?r.

"Non-simultaneous means not occurring at the same time.'"

- **Cite RDF marginalia Beverly Hotel ,N.Y. 28 February 1971**

- Cite also SYNERGETICS, "Universe," Sec. 302. Oct. 1971.

HDF UififINITIUNS

Nonsimultaneous:

"'bifferent shapes, ergo different abstractions, are nonsimultaneous: but all shapes are de~finite components of integral though nonsimultaneous, ergo shames, Universe.^{1*}

- Ci-6o-ftWiatmriCS_y**Cardtraari»»_y* Sec. 240.60. 1971

- Citation & context at Abstraction. 1971

Non-Simultaneous:

.tfe "do not have to be simultaneous to be interconnected. We can telephone across the international date line from Sunday back to Saturday."

- Cite NASA Speech, p. 92, Jun'66

-sec

Non-simultaneous:

"Engineering holds that the prime difference between the point of view of laymen and engineers .s that the layman does not recognise, anticipate, and pay heed, as do engineers, to the experimentally demonstrable fact that every action always has,an equal and opposite reaction. But the engineers have not modernized their concept to accomodate and adjust refiningy to two-of the scientists' recent physical discoveries

(D

and measurements:--- first, of light's speed, as well as the speed of all electromagnetically propagated radiation, and secondly, the phenomenon known as precession. The approximately one billion kilometers- per-hour, speed of all radiation being too fast for human sense apprehendability, the engineers have not yet been constrained to recognize as must the physicist, that there is no instant universe as was mis-assumed by all pre-Twentieth Century scientific cosmologies and cosmogonies-- before the knowledge that light had indeed a speed.. Engineering must now acknowledge realistically and accommodate analytically, the experimentally"

- Citation at Engineering. 13 Nov'69

Nonsimultaneous:

"demonstrable fact that every action has not only a reaction but also a nonsimultaneous but immediately subsequent resultant."

- Citation at Engineering, 13 Nov'by

Non-simultaneity:

"The majority of academic people are still thinking in terms of Newtonian (classical) science's 'instant universe.' While light's speed of 700 million miles an hour is very fast in relation to automobiles it is very slow in relation to the 'no time at all' of society's "{obsolete) instant universe thinking.

"It was part of the classical scientists' concept of instant universe that universe is a system in which all parts affect one another simultaneously, in varying degrees."

- Citation at Time. Jun*66
 —Sire NASA Soeich, pp. 25,26. Jun'66
 (coUctTvfirY- Tif^ℓ)
 KBF UEFINITluNS
Nfln-simultaneous:

"Before the speed of light was measured, sight seemed, to all humanity, to be instantaneous. Newton's universe was instantaneous. . . . Neither light nor any other phenomenon is instantaneous."

- Cite NASA Speech, p. 52, Jun'66

[SYNC tornEVBUTJ
Non-simultaneous:

"The speed of light measurements plus Planck's quantum mechanics and Einstein's relativity showed that the universe is an aggregate of non-simultaneous events and their experiments showed that as each of the non-simultaneous events lost their energy they lost it to newly occurring events. Thus energy always became 100 percent accounted for."

- Cite NASA Speech, p. 26 jJun'66 [jaws,HW.Trfweir)-- SK.
Nonsimultaneous:

"We discovered that experiences were nonsimultaneous and therefore we had a finite but nonsimultaneous universe. Therefore, being nonsimultaneous it was nonsimultaneously conceptual. It was not a unit picture that could be given to us. We have had a tendency in our general thinking to say that which is finite is that which is statically conceptual as one unit glimpse so we have been seeming frustrated in trying to understand a universe which was more or less infinite and yet it was an omnidirectional experience and you felt there, ought to be an outwardness of this sphere. That is a stable concept and we begin to discover that we are not dealing with such a sphere because we have all these nonsimultaneous reports and all we have is interconnectedness of the nonsimultaneity. One of Einstein's most intellectual discoveries was this nonsimultaneity which he said apparently he could have come upon by virtue of his experience in examining the thoughts and patent claims regarding time-keeping devices, watches and clocks."

- Cite OREGON Lecture #3 - pp. 76-77, 5 Jul'62

• tLr DiHMTIuKL

I. on-Simultaneous:

"It takes entirely different lengths of time to remember of 'look up' different names or past event facts. Universe, like the dictionary, though integral is ipso facto nonsimultaneously recollectable and, therefore, as with the set of all the words of the dictionary, is nonsimultaneously considerable and therefore is also nonsimultaneously reviewable, ergo is synergetically incomprehensible, yet progressively revealing."

- Citation t Context at Dictionary, 1960

Non-simultaneous:

'Neither the set of all experiences nor the set of all the words which describe them nor the set of all the generalized conceptual principles harvested from the total of experiences are either instantly or simultaneously reviewable.'

(Hyphens deleted.)

- Cite OMNIDIRECTIONAL HALO, pp. 131,132 • 1960

Non-simultaneous:

"As Einstein clearly demonstrated. the data coming in from all the scientists makes it-clear that the whole Universe is in continual transformation. The geology of our Spaceship Earth makes it very clear how severe have been the great transformations of history. The moment of top soils and burdens around the surface of the Earth is very new geologically speaking. As Einstein interpreted the speed of light information and the observation of the brownian movement of the constant motion in water, etc., he then posited a Universe in which we now knew that light took eight minutes to get to us from the Sun and two-and-a-half years to get to us from the nearest star, and astronomical information which shows that some of the stars we are looking at have been there for a million years with that kind of information Einstein had to

say physical Universe is quite obviously an aggregate of non-simultaneous and only partially overlapping transformation events."

X

have live shows coming in from 100 years ago, others from 1,000 years ago, and some of the stars we are looking at /

- Cite "The Artists and the Scientists"

— Undated

TA*IT-f- TfcC. 530.C*}

See Comprehensive, 9 Jul*62

See Children*s Pictures of the Sun and the Moon Four Nonsimultaneous Rocket Bursts Instantaneity Juggler Lag Overlapping Partially Overlapping Perception Scenario Scenario Principle Time

Instant Universe vs. All-motion Universe Recall Lags Nonunitarily Conceptual Star Events Live Shows Reaching Us Took Place Billions of Years Ago Big Dipper

Nonsimultanei tv: Nonsimultaneous;

(2)

See Abstraction. 1971*

All-motion Universe, 1965 Complementary, May"72 Congruence. 2\$ Jan'72 Consideration. 1965 De-finite, 1960 Dictionary, Oct*66; Jun*66* Engineering, 13 Nov*69* Interaccommodative, 13 Mar'73 Relationships, 5 Jul*62 Resultant, 22 Jul'71 Time, 7 Feb*71*; Jun'66* ; Dec*71 Vector Equilibrium, 1971 Now, Hay'72

Physical is Always the Imperfect, 26 May*72 Synergetic Integral, i960 Individual Universes, (2) Parity, Nov'71 Conceptuality, 6 Nov*73 Tetratuning. 30 May»75 Structure, 195

Nonsolid:

See Vectors & Tensors, 19 Oct'72

Honatabla:

See Instability

Stability: Stable & Nonstable Systems Unstable

Nonstate:

"The vector equilibrium is such a physically abhorred nonstate as to be the eternal self-starter, ergo the eternal re-selfstarter ever regenerating the off-zero perturbations, oscillations, and all the wave propagation of all humanly experienceable physical and metaphysical phenomena."

- Citation & context at Vector Equilibrium as Starting Point. (2) 11 Sep'75

Honorable;

See Deliberately Nonstraight Lines Wavilinear

MfingFKtur.al CQincjdgncg:

See Tenaegrity: Vertaxial Connections: Locked Kiss 10 Oct»6j

Sae Diasynchronous
Nenmeshing

See Universe, 26 May'72

Nonsvaten Partai

See Synergetic re. Model (D)

Moneyatera:

See Systems & Nonsystems Subsystem / Nonsystem

Nothing:

"As specialists scientists seek only for somethings.... Specialising science seeking only somethings inherently overlooked the nothing vector equilibrium."

- Citation 4 context at Vector Equilibrium as Starting Point, (1) 11 Sep'75

Nonrniklufi:

"design logic requires ... a bit of the eternal design capability • . . . operating through human organisms . . . to offset the gamut of non-thinking conditioned reflexes of all biological systems."

- Cl r.B-MiflBnTnft Kwnffftt' AihliTss nsnuur. uu. 111/. ? Thrrm ,
- Citation at Eternal Designing Capability. 2 Jun»71

See Antithinking

Ignorance Reflexee Expensive - Nonthinking

See Eternal Designing Capability, 2 Jun*71*

Order & Disorder, Jun¹66

Reflexes, 2 Jun'71

Thinkable You, (1)

Mistake, 7 Nov'75

Crowd-reflexing, 7 Nov'75

ygatranBfgrn»blt:

"The absolute would be nontranaf ora>able... experimentally eaningless."

- Citation and context at Absolute_f Oct'66

See Information Transmitting 4 Nontranamitting Model

**See Space ae Nontuned Angle &. Frequency Information Untunable:
Untuned Space - Nontunability**

Truth

Nontruth

WIHMHB Nonunitarily Conceptual:

” • • • Invisible or nonunitarily conceptual mininua inventorying,.,”

- Citation and cotext at Spherical Triangle Sequence (iii).

26 Jan*73

nA

Nonunitarily Conceptual:

"Aggregate means aumtotally but nonunitarily conceptual as of any one moment."

- Citation at Aggregate. 28 Feb*71

See Finite Event Scenario Nonsimultaneity Overlapping Unitary Conceptuality Scenario Universe

Honunitarily. Conceptual:

(2)

See Aggregate, 28 Feb¹71» Conceptualise. 17 Feb*73 Definable. 1900 Earth, 1905 Spherical Triangle Sequence (iii)* Universe, 1965; (p.134)1960; 2 Jun'74 Tunability: Intra k Ultra, 1954 Two Kinds of Twoness, (B) Conceptual Systems, 27 May'75 Structural Sequence, (B) Finite Event Scenario, (2)

See Use vs. Nonuse

Honverbal:

See Nameless

Wordless

Gestured Communication Gross Communication Mute Communication Unspoken Communication Unarticulated

KsaXSEfeSl:

(2)

See Self-communicate, 6 Apr'75

See Vertexes & Nonvertexes

No One;

"Unity does not mean the number one... One does not and cannot exist by itself

- Citation 4 context at Subjective 4 Objective, 16 May*75

No Open Endings:

"There are no open endings in Universe."

- Citation and context at Acceleration, 14 Feb*73

No Opposites:

"The 'opposite' of the engineers' equal-and-opposite action and reaction is strictly linear and planar. But macro is not opposite to micro: these are opposed, inward-and-outward, explosive-contractive, intertransfomative accommodations, such as that displayed by the eight-triangular-canmed, perimeter-tangent, contact-driven, involuting-evoluting, rubber doughnut jitterbug.

"Macro and micro are not opposed: they are the poles of inward-outward considerations of experience."

(Sec. 465.02; 2nd. Ed.)

- Cite RBF to EJA, 3200 Idaho Ave., Wash. DC; 12 Nov'75

No Organisation:

See Impossible: Only the Impossible Happens, (A)

No Otherness: No awareness:

See Geometry of Thinking, 16 Dec'73 Thirty Minimum Aspects of a System.(B) Somethingness & Otherness, 7 Oct'75 Human Beings & Complex Universe, (3)

See Other, 5 Jun*73

No Planes:

See Spiralinearity, Nov'71

Six Motion Freedoms Ac Degrees of Freedom, (1)

No-point:

"All the no-points are always embracing all the pointe."

- Citation and context at Integrity of Univeree, 23 Sep¹73

See Integrity of Universe, 23 Sep'73* Novent. 23 Sep'73 Om-niemoracing. 23 Sep'73 Tetrahedron, *3 Sep*73

No Politics:

See Apolitical

No Promotion:

See Promote: I Don't Promote

No Race; No Class:

World Game Document #1: pp. 157-164, 1971

P? .AnfiXfig in myurt:

"There are no right angles in nature. Look at all those trees. Look at the angles of all those branches. Just let me know if you ever see branches coming out at 90 degrees."

« Cite RBF to JZA on porch deck, 3200 Idaho, Wash, DC., 1972

No Right Angles in Nature:

See No Straight Lines

Normal:

"Ninety-nine point nine-nine percent of the bodies in notion in physical Universe are operating orbitally; therefore normally; i_te», at 90° to the direction of the applied force.

"The special case of critical proximity where bodies converge due to the extreme disparity of relative mass magnitude is the rare special case at which special exceptional case point in Universe humans happen to exist, being thereby conditioned to think of the special-case exceptional as normal,¹ thus to misapprehend the normal general behavior. The misapprehension regards the normal as strangely perverse. There is much within the critical proximity environment which demonstrates the normal-- where the disparate mass relativities are not operating, as, for instance, when a rope is tensed and reacting at 90° to the direction of the tensing and thus becomes tauter. Compression members precess to bend."

- Cite SYNERGETICS draft at Secs. 1054.91+62, 6 i-ar'73

Normal;

"Normal for Universe is 'in orbit'."

- Cite RSF to EJA, 200 Locuot, Phlla., 22 Jan>73

Normal:

**I use 60 degrees as normal instead of 90 degrees,*

- Citation & context at Pulse Pattern. 2 May*71

RBF DEFINITIONS

Normal:

The average of all plus (+) and minus (-) weights of universe is Zero weight. The normal is eternal."

- Cite SYNERGETICS Draft - "Conceptuality: Life" - RBF marginalia, Somerset Club, Boston, 25 April 1971

See Sleep_f 11 Feb*73

Norm of Einstein as Absolute speed:

"We have a new norm. . . The norm of Einstein is absolute speed instead of *at rest.*"

- Citation and context at Eternal Instantaneity (1) 22 Jun'72

Nora of Einstein as Absolute Speed:

"Einstein¹ a adoption as normal speed, the adoption of electromagnetic radiation expansion--- omnidirectionally in vacuo--- because the speeds of all the known different phases of measured radiation are apparently identical, despite vast differences in wavelength and frequencies, suggests a top speed of omnidirectional entropic disorder increase accommodation at which radiant speed reaches highest velocity when the last of the eternally regenerative Universe cyclic frequencies of multibillions of years have been accommodated, all of which complex of nonsimultaneous transforming multivarleted frequency synchronizations is complementarily balanced to equate as zero by the sum-totality of locally converging orderly and synchronously concentrating energy phases of scenario universe's eternally pulsative, and only sum-totally synchronous, disintegrative, divergent, omnidirectionally exporting and only sum-totally synchronous integrative, convergent and discretely directional individual importings."

- Cite RBF to EJA in response to request to repeat his 'brief sentence' on sphere as a meeting of convergences. See SYNERGETICS draft 'Tension and Compression « Sec.

See Sec. 325, Oct'71 Citation at Radiation: Sneed Of WR

H3F JJFihlTIUhS

Mprp <iℓ aa. Ahflgluj&g bpged:

"Einstein's relativity, born at 20th century's opening, and its security m comprehended dynamic equilibrium becomes the newly acquired norm of the Airocean World, replacing the no longer tenable static norm of 'at rest' and 'death' and its invalidated securities of mass and inertia."

- Citation and context at Dymaxion Airocean World (11).Jun*5b

See Absolute Velocity

All-acceleration Universe Instant Universe vs. All-motion Universe
Newton*s Cosmic Norm of "At rest" Cosmic Norm Top Speed

See Onninotlons, May*72

Eternal Inatantaneity (1)* Radiation: Speed Of, Oct'71* Dymaxion
Airocean World (II)* Intuition, 1 Feb'75 T module, 31 Jul'77

See Norm of Einstein as Absolute Speed Top Speed

Seo All-acceleration Universe, 20 Jun'66

Norm: Tetrahedron As Norm:

N.Y. Times. 15 hay*72, H.M. Schmeck, Jr, "Immunology: A Code
Spelling Life or Death": "The basic antibody structure is known to
consist of four chains of chemical subunits--- two light chains and
two heavy chains. On these are large 'constant regions' that are the
same from antibody to antibody...

Variable regions... confer specificity... the factor that allows antibod-
ies to be formed to fit. (Underlining by B.B.F.)

H.B.F, Marginalia: "Purely structural law. Purely triangle and tetra
forming. 1 tet = Norm. 6 ° Norm.

"6 = 2 x 3» 6 = 2 triangles; 2 triangles = 4 triangles;
4 triangles = Tet; 3 ° i Norm.

1. » Redundant Excess
2. - Deficient
3. = IBB i Norm

6 = | Norm"

- Cite RDF marginalia presumably 15 May'72

Q: "In the metaphor of the child pushing the spoon

off the table, 90 degrees is normal to Universe* Precession. In what respect can 60 degrees be considered as normal?"

RBF; "The interference energies of three-great-circle orbits automatically intertriangulate and automatically interequalize the interference energies to produce omniequilateral spherical triangles which always project flat-out as 60- degree triangles."

- Cite RBF holograph answer to query by EJA, 3200 Idaho Ave,, Wash, DC, 10 Sep»74

See Sixty Degrees as Normal

See Child Pushes Spoon Off Edge of Table, 16 Jun*72

See Cosmic Norm

Failure as Norm

Success as Norm

Static Norm

Newton's Cosmic Nora of "At Rest" Nona of Einstein as Absolute Speed Sixty Degrees as Normal Change is Normal Permanence / Normal Zero « Norml

See Charts. 3 Oct'73

Eternal Instantanelty, (1)

Problems, 9 Dec*73

Pulse Pattern, 2 May'71*

Quick & the Dead: Song Of, Oct*66

New York City (10)

Human Beings & Complex Universe, (1\$)

Morth face Pomra*

"At our Vancouver site, in addition to the four MPG 'Molded Fiberglass' Company's Turtle Domes, there were two smaller North Face Domes. The name 'North Face*' derives from the north face of Kt. Everest. These two North Face domes were deve'bped by successful Everest climbers for their higff altitude, advanced base, dwelling devices---designed for environmental conditions far more formidable than those with which humans anywhere had ever before swiftly and effectively coped. The North Face domes are oval in plan. They are geodesic. They are made with the highest tensile strength aircraft aluminum struts and have inneb and outer dome skins of nylon with a double skin floor. They disassemble and roll into a pack two feet long by eight inches in diameter and weigh only eight pounds. An eight-pound home compounded with a sleeping bag permits human beings to be very intimate with nature under most hostile conditions."

- Cite Accommodating Human Unsettlement, p.20; 20 Sep'7&

"All humanity is now prone to become world beings, so we're going to have to accommodate the comings and going in very new places.

"When the United Nations was formed New York City was chosen as the headquarters because it could be reached by ships. At that time the chief way of getting around the world was by water, by vessel and ship. In 1961, long after the forming of the United Nations, three jet airplanes in one year outperformed the Queen Mary and the steamship United States at very much less cost; and suddenly the sea became obsolete as a way in which human beings would get from here to there.

"We have been in an east-west orientation. New York City and San Francisco have been ports of embarkation and debarkation for freight and traffic. You fly over New York City today and look at the thousands of docks and you'll find about a dozen of them in use. And look at the great Jersey City railroad yards: absolutely empty. New York City has become completely obsolete from what it was.

"That farm machinery I talked to you about / ` ` See Building Business. (2)_7 that brought about the farming in an entirely"

- Cite RBF to "Town Meeting of the Air," Wash, DC; 10 Sep*75

RBF DEFINITIONS

North-south

PMTRobility of World Man: (2)

"different way, and mechanical implements created enormous agricultural industrial operations. Ninety percent of humanity yesterday were on the farms and they now have no other place to go but into the cities, occupying housing completely obsolete in the way it was built. I say that not only the building industry is obsolete but the whole of the cities are obsolete. And it is all at great cost to the human beings that are there... and we're going to have to do everything we can to make them as livable as we can.

But we're in really for a completely new pattern? a new pattern of mobility for all of world man. Instead of the east-west world of the sea they're going to be flying over the pole."

- Cite RBF to "Town Meeting of the Air," Wash, DC; 10 Sep'75

See World-around Communication Transcends Politics

No Secondhand Battleships:

See Secondhand, 1946

No Secondhand God:

See Religion, (1)

Iceland, 7 Oct'75 Young World, 9 Jul*62

Noae-to-navel AY1 :

See Axis of Reference: Noee-to-navel

No Shapgs

See Shapeless: Universe Does Not Have a Shape

See Short Cuts

No Sinking; Man Cannot Sink:

See Down, May'49

fHBMI Ko-Size Conceptual lloel:

"Because I don't talk space, I don't have to have a vacuum. I don't start with space. I start with nothing. Things are always special-case temporary realizations of a specifically detailed dimension and behavior complex of generalized laws applied to a local inventory of physical resources. I start thinking with a no-size conceptual model of a whole system."

- Cite 19 Feb re-write of Vacuum, 1? Feb '72

See Conceptuality Independent of Size Zerosize

No Solids;

'Such objects, however,

On closer inspection

Are themselves mass-attractively integrated

Energy event aggregates,

Each of which is so closely amassed

As to be superficially deceptive

And therefore misidentified

By humanity's optically limited discernment

As bodies—

Separate 'solid' bodies—

Despite that physics has never found
And 'solid' phenomena."

- Cite INTUITION, p.22. May '72

No Solids;

"If lines cannot go through the same point at the same time, there can be no continuous perfectly level planes. Planes are not experimentally demonstrable. Solids are not experimentally demonstrable. Physical experiment has never discovered any phenomena other than discontinuous discrete energy events, each uniquely identifiable amongst the gamut of frequencies of cyclic discontinuity of all the physical phenomena as comprehensively and overlappingly appayed as the vast frequency ranges of the electromagnetic spectrum. The electromagnetic spectrum 'reality' has been found experimentally to embrace all known physical phenomena: visible, subvisible or ultraviolet thus far detected as present in universe. There are no solids. The synergetic behaviors of structures satisfactorily explains as discontinuous that which we have in the past superficially misidentified as ¹ solid.¹¹¹

- Cite SYNERGETIC Draft, "Conceptuality: Solid" - HHF /•arginalia, Somerset Club, Boston, 25 April 1971

Smesl HATreR' Sec. SxS-ill

No Solids:

"For a microcosmic example of our spontaneous and superficial misapprehending <and miscomprehending the environmental events we must concede that both theoretically and experimentally we have now learned and 'know' that there are no 'solids,' no continuous surfaces, only 'milky-way-like' aggregations of remotely interdistanced atomic events. There are no 'things'--- no particles-- only energetic events. Nonetheless society keeps right on 'seeing,* dealing and superficially celebrating in respect to 'things' called 'solids.'"

- Cite ullAT QUALITY EKVIROEUENT, 24 Apr'67 : KA Trei? - sis.bl)

No Solids:

"If lines can't go through the same point at the same time, we Can't even have 'planes'¹ . So planes are 'out.' Solids are also gone because physical experiment has never disclosed any phenomena other than discontinuities identified as the gamut of frequencies of cyclic discontinuity of all the physical phenomena as arrayed within the vast frequency ranges of the electromagnetic spectrum which embraces all physical phenomena visible, sub-visible, or ultra-visible thus far detected in universe. Solids are 'out.'"

~~rr a K P c DL L ril -CitrT IV.~~

- Cite SPEECH, p. 5z7jun'66

Htrreit - JEC Sis/oi)

See Static Invalidity of Solid Things vs. Empty Space

See Subvisible Discontinuity, 19 Oct*72

Experiential Mathematics, 15 Oct`76

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

Conceptual Physics, (1)(2)

Four-dimensional Reality, 30 Apr*7?

Tuning-in i Tuning-out, 17 May'77

No Speed:

"The top speed of radiation is simply thminimum operational lag before making the cosmic leap to the eternal Ho-soeed.

where the Instantanelty spontaneous to a child's conceptioning is normal and eternal."

Citation and context at Intellect. 27 May'72

No Spherical Continuous

See 0 Module, 2y Sep*76

No Sphere Integrity:

Ae there may be no absolute division of energetic Universe into isolated or non conn uni cable parte, there is no absolute enclosed surface or absolutely enclosed volume; therefore, no true or absolutely defined simultaneous surface sphere integrity. Therefore, a sphere is a polyhedron of invisible plurality of trussed facets...¹

- Cite RBF caption in McHale's "RfiFuller," Plate 3\$, 1962
- *sec. 3oi.3,~)*

No Square Stability:

See Triclinic, 31 Aug'76

Ngstalfija:

See Spherical Nostalgia Yesterdays

No Start:

"You don't have to find where Universa starts. It doesn't start. It's eternal."

Jan'75 Penn Bell videotapin* Philadelphia,

Cite

22

Ba_Statie Frame of Refarencn:

See Eternity, (1)

MB* No Static:

' 'There is no true 'noise* or ¹ static.¹ There are only as yet undifferentiated and uncomprehended orders."

(Froa NiSt speech,

- July-4
- Citation k context at Chaos. Jun*66

See Deliberately Nonstraight Lines Nonstraight No Right Angles in Nature Zigzag

See Line, 28 Oct'73 J Far*71

Servomechanism, 15 May»75

Social Sciences: Analogue to Physical Sciences, (1)

Left & Right, 7 Nov'75

Hot A Priori

"The octet trues ie not a priori."

- Citation ft context at Octet Truee. 21» Sep'73

Mot A Priori:

See Self is not A Priori

Seo Octet Truaa, 24 Sep'73*

Note: Notes •

See B_asic Notes Chords A Notes

got Snoath to Co Hound:

See Scarcity

NpWYsr.yyfhfro:

See Distributive, 23 Sep*73

ba Thlctaaaa:

See Systematic Realisation, 20 Dec*74

KBF unBihrrriuhb

Nothing:

"i don't start with space. I start with nothing."

- For citation and context see Vacuum. 17/19 Feb '72

Nothing:

"Lags are intervals— nothing."

- r - i - Q Muptiumiy4=tife«=£BE:

Ifa r inal i a r Sratt -ClufeBoeten 1971-

- Citation & context at Eternal A Temporal. 25 Apr*71

No-thing:

"There are no solids, nor particles— no-things."

- Cite SYNERGETICS corollaries, pec. 240. 1971

Nothingness:

"The nothingness is just where you are not tuning. Nothingness □ un-
tuned someth! ngness.**

- Cite RBF to EJA, Pagano's Rest., Phila., PA., 22 Jun»75

Nothingness;

"The nothingness area is one unbounded by any visible closed
line. Nothingness is the part of the system unencompassed by the
observer."

- Citation & Context at Minimum Awareness Model. (1)(2), 9 Jun'75

Nothingness:

"The total nothingness involved is accounted by 20 P.

The third power accounts both the untuned nothingness and the
finitely tuned somethingness. The 20 is both Einstein' M and all the
other untuned non-k of Universe. The 20 F> is the total Universe
momentarily all at one enter."

time or timeless

-at WO" ' 7

- Cite SYNIGETICS draft at Sec. 960.09, 16 Kov'72

Nothingness:

"./hen the vector equilibrium and six squares is opened up onmisymmetry conformation of of absolute middleness. " *

assembly of eight triangles it may be hand held in the the 'idealized nothingness

- Cite SYNERGETICS draft at Sec. 460.02, 5 Oct'72

See Connections *k* Relatedness

Starting Point

System vs. Thing-in-itself

Verbs: No 'Where's, No 'What's, Only 'When's

Zero Model vs. Thing-in-itself

Static Invalidity of Solid Things vs. Empty Space

See Vector Equilibrium as Starting Point, 8 Apr'75

Ninety-two Elements, 21 Jun'77

Nothingness Local:

See Zero-niness, 11 Sep*75

Nothingness: Mold of Nothingness:

"--- We suddely tee the mold of nothingness. That's all it 1st"

- Fpr citation and context see Black Hole 12) *t if* Jan'?2

NQthlngfCSfl gf. NWlt:

See Fireworks, May*72

Nothingness Phase:

See Vacuum, 11 Sep¹75

Hotlngnwsa - Silence;

See Silence, 30 Sep'76

"The function of the chords is to relate. . . And the resultant is the inadvertent definition of the nothingness of the areal and volumetric spaces. . . Areas do not create themselves. They are incidental to the lines between the events. The faces are the bounding of nothingness. Areas and volumes are incidental resultants to finding the connections between the events of experience."

- Citation and context at Connections and Relatedness. 20 Feb'73

See Domain & Quantum, {1}(2)

9MHHA Nothingness of Universe:

"What the blowtorch does is to let infinity--- or the nothingness of Universe--- into the system,"

- For citation and context see Barrel (2) f Dec'70

Nothingness - Untuned Somethingness:

See Nothingness, 22 Jun'75

See Background Nothingness

Central Nothingness Equilibrium

Field of Omnidirectional Nothingness

Infinite Nothingness

Mold of Nothingness

Nonstate

Nothing

Nothingness - Untuned Somethingness

Novent

Nucleus - Nine • Nothing

One - None

Something-nothing-something-nothing

Space Nothingness

Straight-nothingness

Unfolded Nothingness

Untuned

windows of Nothingness

Domes, 12 May*77
 See A Priori Environment. May*72
 A Priori Four-dimensional Reality, (2)
 Black Hole. (2)*
 Bow Ties. 6 Oct'72
 Eternal t Temporal, 25 Apr'71*
 In *k* Out, 13 Nov'69
 Intervale, 25 Apr'71
 Lavoisier, 1 Oct'71
 Tetrahedron, 20 Feb'73
 Triangle, 10 Dec'73
 Vacuum, >9 Feb'72*
 Vector Equilibrium: Zerophase. 1 May'71
 Whole, 17 Feb'72
 In & Out: Go In To Go Out, 16 Dec'73
 Zerophase, (1)

Star E_{vef1}ts & Degrees of Freedom, 12 May'75 Thirty Minimum Topo-
 logical Characteristics, (l) Self k Otherness: Four Minimal Aspects, 22
 Jun'75 Minimum Awareness Model, (l)(2)* Dynamic Equilibrium, 24
 Apr'76 Space, 2 Jul'76

See No-thing
 No Thing-in-itself

Nothingness of Areal 8c Volumetric Spaces Nothingness: Mold of
 Nothingness Nothingness of Night Nothingness Phase

Nothingness of Universe

Nothingness - Untuned Somethingness Nothingness `` Silence

JjQ-Uno~Afld--away-d co»

No-time-and-away-ago' is my new phrase in the Goldilocks piece for a theme like Dante's. The otherness is broken down into past otherness, present otherness, and future otherness.

- Cite RBF to EJA, 2fl May'75

See Absolute Velocity

Cosmic Synergy

Eternal Instantaneity

Eternity: Equatuon of Eternity Instantaneity Timeless

Top Speed: Top Velocity

Sea Intellect, 2? May'72 Motion, 27 May'72 Tine k Space, 7 Feb'71

Pole Vaulter, 2 Jul*75

Hot Of:

See Between and Not Of

No Totality:

See No Conceptual Totality

See Imaginary Universe vs. This Universe

Outside: What*s Outside Outside?

Hot Out of Thlfl told:

(2)

See Omnigeometric, 27 May*72

Public Relatione, 28 Jan'75

MftkJsuifiilM- to«r-qwiu-tfluchlng:

S«a Rules of Never-quite-touching

Vertexial Connections

Vertexial Connections: Rules of Never-quite-touching

Wnt Treatasalnt:

See Trespassing: Not Trespassing

No Two-dimensionality:

See Fourth-dimensional Synergetics Mathematics, H Dec'76

Nfi-LffiXfiH:

"There is no twogon,*

- Cite SYNERGETICS, 2nd. Ed. at Sec. 606.24, 11 Apr'75

KB 7 DEFIHITluUS

Noun:

"In architecture 'form' is a noun; in industry, 'form' is a verb. Industry is concerned with doing, whereas architecture has been engrossed with making replicas of end results of what people have industrially demonstrated in the past. Noun. in our phonetic etymology, means 'now-one,* i.e., the most recent chaos of thought reduced to an answer. The 'now-one' or noun must, in due course through selection by the intellect, become two or more observed characteristics of the one, there being no absolute identity. Nouns, from a language viewpoint, are tenable only as 'names' for facts recently determined. The noun is, therefore, more subject to constant revision than is any other part of speech. No longer is it 'stone.' No longer is it 'steel.* industry is dealing in hundreds of different steels, physically more dissimilar than the Chinese and the Swiss."

- Cite KlfcC UHA18b TU THE nuuN, p.41, 1938

See Name

**"Named" Phenomena: Name Words Newton was a Noun Thing:
Thingness Verb vs. Noun No Nouns**

See Event, 26 Jan'72 Meaningless, Oct'66

See Death, 29 Mar'77

**Dynamic Frame of Reference, (3)(4) In, Out i Around, 17 Mar*77; 10
Dec'73 Nature in a Corner, 17 Nov'75 Spaceship, (1)**

Spaceship Earth, 22 Jun'74

**Synergetic Hierarchy. 5 May*74 No Energy Crisis, (1) Conceptual Lim-
its, 22 Jun*77**

Novel:

Novels:

lee Fuller, R.B: The Thinking Me, a8 Dec'76

Novent:

price otherneaa la that of the point and the no-polnta. the eventa and
the noventa. Numerically ?" * @?cau" *£ ls «*» • Unit cane it ie primal

zero la price otherneaa." K^{1*}»0,

Citation and context at Brice Otharne., 23 Sep'73

Novent:

| | |
|--------------|---|
| "Alan Watts: | But I mean there is a common assumption— it is ordinary
common sense— that space is nothing at all. |
| Fuller: | That's <u>novent</u> . I call it no-event.
I don't like the word space anymore because it implies
something. We have ohly frequencies, We have events and
no-events. We have the unique energy packages. |
| Watts: | But any sort of solid energy package seems to me
inconceivable without a special ground. |
| Fuller: | It doesn't bother me at all about the no-event. |
| Watts: | Well, how can you talk of curved space, the properties of
space? |
| Fuller: | But you can't talk of straight space. There are no straight
lines. Physics has found nothing but waves." |

--CXfre-WAWG TAPE, p

- Citation at Space. 19 Oct¹70

Novent: (1)

"There are no specific directions or localities in Universe which may
be opposingly designatedas UP or DOW. In their place we must use
the words OUT and IN. We move in towards various taNt individual
masses or we move out from them. But the words IN and OUT are

not mirror image opposites. IN is in respect to individual experience foci--- OUT is coranon to all. IM is discrete. OUT is general. The IN's are discontinuous. The OUT's are continuous. OUT is nothingness, i.e. non-experience. Only the non-experience nothingness infers a continuum. The non-event continuum is the Novent. Inferentially, the Novent continuum permeates the finitely populated wlthinness and comprises the finit Novent withoutness. The rubber glove stripped inside-outingly from off the left hand now fits only the right hand. First the left hand was conceptual and the right hand was non-conceptual--- and then the process of stripping off inside-outingly seemingly annihilated the left hand and created the right hand-- then vice versa as the next strip-off occurred. When physics finds experimentally that a unique energy patterning,--- erroneously referred to in archaic terms as a particle,--- is annihilated, that

Cite NEHRUs spelch p_-12_13 Nov'69

"Annihilation is only of the rubber glove kind. The positive becomes the negative and the positive only seems to have been annihilated. We begin to realize conceptually the fi«nite, yet non-sensorial, outness which can be converted into sensorial inness by the inside-outing process. Ergo, novent is the finite but non-sensorial continuum. Sensoriality is a corporeally external pheneomenon--- reportingly relayed inwardly to the brain and therein imaginatively scanned by the mind which conceptualized independently in generalized formulations such as the conception of a nuclear grouping around a nucleus, □ quite independent of size..."

- Cite NEHRU SPh. CH, p.12, 13 Nov'69

Hi3F

' ` There is no static geometry. There are momentarily existant geometrical relationships. There events and lack-of-events. The electromagnetic spectrum is a manifest of the gamut of unique frequencies of recurrence. There are no 'solids,' Ho 'surfaces,' no continuums,' no straight lines or planes. 7/e have only events and no-events--- the events being finite and their energies limited. . . .

"We are talking about no event, so let us contract those two words into one word, novent, meaning nothing occurs."

- Citation and context at Space. 1968

KBF DEFINITIONS

□□□□□□□□□□* Npyent Continuum: *The non-event continuum is the Novent. • . The Novent continuum permeates the finitely populated withinness and comprises the finite Novent withoutness. . . Only the non-experience nothingness constitutes continuum.*

- Cite Synergetics drafg, Secs. 524.04 * 524.05. 1971

See Gravitational Continuum

See Epistemological Stepping Stones

Events & Nonevents

Invisible

No-point

Nothing

No-thing

Nothingness: Mold of Nothingness

Novent Continuum

Vacuum

Vacuum - Novent □ Invisible

Events. Novents « Event Interrelatabilities

Space Nothingness

See Connections & Relatedness. 20 Feb*73

Prime Otherness, 23 Sep'7i*

Space, 19 Oct'70; May'71

Star Eveht fc Degrees of Freedom, 12 May'75

Now:

"The future is not linear. Time is wavelinear. Experience is expansive, omnidirectionally including and refining the future. It probably consists of omnidirectional wave propagations. We seem to be talking about a greater range of known cycling. It is both a subjective 'now' and an objective 'now'; a forward-looking now and a backward-looking now which combine synergetically as one complete "now." Because every action has both a reaction and a resultant, every now must have both a fading past and a dawning future.*

- Cite RBF rewrite of SYNERGETICS galley at Sec. 529.11

7 Nov'73

Now;

"I cannot think simultaneously

About all the special-case events which I have experienced, But I can think about one special set

Of closely associated events

At any one now,"

- Cite BHAIi KIND, p.1}2 1'ay '72

Now:

"Universe is the aggregate

Which aggregate

Of only partially overlapping events Is sum-tally a lot of yesterdays
Plus an awareness of now."

- Cite BRAIN AND MIND, 12\$ j galley p.131 May '72

Now:

"Yesterday and now

Are neither simultaneous

Nor mirror-imaged;

But through ypm run themes

As overlappingly woven threads, , 'Which though multipliedly individualized Sum-totally comprise a scenario."

- Cite BHAIN & KI..D, p.1J1 Kay '72

Now:

"Now Is where man has kidaed himself into thinking that there'8 no change at all.

"Take the gestation rates from the elephant to the half- life radioactivity of atoms which approach cosmic speeds and get back into eternity. What we call now is just a slow-down, in the Gay 90's most people thought that there was no change at all. Even Newton could say 'at rest.'

"I ramified the idealistic--- which is essential to all the palpitations. It goes back to angle, and triangle, and conceptuality independent of size and starting with the fundamental idea that there must be a nucleus. There is no straight line; only the wave coincides with reality.*'

- Cite RBF to EJa, at breakfast 3200, Idaho, DC, after KriF had read first three chapters of Eccles 'Facing Reality,' until >:00 a.m. the night before, 14 Feb '72.

Now;

"Life ia the now event with its reaction past and resultant future."

- Citation & context at Life. 1 Jun*71

Now:

"Because every action has both a reaction and a resultant every now must have a past and a dawning future."

- Cite SINERGETUCS draft. 'Conceptuality: Time.* - RBF marginalia added at Somerset Club Boston, \$5 Apr*71

Now:

"The future Is not something linear. So we seem to be talking about a greater range of known cycling. . . We're talking a complete 'now.' It really is a subjective 'now' and an objective 'now' and so forth, but it really la all 'now.'"

-WATTS TAPE, p.39, 19 Oct'70

- Citation at Time, X)ct*70

19

Now;

"We cannot view the groat confluences of separately and remotely significant events forwardly resultant to now.

- Citation & context at Surprise. May'49

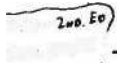
No Jave:

See Waveleee

Now HpuFKlagg: fraM .^sMUPP QX ^T?I^a?19KAP^al Bp* Tig: (1)

"The macrocosm of minimum frequency of omnidirectional self-interference restraints whose greatest degrees of outward expansions occur when the last of the least-frequent self-interfering cycles is completed, and cycles, being geodesic great circles, must always interfere with one another twice in each wave and frequency cycle, which 'twiceness' imposes eternally regenerative cosmic resonance, and all the latter's inherent quanta-wave- frequency- time- interferencemass- and effort- aspects in exquisite speed- of-light 700-raillion miles per hour, self-interfering radiation patterns' energetic self-tying into concentric knots of relative mass in a mathematically idealized variety of symmetrical-asymmetrical atomic assemblages whose local subvisibly resolvable micro-orbiting induces the superficially deceptive motionless thing- — ness of mini-micro- TIMfc — Iwfi.EPr/ microcosm of

Cite RBF rewrite, 25 Sep'TJ⁰·*



Now Hourglass; Cross Section of Teleological Bow Tie:

"NOW

(2)

which progressive experience-won knowledge multiplies by progressive intellectually contrived, instrumentally implemented exploratory subdividing into microscopically ever greater speeds of transformation through insectine phase magnitudes dividing into the micro-organisms phase, and then dividing progressively into molecular and atomic phases; then phasing into radioactivity at 700-million miles per hour, expanding once more into the macrocosm and repeat: ad infinitum.

nut -

Tint -

Sec. 5W*'/

Sec. Cite RBF rewrite, 25»Sep'73

Now Hourglass: Cross Section of Teleological Bow Tie:

See Shelter, Vol. 2., No. 4, p.43, May'32

Synergetics, 2nd. Ed. : Sec. \$29.40

See Self-

now, Mar*72

NfW HOMC: (1)

"What was present and physically demonstrated at Vancouver's /UN Habitat Conference/ Jericho Beach site was a mushroom group of swiftly foldable and movable geodesic domes and modernised Indian tepees produced, developed, and installed by a young world inspired to do something about its own future.

"Our World Game staff... put on an exhibit of four geodesic domes, which are now in manufacture by the Molded Fiberglass Company (KFC) of Ashtabula, Ohio... Their 14-foot, 5/8-«phere polyester fiberglass geodesic domes have alternate translucent or opaque fiberglass hexagon or pentagon panels. Their domes retail for *750.

"The World Game staff called their Exhibit the 'Now House.' This name derived from the fact that everything they had on display could be purchased right now from industrial mass production sources. All labor of their production occurred under the controlled environment-conditioning of factories: no rain, cold, heat, snow, ice, or wind. The MFC domes had no more need for old building technology than has the opening of an umbrella—a mobile, environment-controlling"

- Cite ACCOIG.ODATING HUMAN UNSET.LEHENT, p.10; 20 Sep'76

Now House: (2)

"artifact. The World Gamers brought their exhibit from Philadelphia to Vancouver in one camper truck pulling one trailer.

"The World Gamers first dug circular trenches slightly larger in diameter than the domes' circular bases. As they trenched they threw their shovelfuls of Earth into the enclosed circle and leveled it to form an elevated base for each dome. On the top of the Earth they laid edge-overlapping corrugated aluminum panels which were surmounted first by aluminized foamboard to reradiate heat, and next by plywood, and agin by indoor-outdoor carpeting. This made a very comfortable, springy and dry floor.

"They anchored the domes so that they could not blow away, for the domes weighed only 225 pounds each.

"Three of the domes were positioned in a triangular pattern with ten feet between them. A high pole was mounted at the center of the triangular area, which in turn supported a watertight translucent canopy. The large between-domes triangular area below the canopy was covered with the"

- Cite ACCOMODATING HUWIN dNtETT LEI LENT, p.11; 20 Sep'?6

Now House; (3)

"indoor-outdoor carpeting. The fourth dome stood mildly apart and could have been connected by a canopy but was not.

"One of the World Gamer4' domes contained a complete workshop with all manner of handtools, benches, metal- and wood-working equipment and general electronics servicing gear. Another dome was used for the kitchen, bathroom, toilet, office, and clothes hanging. The third dome was used as a video theater and dormitory. The fourtfdome was used for storage and laundry drying....

"Ten of the World Gamers lived in the Now House installation. They lived very comfortably and happily (as do acrew of 10 sailors living together on an ocean yacht, many of which are later equipped with hundreds of thousands of dollars worth of low-input, high-output, invisible performance instruments.)

"The Now House had been voluntarily equipped by many major corporations. Largest single supplier of all was the J.C. Penney Company. SONY let them have its most advanced multicolor videotape production and viewing system. Minnesota"

- Cite ACCOMMODATING HUMAN UKSETTLEKiNT, p.12; 20 Sep'76

Now House: (4)

"Mining had given them their best duplicating equipment.

They had silk-screening equipment, printing equipment, and typewriters, and were able to broadcastingly communicate to society from their headquarters and received their feedback from a thousand visitors a day.

"In the kitchen-bathing dome Herman Miller had provided most compact, economic but adequate, shelving on which to mount their kitchen equipment. They had a toilet which converted human waste into high-grade fertiliser. The heat necessary for this odorless process was provided alternately by electricity from the windmill hookup or by heat from the solar panel water-heating device. The toilet system produced fertilizer as a rich, dry, manured, loam-like substance which needed to be taken out of the system only once a year...

"The domes were equipped with a remote control telephone. Arrayed between two of the three domes under a translucent canopy were banks of tomatoes and other food

vegetation in hydroponic tanks, with noticeable growth accomplished during only the short two-week period of the installation."

— Cite ACCOMMODATING HUMAN UNSET¹} LEI-ILN'T, p.ljj 20 Sep*76

Now House: (5)

"While the domes, as already noted, were priced at \$750 each, the total package with all its \$17,000-worth of equipment amounted to \$20,(XX). This ratio of \$3,000 for the environmental dwelling shells and skin to \$20,000 for the totally and luxuriously equipped living facility-- approximately 1 : 7—is very close to the International ocean racing yachts' bareboat to sailaway equipped cost ratio. A modern 37~foot-overall length one-tonner at \$30,000 for the bare boat with full transoceanic racing equipment, sails, instruments, et al., costs approximately \$200,000. The reason the bareboat yacht hulls cost so much more than the bare Now House domes is due to all the stresses, strains, and other formidable conditions which must be coped with by the boat and their lightweight, high-strength equipment while operating at the interface of the airocean and the waterocean. The conditions are not present in the land installations....

'The /2 Now House will be ready for exhibit by August 28, 1977, and will soon thereafter become publicly available as the air-deliverable, only rentable, world-around dwelling machine service right on its scheduled 50th birthday.**....

- Cite ACCOMODATING HUI'AN UNEETTLEKENT; pp.13-14; 20 Sep'76

RbF DEFINITIONS

Now House: (6)

"One of the most impressive facts at Vancouver was that disclosed by nature. During the first four days of the installation there were torrential rains. Mud was everywhere around the Jericho Beach forum grounds.... The World Gamers had placed large heavy planks on the ground leading to their installations so that by the time the visitors came over mats into the complex their feet were reasonably dry. With the large numbers coming daily it was amazing that the flooring of the complex remained comfortably dry throughout the rains.

"The domes consisted of half opaque panels and half translucent panels and could be rotatingly rearranged with the translucent side south to impound enormous amounts of Sun radiation. With the translucent panels north, they remained cool and let in only the north light so desirable to artists."

- Cite ACCOM .ODAT ING HUMAN UKSETLLET.r.NT; p.1 5; 20 Sep'76

Now Necessity:

The mathematicians by their pseudo-escape to abstraction from a now necessity often get to kidding themselves. They do not understand an hierarchy of events."

- Cite Moebius Strip. 10 Jan'50

Now Set:

"...the olfactoral and aural (what you are smelling, eating, saying, and hearing) are the now set."

- Citation and context at Senses (1), 22 Nov'73

(1)

jjmt-you-see-it-now-you-don't:

See Binary

Conceptuality vs Nonconceptuality

Pulse Pattern

Visible & Invisible

Something-nothing-something-nothing

Now-you-see-it-now-you-don't:

(2)

See Fourth Quantum, 9 Jun*75 Nuclear Sphere. 16 Dec'73 Resolv-
ability Limits, 30 Apr*??

See Eternal Slowdown

Instantaneity

Future: time Backs into his Future

Here & Now

Reality is Eternally Now

Self-now

Status Quo

Present

Time is Only Now

See Apprehending, 22 Nov*73

Dynamic Frame of Reference, (5)

Life, 1 Jun'71*

Prime Enclosure. 17 Feb*73

Scenario, May*J2

Sensorial Identification of Reality, (2)

Surprise, May'49*

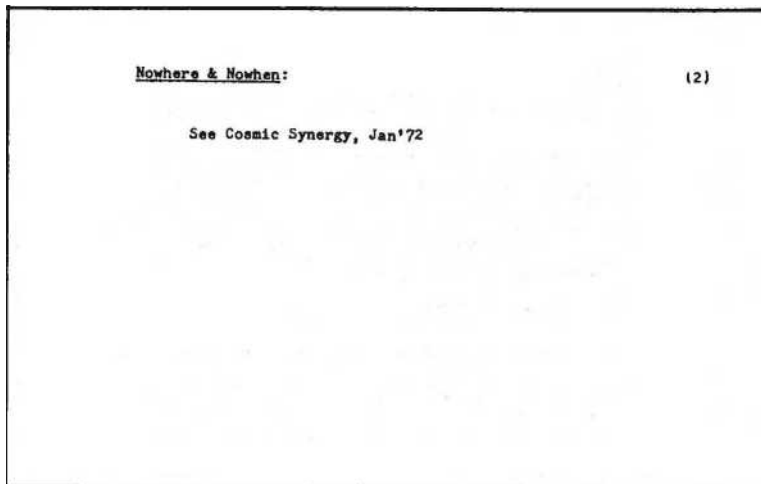
Time, Oct'70*

Time, Oct*70*

Tuning-in & Tuning-out, 17 May'77

Nowhere & Nowhen:

See No Time



NfixxXs: Harvesting Pollution at the Houle:

See Pollution, 1y70

Pollution Control, (1)(2)

See Angle: Pumping Fraction Factore, 15 Mar'AS

Nuance:

See Dictionary. 2J Fob*72; 24 Feb*72; 19 Jul'76 Truth. 1967 Words,
2 Jun'74 Scheherazade Numbers: Declining Powers Of.

17 H*c*75 Words & Coping, 7 Nov*75

Nuclear: "Synergetics la primarily the geometry of the nucleus rather than of the geometry of chemistry. It's mostly the fundamental behaviors, the central behaviors. It is inherently nuclear in its own right."

- Citation & context at Synergetics. 23 Mar*74

Nuclear Assemblage Componenta:

See Kites Make All Regular Polyhedra, 27 May*72

Nuclear Computer Design:

See Atomic Computer Complex Omnidirectional Typewriter

Cuba:

See Nucleated Cube

Nuclear Domain:

"Vector equilibrium is the maximum domain of a nucleus.**

- Cite RBFat Penn Bell videotaping session, Philadelphia

Nuclear Domain & Elemental!tv:

(1)

"The closest-packed sphere shell growth rate is governed by the formula $10F^2 + 2$. The formula is reliably predictable in the identification of chemical elements, but that identification is limited to the unique nuclear domain pattern involvement.

"When a new nucleus becomes completely surrounded by two layers then the exclusively unique pattern surroundment of the first nucleus is terminated. It is no longer the unique nucleus. The word elemental relates to the original unique patterning around any one nucleus of closest-packed spheres. When we get beyond the original unique patterning and find the patterns repeating themselves, we get into the molecular world.

"Uranium 92 is the limit case of what we call Inherently self-regenerative chemical elements. Beyond these, we get into split-second life demonstrations of the elements. These demonstrations are similar to having a rubber ball with a hole and stretching that hole's rubber outwardly around the hole until we can see the markings on the inner

- Cite RBF Ltr. to Paul Baclaskl; 6 May*77

Wacbaar Domain & Elementality: (2)

"skin corresponding to markings on the outer skin, but when we release the ball the momentarily-outwardly-displayed markings of the inside will quickly resume their internal positions.

"As we see in (Sec. 624), the inside-outing of Universe occurs only at the tetrahedral level. In the nucleated tetrahedral, closest-packed-sphere-shell growth rates, the outward layer sphere count Increases as frequency to the second power times 1E2 plus two—with the outer layer also always doubled in value,"

—Incorporated In SYNERGETICS 2 at Sec. M9.10-M9.13

- Cite RBF Ltr, to Paul Baclaski; 6 May*77

See Spheric Domain vs. Nuclear Domain Domain of a Nucleus

See Nuclear Cube, 11 Dec'75; 23 Feb*76

Nuclear Geometrical Limit of Rational Differentiation;

See Mites as Prime Minimum System, 15 NOT*72

Nuclear ^cYTQ:

See Hen, 6 May'48

"Discontinuous compression, continuous-tension structures are finite islands of microcosmic, inwardly precessing. tonal wave sequence displacements of radial-t©-circumferential- to-radial energy knotting regenerations as nuclear phenomena--- and the whole, enclosed in infinitely macro- cosmically trending precessional

unravelings, regenerates precessionally as radial-to-circumferential-to-radial nebular phenomena--- circumferential micro- or macro-being finite, and radial being infinite. Compression is micro and tension is macro."

- Cite Synergetics Notes, p.9, et. seq., 1955. Incorporated in SYhcK-GETICi at Sec6t7.04, 3 Aug-1 Oct*72

See Oscillation & Pulsation Tidal

See Astro *k* Nucleio

Cosmic *k* Local

Orbiting Magnitudes

Relative Acticity Diameters of Stars *k* Electrons

fMB Nucleus - Nine - Nothing:

"Nucleus as nine; i.e., non (Latin); i.e., none (English); i.e., nothing; i.e. interval integrity; i.e., the integrity of absolute generalised discontinuity accommodating all special-case 'space* of space-time reality."

- Cite SYNERGETICS draft at Sec. 1012.01, 18 Feb'73

Nuclear? Outward Limit of Nuclear Phenomena:

See Vector Equilibrium: Three-frequency VE

HBF DEFINITIONS

(□□□□mHIIHfeHH* Mu^dear & Nonnuclear: "It could be that organics do not require a nucleus. Whatever the mysterious weightless phenomenon life may be, also may be the nucleus of all biological species, including you and me."

- Citation and context at Organics and the Nucleus (2nd draft)
- qwi.ttrt-.i JtO. £ ifan¹ May'72

HW.W.B-!;

HbF Oar'IUITIUKb

'The closest packed" nucleated "octahedron requires 18 spheres; the tetrahedron 34; the rhombic dodecahedron 92;and the cube 364*. The other two symmetric Platonic solids, the icosahedron and the dodecahedron, are inherently devoid of equiradius nuclear spheres, having insufficient radius space within the triangular void. This suggests both electron and neutron behavior relationships for the icosahedron and the dodecahedron. The nucleation of the octahedron, tetrahedron, rhombic dodecahedron, and cube very probably play important parts in the atomic structuring as well as in the chemical compounding and in crystallography."

- Cite SYNERGETICS draft at Sec. 415.13, 19 May*72

See Denucleated Phase Organics & the Nucleus Suonuclear

See Potential vs. Primitive, 12 May*77

S Quanta Module, 4 Jun*77

RHF DEFINITIONS

Nuclear Power Generation?

Q: "How do you feel about the protesters who were

a rested at the Seabrook Nuclear Power site in New Hampshire?"

RDF: "Jake it obsolete... That's how you become effective.**

- Cite RBF to World Game Workshop'77; Phila., PA; 22 Jun'77

Nuclear Power Generation;

See Fail-safe, 13 Sep'77

Nuclear Propagation Rate:

See Powering: Fourth Powering, 15 Oct*72; 9 Sep'75

See Infinite Eternally Regenerative

See Prime Volumes,

17 Feb'73

MBF DEFINITION

Nuclear bet:

. .At the third layer of enclosure some of the Angular interrelationship patternings begin to repeat themselves. Thus we are able to inventory what we are going to call a nuclear set of unique interrelationship patterns."

- Citation and context at Atomic Computer Complex (3), 13 Feb'73

Nuclear Simplex;

See Compound, 13 Feb'73

Ninety-two Elements, 13 Feb'73

Nuclear-smallest:

See Man as Halfway in Range of Size of All Creatures, 22 Jun'75

This half-in-the-physical, half-in-the-metaphysical; i.e., half-conceptual, half-nonconceptual; i.e., now you see it, now you don't--- and repeat, behavior is characteristic of synergetics with its nuclear sphere being both concave and convex simultaneously which elucidates the microcosmic, turn-around limit of Universe as does the c^2 the spherical- wave-terminal-limit velocity of outwardness elucidate the turn-around-and-return limit of the macrocosm."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1053.16, 16 Dec'73

See Ball at the Center

Initial Sphere

Sphere Center

Central Ball: Central Sphere

See Nature in a Corner, 1? Nov'75

Omnidirectional Terminal Caee Corner, 13 Nov"75 Vector Equilibrium:
Potential & Primitive

Tetravolumes, 12 May'77

See Puah-pull Members, 28 Oct*72

Symmetry-

See Limit. 29 Uy'72

Rhombic Dodecahedron, 24 Feb'72

RBF DEFINITIONS

"...So the vector equilibrium is a nuclear ungioueness for the first layer of 12 and the next layer of 42, with no other potential nucleus as yet appearing in its system in its exterior shell*s structural triangular facets--- to challenge its nuclear pnstinity."

- Cite SYNERGETICS draft at Sec. 1011.59, 18 Feb'73

"And we have the concept of the Units of asymmetry in respect to the vector equilibrium as the limit of coming to the molecules. That's what we have: nuclear uniqueness and all of its variables within the domain of the three-frequency vector equilibrium. ...

"... Dealing with our original concept that the vector equilibriums are nuclear structures embracing all the variables of Universe."

- Citation and context at Vector Equilibrium. 16 Oct'73

See Vector Equilibrium: Three-frequency VE

fluclgAT. Yams;

See Vector Equilibrium as Empty Set Tetrahedron 2 Nov'73

RBF DEFINITIONS

"The minimum allspace-filling nuclear cube is formed by adding eight Eighth-octahedra to the eight triangular facets of the vector equilibrium of tetravolume 5; i.e., 5×24^c 120 quanta modules. This produces a cubical nuclear involvement domain (see bee. 10Gb.30) of tetravolume b;

i.e., $b \times 2b$ " 144 quanta modules.

"The nuclear cube is the maximum sizeless, timeless, subfrequency generalized nuclear domain of synergetic-energetic geometry.

"The construction of the first nuclear cube in effect restores the vector equilibrium truncations. The minimum has 142 balls in the vector equilibrium. The first nucleated cube has 2181 balls in the total aggregation."

(Secs. 415.17; 415J71; 415.172, 2nd. Ed.)

- Cite SYNERGETICS, 2nd. Ed. at above Secs; 23 Feb'76

"The minimum allspace-filling nuclear cube is formed by adding eight eighth-octahedra to the eight triangular facets of the vector equilibrium of tetravolume 5> i.e. 5×24^c 120 quanta modules. This produces a cubical nuclear involvement domain of tetravolume 6; i.e., 6×24^c 144 quanta modules.

"This nuclear cube is the maximum sizeless, timeless, subfrequency generalized nuclear domain of synergetic-energetic geometry."

. 17

(Sec. 415.9\$, 2nd. Ed.)

- Cit RBF to EJA, 3200 Idaho, Wash., DC. + RBF holograph; 11 Dec'75

Nucleated Cube:

"To find the first nucleated cube, you Jusg untruncate (restore) the vector equilibrium truncations. The mininum has 142 balls in the vector equilibrium part. The first nucleated cube has 2181 balls."

(Sec. 415.062, 2nd. Ed.)

- Cite RBF to EJA, Wash DC. 7 Oct. »71.

See Vector Equilibrium Involvement Domain

bee Vector isquibrfiAm Involvement Domain, 11 Jec'75>

10 Dec'75; 12 Dec'75

Allspace Filling, 11 Jul*62

Quantum Jump, 26 Aug'76

"You can't have a nucleus without an embracement."

- Cite RBF to EJA, 3200 Idaho, Wash., DC.; 24 Jan'76

"There is no way in parallel thinking that man can come to any important conclusions. We tend tn think in parallels and perpendiculars when our Universe is not operating in parallels. Our Universe operates from a nucleus; it radiates and converges---it's a gravitational pulling together and a entropy trying to come apart. Everything is either growing or decaying. There is nothing in parallel at all; there is no nucleus in parallels. In nuclear growth a two goes into a three and a three goes back to two as electromagnetic waves go out and then converge. Waves are not drawn on a piece of paper in a plane; they are convergent and divergent expressing the great pulsations in our Universe. I find this is a very important part of fundamental thinking."

- Cite RBF National Geographic Land Use Seminar; transcript pp. 17-18 Side II p.1 Side III; 8 Dec'75

Nucleated Systems: Idealistic Vectorial Geometry Of:

"It is experientially demonstrable that the structural inter patterning principles governing all the atomic behaviors are characterised by triangular and tetrahedral-based associations governed by the 12 degrees of freedom.

"These structural pattern-governing, conceptualizable principles in turn govern all eternally regenerative design evolution including the complex patternings of potential, symmetrically- and asymmetrically-limited, pulsative regeneration, only in respect to all of which are ideals conceivable, as is experientially manifest in synergetics and in my closed-system, topological hierarchy discovered only through a half century of persistent exploration of the ramifications of the idealistic vectorial geometry characteristics of inherently nucleated systems and their experientially demonstrable properties."

(See Principle. 14 Feb'72 for first draft.)

- Cite RBF marginalis in Eccles * "Facing Reality," as rewritten by RBF, 15 Feb'72 \

yZi.ZO)

(- Incorporated in EYHERGISTICS, 2nd. Ed. at Sec. 532336)

See VE aa Prime Nucleated System

See Vector Equilibrium, Oct'75

Vector Equilibrium Involvement Domain, 10 Dec'75

Nucleon:

See Octahedron: Nuclear Asymmetric Octahedra, 1 Apr'73

Nucleus:

"...the IK coordinates have nothing to do with the way Universe works
That's why you couldn't have a nucleus in a perpendicular or a parallel system. You can only have nuclei when you have convergence."

- Citation A context at Convergence & Divergence. 1 Kay'77

Nucleus:

"The coordinate system of nature as revealed in synergetics is one in which nature operates in convergent-divergent, associative-disassociative agglomerating, a system in which the inherent symmetry is maintained only by the equilateral triangles. Nature is synergetically both expansively radiant and convergently gravitational: radiant as radiation or as an expansive, disintegrative, coming apart, or nature as gravitationally convergent with increasing symmetry and order. Nature resolves her problems by convergence to an inherent nucleus."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 260.41; 13 Nov'75

Nucleus:

"Two spheres in Universe ----- mass attraction ----- vector equilibrium nuclear assembly. Nuclear assembly starts with an inherent volume of 20, which is the minimum model of nucleation."

- citation 4 context at QuantM Sequence, (4), 23 Jun'75

Nucleus :

"The divergent characteristics of the tetrahedra at the center of the vector equilibrium demonstrate the nucleus. This is because the tetrahedron is a system and not anything in its own right.

"A nucleus is a complex of systems. A nucleus could not possibly be a simplex. Spherically and symmetrically there are 12-around-1. Volumetrically and asymmetrically there are 20 tetrahedra around a nucleus: that is what nucleates it."

- Cite RBF to EJA, Pagano Rest., Phila., PA., 22 Jun*75

Nucleus:

"The nucleus can accommodate wave passage without disrupting the fundamental resonance of the octaves. The tetrahedron is the minimum, ergo, prime nonnucleated structural system of Universe. The vector equilibrium is the minimum, ergo prime, nucleated structural system of Universe."

- Cite SYNERGETICS text at Sec. 421.05; galley rewrite, 2 Nov'73

Nucleus:

"...The common center ball, being two-in-one, can be used for a pulse or a space; for an integer or a aero. The one active nucleus is the key to the binary Yes-No of the invisible transistor circuitry,"

- Cite SYNERGETICS draft at Sec. 1012.12, 18 Feb*73

RDF UEFIMTiUHS

Nucleus:

"Operationally speaking the word omnidirectional involves a speaker who is observing from some viewing point. He says, 'People and things are going every which way around me.' it sounds chaotic, ./e cannot and do not live and experience ?n a two-dimensional infinitely extended planar world. ./e live in an omnidirectionally viewable world. Omnidirectional means that a center of a sphere of observation that resolves all that can be observed to either passing by tangentially which is always perpendicular to the radii of the observer, which means that the multiplicity of his real events does not produce chaos but instead produces orderly relationships to the vebly orderly radii of the observer, all of which events are subject to orderly recording ana interrelating m relationship to the observer's inherently orderly sphere of reference. The expression 'frame' of reference is not only 'square, but its two-dimensional J-D axes of reference such as XYZ coordinates requires inept rectilinear defining

quite uncharacteristic of omniwave-like orbiting Universe events; whereas the infinite dimensioning of tangential radii referencing can always be 'right on ' the actual event tracery. Omnidirectional implies a nucleus. Because of omni-closest-packing of 12 spheres triangularly surrounding

- Cite RDF to EJA, 3200 Idaho, DC, 14 Feb '72. Rewritten 17 Feb.

nucleus: {2)

"one. Energy cannot be distributed inwardly, therefore it has to be distributed outwardly. With 12 omnidirectional alternate moves with each event, complex distribution swiftly ensues, because there are spaces between closest packed sphere energy can be imported which can only be articulated outwardly--- ergo entropy."

- Cite RBF to EJA 3200 Idaho, DC, 14 Feb '72. Rewritten Feb. rewritten as SYNERGETICS draft Secs, 1001 + 1002, 27 Feb '72

Nucleus:

"Omnidirectional implies a nucleus. Because of closest packing energy cannot be distributed inwardly therefore it has to be distributed outwardly.

With 12 omnidirectional alternate moves with each event, complex distribution swiftly ensues,"

- Cite RBF to EJA, 3200 Idaho, DC, 14 Feb '72

Nucleus:

"A nucleus, by definition.

Must be surrounded in all directions.

This means that there must be a ball

In every possible angular relationship to the nucleus.

This does not happen with one layer of twelve balls, Nor with a second layer of forty-two balls.

Not until a third layer of ninety-two balls is added are all the angular relationships to the nucleus filled. Je now have a true nucleus."

- Cite RBF Drat, Numerology, 4,21
1971

H0F DEFINITIONS

Nucleus:

The definition of a nucleus as defined for the symmetrical and tangential closest packing of equiradius spheres does "not apply to an asymmetrical or single-axis system, e.g.

Hydrogen, where a nucleus may be encircled by action within a single plane and where the surround is generated by a single orbit."

- Cite RBF to EJA as footnote to Sec 415.1 of Synergetics draft Bear Island, 25 August 1971

Nucleus:

C-

**Umnitofp.ogy differs from Euler's superficial topology, omnitopol-ogy being nuclear«*

~~- Cite RBF to EJA, Bear Island, 1971, 18 June 1971.~~

- Citation at Omnitopology. 18 Jun'71

rtBF jEFi.ariut.i;

Nucleus;

'•Lach ball can always have a neutral function among these aggregates. It is a nuclear ball whether it's an a planai- ar.ay or in an omnidirectional array, it has a function in each of the 12 tv/o adjacent systems which pe. forms like bond ng."

f'h»z .lolf. Id June 1971 iranscpt KF.r to LJA, the »

Cite tape

l/»CLEV5 pj tso. vtc Mix* yi J. <53)

Nuclewua;

"The nucleus can accomodate waves without breaking up the fundamental resonance of the octaves."

- Cite RBF to EJA, Fairfield, Conn. Chex Wolf.

18 June 1971.

jfWLSUS w (5«. vec /fATAiX ~ Sec

Nucleus!

"Systems can have nuclei and prime volumes cannot.

There are only three prime volumes."

a Citation at Prime Volumes, 18 Jun¹71

~~- Cite RBF to EJA, Fairfield, Conn., Chex Wolf.
18 June 1971.~~

Nucleus:

"A nucleus, by definition,
Must be surrounded in all directions."

- Cite NUMEROLOGY Draft, p. 34 - April 1971

RBE DEFINITIONS

Nucleus:

"A formula for the nucleus: a ball with a ball inside
it--- concave and convex."

- Cite RBF to EJA by telephone
from Los Angeles, January 1971

KBF DtFANlllUhh

Nucleus:

in closest packing of spheres "the third layer of 92 spheres contains eight new potential nuclei which, however, do not become active nuclei until each has three more layers surrounding it--- three layers being unique to each nucleus. This tells us that the nuclear group with 92 spheres in its outer or third layer is the limit of unique, closest-packed assemblages of unit-wavelength and frequency, nuclear symmetry systems."

Cite NEHRU SPEECH, p, 25, U Nov'69

Nucleus:

"In this dynamically opposed system... every nuclear component has its positive or negative opposite with each reversing every characteristic of the other.'*

- Citation & context at Energy. 16 Sep'67

Nucleus:

The vector equilibrium is the "most compact spherical agglomeration;* it "expands to infinity" with " a new nucleus every four orbits."

(Adapted.)

- Cite Geometrical Chart of 35 Synergetic Figures:

- Fig. 22. 1967

Nucleus:

"All the internal or nuclear affairs of the atom occur internally to the vector equilibrium and all the external or chemical associations occur externally to the vector equilibrium."

- Citation at Physics: Difference Between Physics and

Chemistry, «Jun'66

- Cite Carbondale Draft

Return to Mede-hrii-H V,1A

- jUtg-HASA apeeelj pi.BJ JIHPTMA

Nucleua:

"It is characteristic of a nucleua that it has at least two layers in which there is no new nucleus showing up, no potential. In the third layer, however, a potential new nucleus shows up, but it does not have its own two unique layers to protect it--- so you would not say it is as yet a realized nucleus, only a potential nucleus.¹

- Cite Oregon Lecture #8, p. 304. 12 Jul'62

Kyclfina. .YA* pQundarieg:

"The Greeks had the myopic bias of a game of boundaries; there was no nucleus at all in the Greek geometry."

- Cite RBF at videotaping session. Penn Bell Labs.. Philadelphia 28 Jan'75

See Astro 1 Nucleic Interpositioning

Atomics

Ball at the Center

Convex k Concave

Cube: Nucleated Cube

Initial Sphere

Internuclear Vector Modulus

Nebula

Nonnuclear

Nuclear k Nebular Zonal Waves

Nuclear k Nonnuclear

Biological Cell Nucleus

Octahedron: Nuclear Asymmetric Octahedra

Omni-topology

Organics k the Nucleus

Orbiting Magnitudes

Outward Limit of Nuclear Phenomena

See Prime Nucleus

Prime Nucleated System

Terminal Condition

Topological Aspects: Inventory Of Topology: Synergetic t Eulerian
Zero Frequency

Prime Nuclear Structural Systems Coupler: Nuclear Asymmetric Oc-
tahedron Central Symmetry

if

Domain of a Nucleus

Zero Nineness

Internuclear Voids

Subnuclear

See Closest Packing of Sphere#, 29 May'72; 13 Mar'71

Coupler (2)

Domain, 11 Feb'73
Energy, 16 Sep *6?*
Environment, 22 Sep'73
Growthability. 6 Mar*73
Human. 22 Sep'73
In i Out, 4 May'57
Invisible Circuitry (1)(2)
Isotropic Vector Matrix, 4 Mar*73
Limit, 29 May*72
Now 14 Feb'72
Omnitopology, 18 Jun'71*
Experience, 28 Apr'74
Crystallography, 17 Aug*70
Hydrogen. 29 Kay*72

See Particle, 6 Jul*62

Physics: Difference Between Physics 4 Chemistry.
Jun'66*
Prime Volumes, 18 Jun'71*
Regenerative Design: Law Of, (2)
Spherical Nostalgia, 12 Jun'74
Universe, 4 May'57
Vector Equilibrium, 17 Aug'70: 1y Nov'74
Vertex, 11 Oct'73
Self 4 Otherness, 19 Nov'74

Quantum Sequence, (4)*

Cloud Chamber, Nov'71

Vector Equilibrium Growth, 13 Nov'75

Zero Volume Tetrahedron, 10 Dec'75

Gravity: Speed of, 21 Oct ` 72

Parallel, 28 . 'ar'77

Potential vs. Primitive, 12 May'77

Convergence 4 Divergence, 1 May'77* i-Htes 4 Quarks as $c_{as}i_c$ "@tes,
(1)

See Nuclear Computer Design

Nuclear Domain

Nuclear Gyro

Nuclear &. Nebular Zonal Waves

Nucleus = Nine - Nothing

Nuclear: Outward Limit

Nuclear a Nonnuclear

Nuclear BKSSMiV Propagation Rate

Nuclear Set

Nuclear Simplex

Nuclear Sphere

Nuclear Symmetry

Nuclear Uniqueness

Nuclear Vertex

Nucleated Cube

Nucleated Systems: Idealistic Vectorial Geometry Of Nucleon

Nucleus vs. Boundaries

Nuclear Assemblage Components

See Nuclear Geometrical Limit of Rational Differentiation

Nucleus <L Embracement

Nuclear « Regenerative

Nuclear vs. Superficial

Nuclear Pattern of Growth k Decay

Nuclear k Nebular: Nucleus & Galaxies

Nuclear Limit

Nuclear Poer Generation

Number *

"AH number awareness is discovered through experiences, which are all special cases. Every time you write a number--- every time you say, write, or read a number--- you see resolvable clusters of light differentiation. And clusters are an experience. Conscious thoughts of numbers, either subjective or objective are always special case."

- Cite SYNERGETICS text at Sec. 503.04, galley rewrite, 7 Nov¹⁷³

Number:

"... Numbers are both abstract (empty sets) or special case (filled sets)."

- Citation and context at Vector. 26 May*72

Number:

"Only number can self-communicate as structural or destructural as-sociabilities

-Citation at Self-communicate. 15 May '72

Number:

"The number itself has its own integrity

And therefore ought to be integrated."

w HuwmmLl irgy-nysTF_f -a.

- Citation at Integrity. Aug*71

Number:

"Numbers are experiences. You have one experience and another experience, which, when reviewed, are composited. Numbers have unique experiential meaning. Even the development of acts derives from experience because mathematics is generalization--- but generalization itself is sequitur to experience--- where intuition and mind discover the synergetic inter-behavior that is not implicit in any of the data of the past.

"The mathematician talks of "pure imaginary numbers" on the false assumption that mathematics could be a priori to experience. All number awareness is discovered through experiences, which are all special cases. Every time you write a number--- every time you say, or write, or read a number--- you see clusters and clusters are an experience. Conscious thinking of number, subjective and objective, are always special case."

- Cite

CuMpfct- Sees. S'ftS.W-JiT.fiif|

RBF to EJA

Beverly Hotel, New York 13 March 1971

hbr uiib Hi 1 i «S

Number:

Synergetics provides for "the identification of energy with number."

- Citation at Synergetics, 19 Jan '71

.Angele 6,- 19-Jan--?1 pursuant- to-CoxatapI e te4Ui/>r- ftrC>nir.g
rrft t hga t,i f>a 1 prnnf nf-

J.P1,anatory--Planngf in Aa, Sehalap, '..'inu

-50-21

Number:

'Mathematicians theretofore /i.e.. before topology_7 had erroneously thought that they had attained utter abstraction, or utter non-conceptuality--- ergo 'pure* non-sensoriality, by employing a series of algebraic symbols

substituted for calculus symbols and substituted for again by 'empty set' symbols.

` ` They overlooked that even their symbols themselves were conceptual patterns and only recognizable that way, for instance numbers o, j, phonetic letters, consist of physical ingredients and physical experience recalls. The physical * ingredients consist inherently of event-paired quanta and the latter's six-vectored, positive and negative actions, reactions, aid resultants else they would not have become employable by the deluding, experience-inmersed 'purists'.¹

StcSoS.IO y-CiteTIH Speech, p. 58.Jua'66

Number;

"Tetrahedra have a fundamental prime number: oneness.

The octahedron has a fundamental twoness, its volume of four being made up of the prime number two; even* the topological accountings of vertexes and faces disclose their respective fundamental oneness, twoness, and threeness."

- Carbondale Draft -Return Lu Modelability, p

- Cite NASA Speech, p. 72, Jun'66

Number:

Numbers are meaningless independent of pattern.

- Citation and context at Synergy_r 1954

Number:

"The number itself has its own integrity

And therefore ought to be integrated."

"Nature does all her associating and disassociating in Whole rational numbers."

- Cite RBF Draft, NUI-LcJROLOCY 4.11, 4.18

RBF DEFINITIONS

"There are apparently no cosmically absolute numbers other than 1, 2, J, and 4. This primitive fourness identifies exactly with one quantum of energy and with the fourness of the tetrahedron's primitive structuring as constituting the •prime structural system of Universe,' i.e., as the minimum omnitriangulated differentiator of Universe into insideness and outsideness, which alone, of all macro-micro Universe differentiators pulsates inside-outingly and vice versa as instigated by only one force vector impinging upon it."

- Cite SYNERGETICS draft at Sec. 1222.21, 5 Kar'73

See Cosmic Absolutes

Ninety-two Elements: Four Unique Frequencies

Ev>,n Lu-.L.-r:

"Because of a hemisphere's polar symmetry to its opposite polar hemisphere the total inventory' of great circle grid triangles in the comprehensive world grid is always even in number,"

- Cite Undated Sheet: THE DIMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

"...It is mathematically discovered that the total number of points, or areas, or lines, of a system are always even numbers: and that this divisibility by two accommodates polar-and-hemi- spherical positive-negativeness of all systems."

- Citation and context at Probability Model of Three Cars on a Highway (1), 26 Sep'73

See Geodesic Diamonds, 31 Jan'75 Polarity, undated sheet Vertexial Spheres, 8 Apr'75

See Locking & Blocking

Vector Equilibrium: Odd or Even Shell Growth

See Gear Train: Locking & Blocking, 25 Feb'69

Necklace, (1)(2)

See Etymology, Aug*71 Old Words, 22 Jul'71

Hambfir., Sygton is Inherently Octave:

"Number system is inherently octave and corresponds to the four positive and four negative facets of the octahedron which polyhedral represents the eight 45° angle* constituents of J60& unity in the trigonometric function calculations."

- Citation and context at Indig. 3 Mar'73

Number Pattern:

"Number behavior phenomena is pattern. Number treatment or function treatment without pattern is unthinkable."

Formulations and equations are pattern. Numbers are therefore nonexistent without pattern. There are no empty sets of number independent of pattern. There are empty sets but the word 'sets' is inherently a subclass of 'pattern.*"

"There are no number 'abstractions.' There are pattern abstractions. What is abstracted is the residual generalized pattern. Pattern phenomena is synergetic--- which means behavior of whole systems unpredicted by behavior of respective subsystems--- which is to say that numbers are meaningless independent of pattern."

- Cite Ltr. to Jim Fitlgibbon (?), Raleigh, NC, undated.(1954-59)

"2. ~ N^{ia} always a triangular number as, for Instance, the number of balls in the rack on a pool table * A telephone connection is a circuit; a circuit is a circle: two people need one circuit and three people need three circles, which make a triangle. Four people need six circuits, and six circuits cluster most economically and symmetrically in a triangle. Five people need 10 private circuits, six people need 15. and seven people need 21, and so on: all are triangular numbers.

"Successive stackings of the number of relationships of our experiences are a stacking of triangles. The number of balls in the longest row of any triangular cluster will always be the same number as the number of rows of balls in the triangle, each row always having one more than the preceding row. The number of balls in any trianrle will always be

+ $\frac{1}{2}R(R+1)$ where R = the number of rows
(or the number of balls in the longest row)."

- Cite SYNERGETICS text at S_ec.s 5OS.2O, .30, May'71
RBF DEF IK KICKS

2

Number' Tetrahedral Number; N - N :

,2 „ 2

*'N - » ' is also the number of balls in a triangular grouping such as that of pool balls grouped for the 'break.' ”

- Cite PLANETARY PLANKING, p. 18 , 13 Nov'69 (Am. Siolar, p. 48

2

Number: Ttitrahedral Humhfr: N - N :

”Comprehension means identifying all the most uniquely economical interrelationships of the focal point entities

- N² - N.

involved. We may say that: Comprehension

Cite OPERATING MANUAL, P. 70 , 1969 RBF DEFINITIONS 2 Tetrahedral Number; N - N : ”The number of relationships between Items Is always N² - N • 2

The relationships between four or more items

Are always greaOr in number

Than the number of iteme.

- Cite HOW LITTLE, p. 56 , Oct»66

”We l»ok at the stars and they look very random scattered throughout the sky. I will tell you then that the numbers of relationships between all the stars is 2

always N - N and . . . that I am mathematically justified 2

in so doing. This will give you a personal sense of the power of the infinitely tiny human's mind in the presence of that vast array of star's whose distances and occurrences can only be identified in terms of millions and billions and higher number of years and miles away.”

- Citation k context at Relationship Analysis (1), Jun'66

2

Number: Tetrahedral Number; N N :

"... The numbers of relationships between all the stars is always $\frac{n^2}{2} - n$..."

2

"... When we add up all the accumulated relationships between all the successive experiences in our lives ... they will always combine cumulatively to comprise a tetrahedron."

- Cite NASA Speech p. 94 , Jun'66

2 Number: Tetrahedral Number: $\frac{N^2}{2} - N$:

$\frac{N^2}{2}$

" $\frac{N^2}{2} - N$ ' ' the number of connections necessary 2

to understanding.

"' • /hen we understand we have all the fundamental connections between the star events of our consideration."

WWW

ipmjn

- Citation and context at Understnding¹

Number: Tetrahedral Number: $\frac{N^2}{2} - N$:

2

"The connecting trail 'line'¹ was the basis of the establishment of communication. Today it is the essence of communication theory. Understanding Involves the discovery of all the llnears or interconnecting lines, the $\frac{N^2}{2} - N$

2 ' ,

connections."

- fTIIIJ nfVHmij my—_r j

- Citation and context at Communication, May'65

2 Number: Tetrahedral Number: $\frac{N^2}{2} - N$:

2

'The orderliness of the universe and all the potential

N² - N relationships are by experience a priori to man's 2 exploration and discovery of them."

- Citation and context at Discovery, May'65

2

Tetrahedral Number; N—JN :

Number;

2

See Connections & Relatedness Order Underlying Randomness Relationship Analysis

2

12)

Nufflbiz: Tctretetral =_E :

See Connunication. May'65 Compression, <969 God, May'65 Line, 13 Nov'72 Logistics, 10 Dec'73 Relationship Analysis, (1)* Relativity. 7 Nov'72 Understanding, 23 Oct'65; May'67 Geometrical Function of Nine, (7) Multidimensionality, (2)

Number Theory:

'The concept of being alive may be inherent only in the eternal principle of differentiability, and of a theoretical number system, and of complexes of different numbers.

Seeming consciousness and life may well be inherent only in mind conceivable theories of differentiations."

* > 2ft f) ** »

* Citation at Consciousness, 20 Dec'71

Number: Triangular Numbers:

$W_N^2 - N$ is always a triangular number, as for instance, the

number of balls in the rack on

a pool table. A telephone

connection is a circuit, a circuit is a circle; two people need one circuit; three people need three circles; these make a triangle. Four people need four circuits. Successive stackings of the number of relationships of our experiences are a stacking of triangles where the total of balls in the successive rows will always be $(R + 1)^2$ $(R + 1)$.

-

Cite RBF to EJA

Beverly Hotel, New York
13 March 1971 !

COMCT'TiMUT'f- N\|MStrt-5ecS.

See Intertransformative Number-value Accounting

See Models, 9 Jan'74

Synergetics, 19 Jan*71

Beginning Number See Cipher Constants Decimal k Duodecimal
Empty Set Even Number Imaginary Number Indig Interwave Be-
havior of Number Illions Irrational Number Intertransformative
Number-value Accounting Limit Number Low-order Prime Numbers
Old Words

Pi Prime Number

rememberable Number

See Powering

Rate: Fundamental Rates of Change of Number Scheherasade Number

Six-wave (Sexave) Phenomenon of Number

SSRCD

Ratios

Rational Whole Numbers

Figures t Words

Generalized Topological Definability

Energy & Number

Complementary & Reciprocal Numbers

Zero-nineness

Geometry & Number

See Integrity, Aug'71*

Line, 7 Nov'72

Self-communicate, 15 May *72

Sensorial Reflex, 13 Mar'73

Synergetics, 19 Jan*71*

Synergy, 1954*

Vector, 26 May'72*

Vector Equilibrium, 10 Nov'74

Human Beings i Complex Universe, (7)

See Number: Cosmically Absolute Numbers Number: Even Numbers

Number: Even i Odd Numbers Number: Names for Numbers Number

System is Inherently Octave Number Pattern ?

Number: Tetrahedral Number: n - N Number Theory 2

Number: Triangular Numbers Number-value Accounting

NUMBEBS EST THIS FILE

(D

See Degreea in Thia File SSRCD Numbers

RFF -pgFTffFi0«3

See One ¥wo: Twoness Three: Threefoldnese Four! Poorness Six; Six-
nesa Kight: Ejghtneaa Nine: Nineness; Nine <8 Zero Ten: Ten-ness
Twelve Thirteen Fourteen: Fourteenesa Fifteen? Fifteeneaa Eighteen
Twentyneas

(N.B. For numbers over Twenty see Arabic listings after Number)

IBE-DEFIHmUMS

Number; 2| : (1)

See AgXgwnas

Frequency; HaldrsaUfillfiX

See Basic Triangle: Basic Disequilibrium 120 LCD Triangle, 20 Dec'73

Basic Triangle: Basic Equilibrium 48 LCD Triangle. 17 Dec'73

Constant Relative Abundance, 29 Nov'72

Fiveness, 7 Mar'73

Rhombic Dodecahedron, 12 May'77

Split Personality, 15 Jan'74

Vector Equilibrium: Potential k Primitive Tetravolumes, 12 May*77

T Module, 21 Jun'77

See Structural Quanta, 9 Nov*73

Units of Environment Control, 9 Nov'73

See Vector Equilibrium: Ratio of Volume to Quantum,
23 Jan'72

Immaculate Conception, 25 Jan*72 Environment Control, 3 Oct*72

Number: 6.28 :

See Principle Of, 5 Jan'72

Gravity, 21 Dec'71

RBTZBKESrriaNS

Number; 6.6666+ :

See Principle Of. 8 May'72

Number: 18.36 :

See IcQg#hearon_aa Electron Model, 7 Mar>73

See Twentvness in Maas Ratio of Electron & Proton

Issiar Equilibria * Ratio of Volume to Quantum

Icosahedron and Vector-edged Cube, 11 Mar * 69

Icosahedron as Electron Model, 15 Oct '64

Volversa; integrity:

IcoaahcUrgn (iJ

Vector Equilibrium:

23 Jan'72

Electron &. Neutron, 2 Oct'72

Gravitational Constant (2)

Structural Quanta, 9 Nov'73 J 3 Oct'72

Number: 13.63

See Icosahedron as Electron Model, 11 Jul'62

Number: 23 :

See Trigonometric Limit: First 14 Primes

Number: 24 :

| | |
|----------------|------------------|
| Sec .>15.06 | p.954.10 |
| p22J.l6* | l-954.21-954.22 |
| U982.62 | p-954.46 |
| P-982.70 | 954.49 |
| >43.00 (Table) | p.954.51 |
| 53.01 | p-955.02 |
| pO5.51 | v 955.40 (Table) |
| v£O5.55 | p974.01 |
| v/910.11 | P-974.03-974.04 |
| 505.44*- | pl011.40 |

1052.30

t 537.131 (2nd.Ed.) 41012.11 y J>50.11 ?

1053.12”

{053.36 (2nd.Ed.)

961.44

Number; 24 :

See Basic Triangle: Basic Equilibrium 48 LCD Triangle. 16 Dec*73

Control Quantum. 19 Apr *73

Coupler, 27 Jan'75

Gravitational Constant. (1)

Module: A Quanta Module: Introduction Of, 22 Feb'77

Nuclear Cube, 23 Feb'76

Octahedron: Eight-octahedra, 16 Dec'73

Powering: Fifth 4. Eighth Powering, 11 Dec'75 Sphere: Volume-surface Ratios, 11 Dec*75 Stabilized Vector Equilibrium, 23 Feb*72 Tetrahedroning, (3)

Twelve Universal Degrees of Freedom. (1) Tetrahedron: Twenty-fourth Tetrahedron Vectors, 25 Aug'71

Vector Equilibrium, 19 Kov'74

Wire Wheel, 4 May* 57

Quanta Loss by Congruence, (1)

Rhombic Dodecahedron, 12 May*77

Vector Equilibrium: Potential 4 Primitive Tetravolumes, 12 May*77

Number: 24 :

See Mites & Quarks as Basic Notes, (3)

See Gravitational Conatant, (1) Octahedron. 7 Mar*73 .

Railroad Tracks: Great Circle Energy Tracks On

The Surface of a Sphere Symmetry: Seven Axes of Symmetry Vector Equilibrium: Great Circles Of

Number: 26 :

John McHale's R. BUCKi-fINSTER FULLER (George Braziller) p.U, 1962

See Thirty Minimum Topological Characteristics, (1) Geometrical Function of Nine, (6)

See Icosahedron and teetor-edaod Cube. 11 Mar'69

Tetrahedroning (J)

See yjctQfiulJ-lbrluaElght-pointad star System.

Humans as Machines, (1)

FILE INDICATORS Number: 29 :

See Trigonometric Limit: First 14 Primes

Number; 30 :

See Gravitational Constant (1)(2) Thirty Minimum Topological Characteristics Thirty Minimum Aspects of a System Unity as Thirty Hex-pent Sphere, 15 Sep'76

Number: JI :

(U

See Trigonometric Limit: First U Primes

(2)

See Icoahedron

Symmetry: Seven Axes of Svemetriv

Octahedron. 7 Mar*73

; Cgeatirci --- Finrn Trecke On the Surface of a Sphere

Prime Number, Oc t ' 71

Spherical Barrel: Kumasi Pome, (1) (2)

RAF

Number: J2 :

See Dodecahedron, 22 Feb*72

Mite as Prime Minimum System, 15 Nqv»72

See Nuclear and Non-nuclear Polyhedra. 19 May'72

See Closest Packing of Spheres, 2y May'72

Vectorial & Vertexial Geometry, (3)

See Closest Packing of Spheres, 29 May*72

Periodic Table • ' Harmonics of 18, 22 May'75

Number: 3? s

(D

See Trigonometric Limit: First 14 Primes

FILE INDICATORS

Number: 37

(2)

See Tetrahedroning (3)

Number: 41 :

See Trigonometric Limit: First 14 Primes

Number: 42 :

See Axis of Spin. (5)

Closest Packing of Spheres, (2) Energetic Frequency, 18 Feb*73 Mite
as Model for Quark, 3 May'77 Nuclear Uniqueness, 18 Feb'73 Periodic
Table 4 Closest Packing, 13 Nov'69 Tetrakaidecahedron, 25 Feb'72

**Vector Equilibrium: Eight New Nuclei At
Fifth Frequency, 18 Jun'71; 7 Oct*71**

Number: 43 :

See Trigonometric Limit: First 14 Primes

Number; 45 :

s#« IEXsgamen Transaction and Valving Model a TglK*te.<ir°.n:
Ploalmilar Rata of Change Accmar.odat.ion Trigonometric Llnjgt

Number: :

See Basic Triangle: Basic Equilibrium 4S LCD Triangle Quanta Loss by
Congruence, (2) Twelve Universal Degrees of Freedom, (1) Rhombic
Dodecahedron, 12 May'77

Number: 50 :

S»e Mail; N_{uia}bbra- laptops! Katie Numbers

Nuaber: 56 :

See Foldability of Great Circles, 2 May'71

Great Circle Subdiviaione of Spherical Unity, May'72

Seven Axes of Symmetry, 25 Aug»7l; 1J May*73

Tetrakaidecahedron, 25 Feb¹72

Precession Ac Degrees of Freedom, (2)

e Dodecahedron, 2.' Feb'72 Hex-pent Sphere, 15 Sep*76

the octave system to the fourth power, few ways, for instance in the periodic

"The sixty-foumess is It shows up in quite a table."

- Cite RBF to EJA, 200 Locust,

PhAla., 22 Jan'73

See Spherical Triangle Sequence (iv)

Rope, Dec'71

Tetrahedron!ng, Jun'66; (3)

If I ' tihyXtfitT 1-OH# Number: 60 :

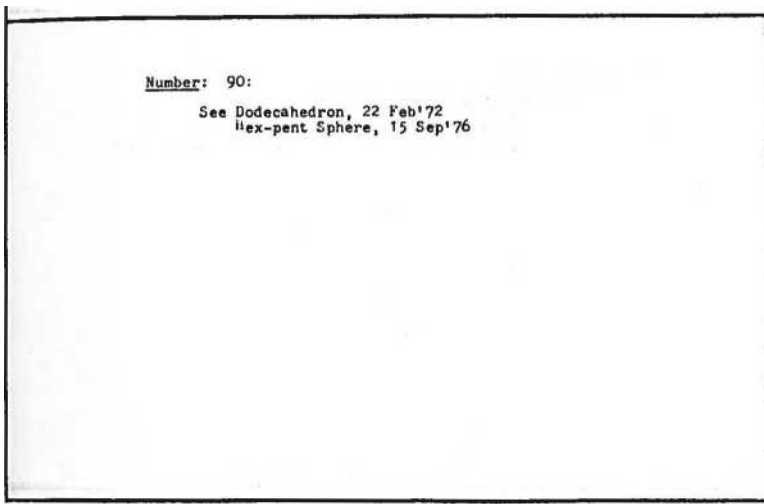
See TfltratoAdggfrhqUrgn, 25 Feb»72

RUT **ssmor** IONS

Bomber: 62 :

See Magic Bombers:

Inotopal Marie Numbers



See Axis of Spin, (5)(6)

Closest Packing of Spheres Sequence, (2)

Coupler, 27 Jan'75

Hex-pent Sphere. 15 Sep'76

Limit, 29 May'72

Nuclear & Nonnuclear Polyhedra, 19 May'72

Nucleus, 13 Nov'69

Ten. 22 Jun'75

Twelve Universal Degrees of Freedom, (2)

**Vector Equilibrium: Eight New Nuclei at Fifth Frequency, 18 Jun*71;
7 Oct'71**

Modules • A *it.* B Quanta Modules: Subtetrahedra

14 May*73

See Modules: A & B Quanta Modulea (11)

Bubbles (1)

Twelve Universal Degrees of Freedom (2)

RiHMJEFDHTJOSB

Number: 98.6 :

See Tenpertwra of the Huwan Body

Degree: 98.6

Number: 104 :

See Geometrical Function of Nine, (6)

See Basic Triangle: Basic \square ! Disequilibrium 120 LCD Triangle

Decimal t Duodecimal

Precession of Two Sets of 60 Closest-packed Spheres

Equilateral, 11 Oct*71

Fourth Dimension, Mar*72

Powering: Fifthm & Eighth Powering, 11 Dec'75 Sphere: Volume-surface Ratios, 11 Dec¹?? Triacntrahedron, 3 May'77 T Quanta Module, (1)

Nubqr: 126

See Magic Numbers: Isotopal Magic Numbers

See Nucleated Cube, 7 Oct*71

Nuclear Cube, 23 Feb'7b

See yalyabilitv. JO Nov*72 Nuclear Cube, 23 Feb'76

juir nuimw

Number: I46 :

Se« Periodic Table end Cloeaat Packing. 13 Not'69 Super-Uoalce Sequence (3) (A) (B)

#Bt_BEFIHITIONS

Number: 160 :

See Fourth Plieemgn. '0 Jul'62

£cmsasx, 2 Hov'73

haSTIM; Fourth end Fifth DImenelona.. Jun>66

Mite ao Prine Minimus Syetea, 15 Nov* 72

Multldiaenelonality, (1)(2)

Powering: Fifth & Eighth Powering, 11 Dec'75

Vector Eoulllbriua: Eight Hex Nuclei at Fifth

See

Frequency_f 16 Jun¹71. 7 Oct*71

Closest Packing of Spheres Sequence (2) Ten, 22 Jun*75

See Hex-pent Sphere, 15 Sep'76

Hex-pent Sphere: Transformation into Geodesic

Spiral Tube, (1)

Information Transaction and Valving Models, 9 Nov'73

Number: 184 :

See Super-Atomice Sequence (1)

Number: 192 :

See Hiltidimeneionality, (2/

Number: 234 :

See Super-Atomica Sequence (4) (B) Chain Reaction, Aug*?1

Se« Pwlodlc Tabla and Cloaaat Packing. 13 Nov'73

s«» Psrlffills- T*t>le and Closest ?»cXln<. 13 Nor'69 Suoer-AtoBlca
Sequence (3)(B)

See Tensegrity: Twelve Pentagone, Aug'72

Number: 252 :

See yjcMr..EqillUbrim'□ Bitht Naw Nuclei at Fifth

Frequency. Jun*71, 7 Oct'7'

Closest Packing of Spheres Sequence (2)

Ten, 22 Jun'?5

s«« Infarmtlan Transaction MML.ValTiruc Kxiala, 9 Nov'?

See Vector Equilibrium: Eight New Nuclei at Fifth Frequency, io
Jun*717 7 Oct'7i

Ten, 22 Jun»75

HRP DKPTMTTThMfi

Number: 364 s

See Nuclear and Hon-nuclear PolThodra. 1» May'72

See S Quanta Module, 4 Jun'77

BBfr=frm»FTJDMS

Number; 480 :

s« Subfreouencv (1)(2)

Medulga; A A B Quanta Modulea (il), 12 Jul*62

if-SdalS.4.;. A & B Quanta Modular: Unity a» tan Vector Equilibrium,
12 Jul'62

RBF-MFIMITIONS Number: 552 :

See Comolexocta. 20 Dec*73

See Modules: A t B Quanta Modules: Subtetrahedra 14 May'73

Number: 768 :

See Rope, Dec*71

asFmjJirioMs

Number: 1001 :

S«e Sghjhw«M<1» Huaber

Number: 1280 :

See Mite8 as Prime Minimum System, 15 Nov*72

See S Quanta Module, 4 Jun'77

Number: 2131 :

See Nucleated Cube, 7 Oct'71 Nuclear Cube, 2} Feb*76

Number: 2520 :

See Vectorial & • Vertexial Geometry, O)

See Powering: Fifth & Eighth Powering, 11 Dec*75

Numerology:

"What the numerologists does Is to add numbers horizontally (120 - 1+2+0 - 3) Until they are left with one digit. They have also assigned To the letters of the alphabet Corresponding numbers: A is one, B is two, C is three, etc. Numerologists wishfully assume thatthey can identify Characteristics of people By the residual digit Derived from integrating Of all the digits Corresponding to all the letters In the individual's complete set of names. Numerologists do not pretend to be scientific. They are Just fascinated with Correspondence of their key digits With various happenstances of existence.

Cite Numerology draft August 1971, p. 31

RBF DEFINITIONS

NwcrclOKY-

"It la probable

That many of the experiences which humanity has been unable to explain,

And therefore has treated with superstition.

Often embrace phenomena

Which turn out, in due course,

To be of importance.

"For this reason

I have paid a lot of attention to numerology. Thinking that it might
contain Very important bases For understanding

New properties of mathematics.**

- Cite RBF draft NUMEROLOGY, 4.1, 1971

See Astrology

See Modelability, (3)

See World-around Language, (2)

Nutcrackers:

See Earth Model as Bundle of Nutcrackers

Nutriaent:

See Bird's Nest as a Tc'l_t (A)

Huis:

See Gonads

Vessel

O

"O" - Circle:

See Geometry, 1 Oct¹71

0 Module:

"The 0 Module is a tetrahedron with its apex at the center of the sphere and its base described by the 15 great circles of the Basic Disequilibrium 120 LCD triangle of the 31-great-circle spherical icosahedron system.

See Fig. 901.03.

"The icosahedron is a ''double¹* as a result of the 30 whole great circles from which it may be folded. This results in 120 transformable 0 Modules.

"0 Module A Quanta Module - 1/24th of a tetravolume.

"There is no spherical continuum. 120/24 - 5. The icosahedron is the sphere. When tetra is 1, the sphere is 5."

- Cite EJA composite of RBF holograph remite and statements to EJA, 3200 Idaho, 29 Sep'76.

0 Module:

See T Quanta Module:

See Vacuum-fulc ruined Oars

See Lever (b)

Precession (b) ; (II)

Oath Giving in Courta;

See Measurement, (1)

Oath:

See Cussing

Object:

"To be referred to as a rememberable entity, an object must be membered with structural integrity, whether maple leaf or crystal complex. To have structural integrity, it must consist entirely of triangles, which are the only complex of energy events that are self-interference-regenerating systems resulting in polygonal pattern stabilization."

- Cite SYNERGETICS text at Sec. 615.01; galley rewrite 9 Nov»73

Object:

Jhat we call an object or an entity is always an acgregiute; It is never a solid."

- Cite RBF to £JA, Beverly Hotel, NY, 2o Feb »'/1

See Group design, 1 Feb'75 General Systems Theory, (1)

Objective Coping:

See Generalised Principle (1)

Objective D.«<»n:

See Design, 11); y Apr'71

See Invention

See Design Science &. World Game (A)

**Orbital Escape from Critical Proximity, (1) Loss: Discovery Through
Loss, 2 Nov'73 Dymaxion Airocean World Map, (i)**

Objective Integrity:

"Realization is objective integrity.*

- Citation at Realization. May'60

Qb.UcUYg JPWllttV

"The more you discover scientifically, the more you are overwhelmed by what we don't know. We're dealing in a fantastic mystery, and yet that mystery does have all this extraordinary orderliness, so tha. you can't help but realize that it can only be found by intellect. Apparently we learn it subjectively, so apparently there must be an objective intellect. There seems to be an a priori greater intellect than that of man operative."

- Citation and context at Generalisation Seduemce (4), Jun-Jul'69

See God as a Verb

Intellect in Physical Universe Verb: I Seem to be a Verb

lee Generalisation Sequence. (4)* Laissez-faire Process, 10 Oct*63

See Pencil, 1936

Teleology, (2) (3)

(1)

See Medical Man ie Objective Subjective & Objective Teleologic Ob-
jective

See Sixe-*elective, 30 Nov'72 Work, Dec'72

See Objective Coping

Objective Design

Objective Employment of Principlee

Objective Integrity

Objective Intellect Objective: Making Thought Objective

RBF DEFIM^TTIONS

Qblei.fi d-'art-

"I have shunned daily the recurrent opportunities to exploit the
energetic-synergetic geometry either as toys or as oblets d*art . .

- Citation and context at Tensegrity: Depolarized Orientation Of
Tenseerity-Octahedron Universal Joint (2)_f Dec'ol

See Energy Quanta Value[®]_t (1J

fWAqu* ~ 5i4mw

See Trial & Error, 5 Jun'73

Oblique;

See Trial & Error, 5 Jun'73

Oblivion;

See Utopia or Oblivion Forget the Universe

Obnoxious;

"When I was living in Manhattan in the 30s and seeing a lot of architects and artists I invented the word 'obnoxious*' to describe the most dreadful objects we could imagine that exploited peoples' ignorance and sentimentality... almost anything that could be gilded or bronzed and hung in a car's back window. We thought we would have a lot of fun with a contest, seeing if we could actually sell them. But we had to stop because it wasn't funny; no matter how awful the thing was you couldn't avoid making money on it. It was too mean a game to play."

- Cite RBF to Lee Nordness at Martin's Carriage House, Wash, DC; 24 Apr'76

126

RBF DEFINITIONS

Obnoxica:

"...For purchasable accoutrements, architecture, equipment, and gadgets of distinction: and for the plethora of behavioral 9b.n9.ylga imposed or induced by the supposed* inexorability of the l-'althus-Darwin theorem of survival only for the slickest fittest."

- Citation and context at Meek Have Inherited the Earth (1)

Obnoxious:

RUF award for*Yhe obnoxious, e.g. bronzed training pants

- Cite Wm. Marlin. 1971

See A-bomb: Souvenir A-bomb

Objeta d'Art

Plastic Call-girl Angela

Plastic Replica of a Cotswold Cottage Plastic Flowers

Obnoxica: Obnoxico:

(2)

See Keek Have Inherited the Earth (1) Reproducible, 30 May'72

°bacenlty:

See Cussing

Observation:

”Conception is metaphysical;

Observation is physical.

And the observed is physical.”

- rrr. nrr~nrrn nriA th a mtiiti

- Citation & context at Considerable, 1971

RBF DEFUilTIUNS

obMrmigBt

"At the end of a piece of rope we sake a metaphysical disconnect and a new set of observations are inaugurated, each consisting of finite quanta integral ingredients such as the time quality of all finite-energy quanta."

t

~Cite ftBFJwirgngTtar ~nf "Infinity enty froirlOrXiTTIEaade
far~¹jLEaKfriy Hotel. N.II Confirmed and-expanded ftw.rly MnLHl-
7-K.T- <9 June *71

- Citation at Metaphysical Disconnect. 19 Jun'71

Observation:

"Heisenberg said that observation alters the phenomenon observed."

- Compare this with Truth entry cited to TOTAL THINKING, I&I, p.226

- Cite High Kenner, "The Hope and the Knot," Kentucky Review, Autumn 1968, who attributes this quote to an RBF conversation with Calvin Tomkins [epnfi ii-i n>iew wto---

Qbertylpp Altera the. Phenomenon PbaerYed:

See HeiBenberg-Llot-Pound Sequence, autumn'68

QbTY*r & °bgcmd:

"Starting with whole Universe as observer and observed, we can subdivide the unity of Universe...."

- Citation & context at Starting With Universe, 24 Sep'73

fHMBMI Observer & Observed:

"To be experiential we must have an observer and the observed."

- Cite ftiif BrtTTtHSTNEHUIJirr-T]

- Citation & context at Happening. Apr'71

See Axis of Conceptual Observation Line of Interrelationship Observer & Otherness Self & Otherness

Integral Otherness

Universe Considers Itself World Looks at Itself

See Experiment. Nov'71

Starting With Universe, 24 Sep'73*

Time, 16 Dec*73

Happening, Apr*71*

Self & Otherness: Four Minimal Aspects, 9 Jun•75

Experiential, 25 Mar'71

Subjective it Objective, 16 May'75

Pronouns: I □= We - Us, (1) (2)

Height, Length & Width, 19 Jul'76

Polyhedra, 18 Jul'76

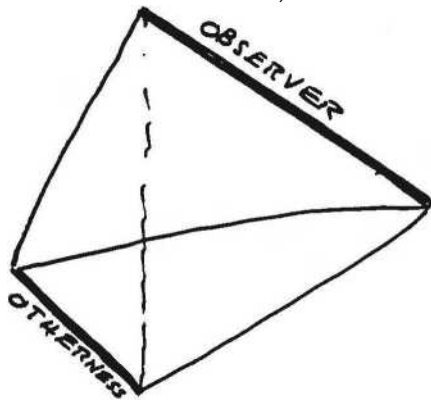
Awareness, 28 Apr¹77

QtaqrYflr k Ofcherncaa; Tetrahedral Relationship Between;

"The relationship between the observer and otherness ie tetrahedral."

(See Sketch, RBF at Beverly Hotel, NYC, 10 Jan'74

- Cite RBF to EJA, 10 Jan'74



See Metaphysical & Physical Tetrahedral Quanta

See Geometry of Thinking, 16 Dec'73

Pronouns: I - We « Us, (2)

"The articulations are ever reenacted to reduce the magnitude tolerance of residual inaccuracy of either observation or articulation.*

- Cite SYNERGETICS, 2nd. Ed., at Sec. 513.08; inadvertently omitted from Ms. at 513.07 of Mar¹'71), 4 Aug'75

*My life is the progressive harvestings of trying to be accurate---the harvesting of ever more accurate observational citations. Life consists of observing and articulating. Resonantly propagated evolution oscillates between observation and articulation ever reenacted hopefully to reduce the magnitude tolerance of residual inaccuracy of observation or articulation." ^A

(See Life. 25 Mar'71 for later citation.)

- Cite RBF SYNERGETICS Draft Mar '71

VlrTotiM- ©iTirUr/TfjM

. SEC.

Observing & Articulating:

Sec. 420.041

See Life, 25 Mar'71

Metaphysical & Physical Tetrahedral Quanta, 25 Mar'71

Environment, 29 Mar*77

See Environment (1)

Locality, May'71

Twelve Universal Degrees of Freedom (2)

Self & Otherness, Nov*74

Experiment, 25 Mar'71

See Axis of Conceptual Observation Me the Observer Omnidirectional Observation
Spherical Observation System Center of Observation Teleology Axis of Observation
Orientability

See Considerable, 1971*

Omnidirectional, 1960
 Metaphysical Die connect, 19 Jun* 71*
 Relativity, May'49
 Stature, 20 Feb'73
 Wow,(2)
 XYZ Coordinate System, (A)
 Fix, 25 Mar'?1
 Life, 25 Mar'71
 Polarity, 12 Nov'75
 Pronouns: I « We - Us, (1)
 Environment, (B)
 See Observation Alters the Phenomenon Observed

Observer it, Observed

Observer &. Otherness: Tetrahedral Relationship Between

Observing vs. Articulating

Obsolescence:

| | |
|-------------------------|-------------------------------|
| "To go by obsolescence: | Sovereignties |
| | Property |
| | Geographically Based Politics |
| | Geographically Based Identity |
| | Money |
| | Jobs |
| | You or Me |
| | Selling Anything." |

- Cite RBF holograph, on yellow scratch pad, undated with papers left behind, April 1972.

See Disapproved Words: Inventory Of Meaningless: Inventory of Meaningless Concepts

See Axion

Credo, Oct¹'71

Creeds

Cliches

Customs

Dogma, Oct*71

Extlusivity, 25 Sep'72

Failure, 26 Apr'71

Laws

Language

Lying, 3 Oct*73

Ownership

Private Property

Spending, 1968

Viewpoints

4. Mar*73; 5 Jun'73

Assumptions

See Nation, Oct'70 Ninety Degreeness, 5 Jun'73 Obsolescence, Apr'72 Polyhedron, 20 Feb'73 Possession, 1969 Scarcity. 23 Feb*72 Selling Anything, Apr'72 Capitalism, 1962 Sovereignty, Jun'66 Square, 8 Jan'66 Superstition, circa 1955 Propaganda, circa 1955 Tradition: In Tradition Lies Fallacy Daddy, 2 Jun`74 Educational Theories Romances Mores Geographical Identity Immobility, 4 May'57

See Atlantic Ocean (Dymaxion Airocean World,
 Pacific Ocean (20 Jan*75
 Indian Ocean (
 Textbooks
 New York City, 30 Jul'75
 Sea, 10 Sep'75
 Energy Environment-harvesting Machines, 27 Jan'77
 Belief, 20 Feb'77
 Holistic
 Good & Bad, 22 Jun'77

See Sailing Ship Effect Weapons Technology Yesterday's Certainties

See Automation. 1970

Artifact (A) Capitalism. 1962 Citv (A) Ecology Sequence (H)(1) Hunt-
 ing, 19 Dec*71 Inventions, 1947 Pollution, Feb'73 New York City, 30
 Jul'75 Everybody's Business, (1) East-west Mobility of World Man, (2)
 Transnational Capitalism 4 Export of Know-how. (1)-(3) Building In-
 dustry, (f)(6) (12) Detente, 20 Sep'76

Nuclear Power Generation, 22 Jun¹77 Technology i Culture, 25 Oct'77

OhtU&AS Obtuaenagg:

See Quantum Wave Phenomenon Sequence, (1)

Tetrahedron: Regular, 29 Nov'72

Obverae ac Reverse;

See Axis of Spin, (2)

Octantation, Nay'73 Brouwer's Theorem, 1 Jan'75 Pauli's Exclusion
 Principle, 1960 Triangle, Jun'?1 Geometrical Function of Nine, (1)
 Two-dimensional Polarity. 11 Sep»75 Structural System, 9 Nov'73

Obverse:

See Re-exterior

Obvious:

"Due to the myopia of popularized selfishness

Naught is so invisible

As the obvious

. /hose immediate relevancy

Can be seen

Only through deep focussed wide angled lenses."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH

Jan '72, pp. 6-7. *

Obvious:

"Complementarity requires that where there is conceptuality there must be nonconceptuality. The explicable requires the inexplicable. Experience requires the nonexperienciable. The obvious requires the mystical. . . "

C omplementari tv

- Citation at ¹² Sep* 71

- Hotel, New Tbrk, 12 Sept. 1971.

Ubvious:

system

Though often obvious for millions of years, most

"...Apparently ample tolerance for their many errors., was included in the design of the ship and the celestial support of these vital advantage-giving principles long have remained unrecognized for what they are and can do; it would seem to be a part of the designed scheme of

Universe that--- for the nonCe, anyway--- nothing is quite so invisible to Spaceship ; -art h's passengers as the obvious.^{1*}

- Citation and context at Spaceship Earth (c), 19C>8

Obvious ~ Axiomatic:

Sea Infinity, 1971

See Conceptuality & Nonconceptuality, 12 Sep'71 Symmetry & Asymmetry, Jul'71 Repetition, 2 Jul*75

See Obvious & Nonobvious

Invisibility: Naught so Invisible as the Obvious Obvious • Axiomatic

See Axiom, 13 Nov*69 Complementary. 12 Sep*71* Improvement, 1954 Octahedron, 16 Dec'73 Spaceship Earth, (c)* Periodic Experience, (3) Concave & Convex, 7 Nov*73

Occulting Menbraneo:

See Privacy, 22 Apr'71

See Opaque: Opacity

See Air Space, May¹65

Empty, May'70 Office Building, 2fl Jan'72

KBF DEFINITIONS

Occur:

"Events Occur. Occur is a time word.*

- Citation *k* context at Overlapping, 30 May'75

See Events *k* Movents, Nov¹71

Ocean Linar:

IT

(1)

See Gulf Stream Surf Pound!nge Hole in the Ocean Airocean Waterocean Landocean 'later

See Island, Sep'72

Oymaxion Airocean World. 20 Jan'75

Rain, 11 Feb'76

Airspace Technology. 20 Sep'76 No Energy Crisis , (1)

See Precession of Octa Edge-vector

Octahedron:

"The octahedron---both numerically and geometrically---should always be considered as quadrivalent: ie., congruent with self; i.e., doubly present*

` ` In the volumetric hierarchy of prime number identities we identify the octahedron's prime number twoness and the inherent volume fourness (in tetra terms) as volume 2^2 , which produces the experiential volume four."

` ` Git®. RDF to 3200 Idaho. Wash*. DC: incorporated in SYNEHGET-ICS, 2nd. Ed. at Sec. 10\$3.60l; 10 Dec«75

Octahedron:

"Octahedron: So *re have the octahedron in the middle. (Between the tetra and icosah.) It is also the second power of the only even prime number: 2^2 - 4. The octahedron is the most common form of energy associated as matter."

- Citation & context at Quantum Sequence. (5), 23 Jun*75

Octahedron: "The octahedron... restrainingly vector-blocked... can only infold itself pulsatingly to a condition of hemispherical congruence like a deflated basketball. Thue the octahedron's concave-convex, unitly-twoness state remains plurally obvious. You can see the concave Infolded hemisphere nested into the as yet outfolded convex hemisphere.

"Verifying the octahedron's fourness as being an evolutionary transformation of the tetrahedron's unty-twoness, we may take the four triangles of the tetrahedron which were edge-hinged together (bivalently) and reassemble them univalently (that is, corner-to-corner) and produce the octahedron, four of whose faces are triangular (ergo structurally stable) voids. This, incidentally, introduces the structural stability of the triangle as a visualizable yet physical nothingness."

- Citation & context at Octahedron as Model of Doubleness of Unity

(2) (3), 16 Dec'73

UO

Octahedron: "The octahedron ... polyhedrally represents the eight 45° angle constituents of J60° unity in the trigonometric function (MHW calculations.)"

- Citation and context at Indig. 3 Far'73

oc.u>irtdrpiv

"The tetrahedron. . . is structured with three triangles around each vertex while the octahedron has four, and the icosahedron has five triangles around each vertex. We find the octahedron in between, doubling its prime number twoness into volumetric fourness as is manifest in the great-circle foldability of the octahedron, which always requires two sets of great circles, whereas all the other icosahedron and vector equilibrium 31 and 25 great circles are foldable from single sets of great circles."

- Cite SWERGETICS draft at Sec. 1053.4=*, 7 Mar'73

Octahedron:

"The octahedron, mostly outside but partly inside the nuclear sphere, is four."

- Citation and context at Constant Relative Abundance. 29 Nov*72

Octahedron:

"I see the octahedron as a complex of two tetrahedra always. • . They are half way to the condition of four planes going through the same point.

- Cite RBF ^Aape, Blackstone Hotel, Chicago, 31 May 1971 • ©.33

SYSTSH- See

Octahedron;

"The octahedron has very many strange effects because closest packed spheres then have the spaces and the spaces are concave octahedra and concave vector equilibria. The octahedron is part of the exchange between being spheres and spaces."

- Cite RDF tape, Blackstone Hotel, Chicago, 31 May 1971, p. 35.

SYSrrM- SFC. >(7£>.o3 I

RBF DEFINITIONS

Octahedron:

"The tetrahedron, octahedron and icosahedron relate to physics, the internal affairs of the atoa."

- Citation k context at PhYSicq; Difference Between Physics and Chemistry, 31 May'71

Octahedron:

"The octahedron is infoldable, or innestible— hemi-hedrally.

- and Hkucctro-on *Annihilation.

SomersetClub-, Boaton, 22 April 1971

- Citation A context at Insideoutable, 22 Apr'71

Octahedron:

"The octahedron provides an example of volumetric

annihilation when you remove one vector and reduce the figure to three tetrahedra triple-bonded. This also reduces from the volumetric value of four to the volumetric value of three. The process is, of course, reversible."

- Cite Sketch #1, 28 Feb '71

and RBF marginalia on p. 3 - SYNERGETICS DRAFT.

Volumetric Annihilation. 28 Feb¹71

- Citation at

Octahedron:

"The octahedron has a fundamental essence, its volume

of four being made up of the prime number two ..."

V,?

- Cite Nasa Speech, p. 73» Jun'66

RBF DEFINITIONS

Octahedron:

"The tetrahedron will not fill all space. . . But we can fill all space with tetrahedra and octahedra.^w

- Cite Carbondale Draft—

Natural Coordination-p.

- Cite Oregon Lecture #(>, p.216, 10 Jul*62

Octahedron:

****A polyhedron having eight equal equilateral triangular plane faces or sides; may be skeletal, as when made of interconnected struts; or continuous, as when made of interlocking or interconnected sheets or plates; or partly skeletal and partly continuous."**

- Cite Patent No. 2,986,241. Fay 30, 1961 SYNERGETIC BUILDING CONSTRUCTION

Octahedron an Annihilation Model:

"Just reorienting one vector of the octahedron shows how it goes into the tetrahelix as a model of how energy goes from matter to radiation and vice versa* This shows now you can have annihilation and no energy is lost."

- Cite KBF to tJA by telephone from 200 Locust, Philadelphia

8 Mar'75

Octahedron as Annihilation Model:

"This an illustration of the symmetry of matter and how it precesses to radiation... It is that moment of Universe that Einstein was pre-occupied with. Just as three triangles edge-to-edge become four... topologically... they have made a tetrahedron... when you turn the triangle inside-out it makes a new vertex and the four have become five.

"We used to think that two is company and three is a crowd but now we see that four is company and five is a crowd... it's only the fifth ball that has to find a place to go. This is very exciting...,"

- Cite RBF to EJA from Hope Watts, DelRay, FL., 23 Feb'75

"The one-quantum 'leap¹ is also manifest when one vector edge of the volume 4 octahedron is rotated 90 degrees by disconnecting two of its ends and reconnecting them with the next set of vertexes occurring at 90 degrees from the previously interconnected-with vertexes, transforming the same unit-length, 12-vector structuring from the octahedron to the first three-triple-bonded-together (face-to-face) tetrahedra of the tetrahelix of the DNA-RNA formulation.

"One 90-degree vector reorientation in the complex alters the volume from exactly 4 to exactly 3. This relationship of one quantum disappearance coincident to the transformation of the nuclear symmetrical octahedron into the asymmetrical initiation of the DNA-RNA helix is a reminder of the disappearing-quanta behavior of the always integrally end-cohered Jitterbugging transformational stages from the 20 tetrahedral volumes of the vector equilibrium to the octahedron's 4 and thence to the tetrahedron's 1 volume. All of these stages are rationally concentric in our unified operational field of 12-around-one closest-packed spheres that is only conceptual as equilibrium. We note also that per each sphere space between closest packed spheres is a volume of exactly one tetrahedron: 6-5-1."

- Cite SYNERGETICS text at Sec. 982.73, R9F galley rewrite 30 Dec*73
Octahedron as Conservation & Annihilation Model:

"We may consider the octahedron as a water-filled tube, pulling on a water-filled tube. The pulling will make it bulge in the middle. As we pull, the gravitational embracement causes a precessional rearrangement of the vector edge whereby one tetrahedron drops out. One quantum has drooned out, but, topologically it is still an octahedron:

$6V + 8F - 12 + 2$ (three face-bonded tetra), or $6V + SF - 12 + 2$ (octahedron)

Topologically there is no difference.

•'This is the quantum leap, the quantum jump. With interference it precesses from matter to radiation; and then back into matter again. This is the lever that will bring science into further consideration of synergetics."

- Citation & context at Quantum Sequence, (5), 23 Jun'75

"The octahedron goes from a volume of four to a volume of three as one tensor is pressed at 90 degrees. This is a demonstration in terms of tension and compression of how energy can disappear and reappear. The process is reversible like Boltzmann's law and like the operation of syntropy and entropy. The lost tetrahedron we can reappear and become symmetrical in its optimum form as a ball-bearing-sphere octahedron. There are six great circles doubled up in the octahedron. Compression is radiational: it reappears. Out of the fundamental fourness of all systems we have a model of how four can become three in the octahedron conservation and annihilation model.

"See the Iceland spar crystals for the octahedron's double vector-edge image.

- Cite SYNERGETICS, 2nd. Ed., at Sec, 936.15-.16, 23 May*75

"Suddenly Goldy realizes that all these discoveries she has been making combine to explain how it can be that the stars of the billions of now-discovered galaxies are giving off energies at incredible rates in such a manner that, as discrete quanta of energy, they become discontinued and apparently annihilated, yet the same quanta of energies reappear elsewhere, as for instance in the terrestrial vegetation's photosynthetic reduction and proliferation of hydrocarbon molecules in biologic organisms and in crystallographic growths.

"Since the pattern of two most dominant critical proximity, mass-interattraction (gravity) forces pulling diametrically on any one body produces the same model as that of Golay's water-filled, rubber tube, the processional squeezing of a symmetrical body, such as that of an octahedron, by two diametric gravitational forces, pulling embracingly upon it as it passes between two neighboring cosmic

bodies, will cause some part of the octahedron's integral vectorial structure to yield precessionally in a plane oriented at right angles to the line between the two pulling forces, thus to transform the octahedron from its symmetrical form into an asymmetrical form."

- Cite GOLDYLOCKS, pp. G11, G12, 16 May'75

"This is most economically accomplished by one of the octahedron's equatorial vector-edges disconnecting at both of its equatorially engaged, end vertexes and rotating precessionally 90 degrees to rejoin its two ends with the octahedron's two polar vertexes.

This local rotation results in the disappearance of the symmetrical octahedron and leaves in its stead the asymmetrical, face-bonded, three tetrahedra assembly in the form of an arc which is the neutral electromagnetic-wave-initiating state.

"The asymmetrical arc-wave consists of the same 12 vector edges and the same eight equiangled triangles and the same six vertexes as those of the original octahedron. Topologically described, it is the same polyhedron. However, it is clearly observable that the transformation not only converted omnidirectional symmetry into two-directional asymmetry, but it also reduced the octahedron's exact volume of four quanta to a volume of exactly three quanta in the form of the three face-interbonded tetrahedra. What has happened here is that matter (as the synergetic octahedron) is precessionally transformed into a directionally oriented electromagnetic wave which, upon interference with other radiation or matter, will"

- Cite GOLDILOCKS, p. G12, 16 May'75

"again be precessionally transformed back into the crystallographic form of the octahedron, thus syntropically regaining not only its symmetry but the one tetrahedron quantum of energy which it had entropically lost.

"Goldy realises that the scientist Boltzmann had long ago hypothesised that the physical Universe of energy as matter was able to export energies from all the stars only because those energies were being importingly reassembled in vast numbers of elsewheres. Einstein, too, assumed the foregoing to be true. However, many scientists remained skeptical, saying that entropy was universal and increasingly disorderly and expansive, wherefore Universe is spending itself inexorably and irrevocably.

"Since photons show that energy occurs only in discrete packages and is discontinuous, and since the stars lose energy quanta entropically, how can the lost quanta reappear elsewhere?

Goldy says to the bears, 'Vectorial geometry conceptually demonstrates the exact way in which energy quanta are lost and regained in the course of the entropic-syntropic turnaround events of astrophysics. The topological integrity of"

` `vectorial geometry elucidates both the one-quantum loss and the one-quantum of energy recovery incidental to the entropic transforming from matter to radiation and the syntropic transforming from radiation to matter, as clearly manifest in the octahedron to tetra-arc transformation and its reversal to the octahedron. This topological transformation, but not its energy-quantum relationship, was originally discovered in 1951 by the geodesic engineer-scientist, D.L. Richter,

"This elucidation of the way in which Universe can temporarily drop out or regain its energy quanta, elucidates much more, says Goldy. 'It explains what happens in the photosynthetic process as planet Earth's vegetation converts Sun radiation receipts into beautiful hydrocarbon molecules. Energy quanta are regained on Earth. It explains even more. It shows how the weightless metaphysical tetrahedron is lost and regained in Universe as life dies out here and is re-

born there. It shows how the tripli-bonded addition of the recoverable one tetrahedron, when added to th* neutral phase, W-profiled, tetra-arc, triplebonded assembly of three tetrahedra, must always produce either a male or a female twisting helix, which, when extended, becomes the DNA-RNA tetrahelix which is the structural system programmer of all living species and individuals of those species."

- Cite GOLDYLOCKS, op.G13,G14, 16 May»75

Octahedron as Conservation & Annihilation Model:

Synergetics, Sec. 982.73

RBF Videotaping Marathon: Penn Bell Studios, Philadelphia, Session #3 : 22 Jan'75 • studio time (See EJa log)

Session *ffL* : 23 Jan'75 : 1925 studio time

Session *ff6* : 25 Jan'75 : 1430 studio time

HBF marginalis at SYNERGETICS draft (undated):"Synergy" p.3 - Sec. 108

Synergetics, 2nd. Ed. : Secs. 935-938

Synergetics, Sec. 985.08

Octahedron as Annihilation Model:

See Volumetric Annihilation

Tensegrity Model of Self-interference of Energy

Octahedron as Conaervation *t* Annihilation Model

See Discontinuity Accommodation Model

Invisible Quantum as Tetrahelix Gap Closer

Octahedron as Annihilation Modal

Quantum Jump: Quantum Leap

Fourth Quantum

Radiation vs. Crystal Model

Information Transmitting ft Nontransmitting Model

Richter Transformation

Octahedron as Photosynthesis Model

Precession of Octa Edge-vector

See Geometrical Function of Nine. (5)(6)

Six - Five □ One, 8 Jan'74

Vector Equilibrium Involvement Domain, 24 Apr*76

Q_{ctahcdr?n}: Eighth-pc tahini: (1)

Though I have twice visited the Great Pyramid at Gizeh, I have never carried a sextant and tape with me so I do not have the angular data I need. I know there are others who have made measurements, but my experience teaches me not to be too confident of the published statements of others when I do not know those personalities nor the degree of exactitude at which they operate.

"At the present moment I can give you some very interesting information regarding not only octahedra, but in particular eighth-octahedra. In the spherical octahedron each of the eight spherical surface corners are 90°. Each of the spherical octahedron's eight triangular edges are 90° of arc, which means that they subtend central angles of 90° each.

"Here is a very extraordinary asymmetrical tetrahedron with three 90-degree central angles and three 90-degree surface angles---as well as having six 90-degree internal corners where the three radii of the octahedron impinge perpendicularly upon the three great-circle arcs. All of the spherical octahedron's one-eighth symmetrical self-divisions have eight corners each of 90°.

• 76

- Cite RBF Ltr. to Stephen A. Barba, North Miami Beach, FL; 4 May

Octahedron: Eirichth-octahedra: (2)

"The spherical octahedron's triangle is the only triangle in which the center of area of the triangle occurs at mid-altitude of the triangle's three perpendicular bisectors of its three corner angles:

* 4/

*

"In modern ocean cruising sailing craft in the high seas routes often cross the main ocean highway of steam and diesel ship channels. These great new high speed ships often operate by automatic navigational equipment with a watch officer idly standing by. They rush forward through night and fog at speeds in the 20-knot range. Little sailing craft up to 72 feet in length with their minuscule red, green, and white navigational lights are not visible from any great distance--- and often in high waves they are approximately invisible. Such sailing ships have relatively little metal in them. The radar scopes of the big ships show readily recognisable pips"

- Cite RDF Ltr. to Stephen Barba, N. Miami Beach, FL; 4 May '76

"for big steel ships and the radar scopes clearly outline land masses and other sizable objects. Because they do not show the little sailing ships, those little ships are in incredible danger as they cross--as they must---those big sailing ship lanes. As a consequence of this hazard, there has been evolved a device which can be mounted on the topmast or the yard-arm of sailing ships which does register as a clearly-defined pip on the radar scopes. This device consists of a spherical octahedron with three great circles made of aluminum-foil-covered cardboard surface. The three great circles cross each other at 90 degrees. The spherical surface is uncovered.

"As you look at the device---a radar reflector---you look into whatever number of the spherical octahedron's central-angular tetrahedra as may be within the line of view. It has been discovered that the ship's radar signals, when impinging on any one of those eighth-octahedra's concave tetrahedra, produce a reflection pattern which returns directly back to the radar-sending ship to register on the radar scope.

". /hat the radar's invisible-to-the-human-eye electromagnetic'*

- Cite RBF Ltr. to Stephen Barba, N. Miami Beach, FL; 4 Fay'76

Octahedron: EiEhth-octahedra; (4)

radiation wave does is to make it optically clear--as when a searchlight is aimed at such a sailing ship, at which time a very bright reflection beam returns to the viewer who is manipulating the searchlight aimed at the sailing ship. This is just one of the eight eighth-octahedra's concave tetrahedron's three faces, glowing vividly, beaming the light back to the source of the searchlight. You can diagram this yourself to see what happens....

"As you know, when light strikes a surface it bounces away at an angle which is exactly the same as the angle at which it impinges on its surface. Any beam entering the eighth-octahedra will bounce off at the same angle to a second side of the concave octahedron and then bounce off again at the sama angle. This means that the two bouncings add up to 180°, which means sending the radiation directly back to its source.

"These ahgular bouncings of electromagnetics... may relate very importantly to all the phenomena seeming to be mystically produced by the pyramid mystery cults."

- Cite RUF Ltr. to Stephen Barba, K. Fiami Beach, FL: 4 May'76

Octahedron; Elghth-<Whgdri-

"By Internally interconnecting its six vertexes with three polar axes: X, I, and Z, and rotating the octahedron successively upon those three axes, three planes are internally generated that symmetrically subdivide the octahedron into eight uniformly equal, equiangle-triangle-based, asymmetrical tetrahedra, with three convergent, 90-degree-angle-surrounded apexes, each of whose volume is one-eighth of the volume of one octahedron: this is called the Eighth-Octahedron. (See also See. 912.) The octahedron having a volume of four tetrahedra. allows each Eighth-Octahedron to have a volume of one-half of one tetrahedron. If we apply the equiangular-triangular base of one each of these eight Eighth-Octahedra to each of the vector equilibrium's eight equiangle-triangle facets, with the Eighth-Octahedra's three-90-degree-angle-surrounded vertexes pointing outwardly, they will exactly and symmetrically produce the 24-volume, nucleus-embracing cube symmetrically surrounding the 20-volume vector equilibrium; thus with $8 \times \frac{1}{2} = 4$ being added to the 20-volume vector equilibrium producing a 24-volume total.

- Cite SYNERGETICS text at Sec. 905.43-1, 16 Dec'73

Octahedron:

See Allspace Filling. 11 Jul'62

Cube: Volume-3 Cube, 16 Dec'73

Modules: A & B Quanta Modules, 27 Jan'75

Quantum Sequence, (4)

Nuclear Cube, 11 Dec'75; 23 Feb'76

Basic Nestable Configurations: Hierarchy Of, 29 May'72

Rhombic Dodecahedron, 12 May'77

&Wl.adron: Energy Holding Pattern;
See Holding Patterns of Energy, Apr'72
Octahedron; Half Octahedron;

"A half-octahedron, to be stable, has to have its other half. The vector equilibrium has only the half-octahedra, so the circumferential instability of its six square faces invites structural instability: it is, ergo, eQuilibnous.^{1*}

- Cite RBF marginalis at J200 Idahon, 00, 23 Jan *72. at bYhbrtGETICS Jraft
Sec. «4.10 of y Feb '72.

SYJreM- Set

OctahedronHalf Octahedron: Lending ' Model

"Half octahedra can be pulled out of the square faces of the vector equilibria. This goes on in atoms joining one another and they are able to lend something to one another sometimes, they are able to lend electrons. We can lend out of the square faces without in any way jeopardizing the structural system which was dependent upon the triangulation of the tetrahedral parts,"

"We can lend up to four without bothering it,"

- Cite Oregon Lecture #7, >p. 255. n Jun'62

See Mite

Pyramid • Half-octahedron

Vector Equilibrium: Lending 4 Borrowing Model

Octahedron; Half-octahedron

12)

See Allspace Filling, 11 Jul*62 Cube. U Sep'?1 Equillibrious, 23 Jan'72

"The prime number twoness of the octahedron always occurs in structuring doubled together as four--- i.e., 2 -- a fourness which is also doubleness of unity. Unity is plural and, at minimum, is two. The unity volume 1 of the tetrahedron is, in structural verity, two, being both the outwardly displayed convex tetrahedron and the inwardly contained concave tetrahedron.

"The three-great-circle model of the spherical octahedron only 'seems' to be three; it is in fact 'double'; it is only foldably producible in unbroken (whole) great-circle sheets by edgecombining six hemicircularly folded whole great circles. Thus it is seen that the octahedron--- as in Iceland spar crystals--- occurs only doubly, i.e., omnicongruent with itself, which is 'quadrivalent.'

"Among the three possible omnisymmetrical prime structural systems--- the tetrahedron, octahedron, and icosahedron--- ohly the tetrahedron has each of its vertexes diametrically opposite a triangular opening. In the octahedron and icosahedron, each vertex is opposite another vertex; and each of their vertexes is diametrically blocked against articulating a self-inside-"

- Cite SYNERGETICS text at Secs. 9O5.11-.13, 16 Dec'73

"-outing transformation. In both the octahedron and the icosahedron, each of the vertexes is tense-vector-restrained from escaping outwardly by the convergent vectorial strength of the system's other immediately surrounding-- at minimum three--- vertexial event neighbors. But contrariwise, each of the octahedron's and icosahedron's vertex events are constrainingly Impulsed inwardly in an exact central-system direction and thence impelled toward diametric exit

and inside-outing transformation; and their vertex events would do so were it not for their diametrically opposed vertexes, which are surroundingly tense-vector-restrained from permitting such outward egress.

"As a consequence of its uniquely unopposed diametric vertexing--- ergo permitted--- diametric exit, only the tetrahedron among all the synrnetric polyhedra can turn itself pulsatingly inside-out, and can do so in eight different ways (see Sec, 624); and in each instance, as it does so, one-half of its combined concave- convex unity 'twoness*' is always inherently invisible.

"The octahedron, however, restrainingly vector-blocked as described, can only infold itself pulsatingly to a condition of hemispherical congruence like a deflated basketball.

- Cite SYNERGETICS text at Secss 905J3-.15, 16 Dec'73

Octahedron as Model of Doubleness of Unity: (3)

"Thus the octahedron's concave-convex, unlty-twoness state remains plurally obvious. You can see the concave infolded hemisphere nested into the as-yet outfolded convex hemisphere.

"Verifying the octahedron's foumess as being an evolutionary transformation of the tetrahedron's unity-twoness, we may take the four triangles of the tetrahedron which were edge- hinged together (bi-valently) and reassemble them univalently (that is, corner-to-corner) and produce the octahedron, four of whose faces are triangular (ergo structurally stable) voids. This, incidentally, introduces the structural stability of the triangle as a visualizable yet physical nothingness."

Cite SYNERGETICS text at Sec. 905.15, 16 Dec*73

"There are eight asymmetric octahedra which surround each face of the 'coupler.' It is probable that these eight asymmetric nuclear octahedra account all the varieties of intercomplex complexity required for the permutations of the 92 regenerative chemical elements. These eight variables alone provide for a fantastic number of rearrangements and reorientations of the A and B Quanta Modules within exactly the same volume.

"I now believe it is possible that there are no other fundamental complex varieties. So we have a limit of variation. With our friend octave coming in as before. This is how we now find out what we have been looking for when we have been talking about 'number one.' It is one nucleon, which can be either neutron or proton, depending on how you rearrange the modules in the same space."

- Cite RBF to EJA. by telephone from Phila., 1 Apr*73 Incorporated in SYNERGETICS text at Sec. 954.30

See Coupler

RBF DEFINITIONS

Octahedron as Photosynthesis Model:

The vector-processed, three-quanta octahedron manifests interference and demonstrates radiation; when the vector-edge precesses again, the fourth quantum reappears, the interference disappears, and gravity is demonstrated. This is the way photosynthesis functions--- the conversion of radiation-in the leaf, or on your skin.

- Cite RBF to EJA, 3200 Idaho, Wash., DC., 11 Dec'75

"Gravity must always be thought of as embracing. For instance, it would be like the hoops of a barrel. The staves are wedges. Unless you have truncated the wedges they could all go right to the center of the sphere; and they would like to get out of the system, but the

bands hold them together. They cannot get any closer together because their outer parts are larger than their inner parts. They can't fall in. But the point is that the bands are finite: they come back upon themselves and they embrace. You have to return on to yourself to embrace. Gravity operates then by embracement. The larger the phenomenon that it embraces, the more leverage effect it has because you simply tighten the screws and the bands at the ends of the lever. This is why the pressures increase as you go into the Earth; they continually increase the further in you go due to the leverage effect of the embracement.

"Gravity does not operate perpendicularly. It operates not as a radius but at 90 degrees to the radius. All the radiation goes outward radiantly; the gravity is always circumferential and therefore finite and enclosing. I give you, for instance, the hexagon, where the six radii are trying to come apart explosively. They disintegrate; the radii do not help each other. But if you have the same number of sticks arranged" - Cite RBF to Hugh Kenner, Phila., PA, Transcript p.7; 8 Jun*75

"end-to-end. where mass interattraction works, they close back upon themselves and are always more effective. So the tendency of Universe to come apart is always well offset by the finite closure of the same six vectors.

"We must consider the effect of gravity on the octahedron in terms of embracement. Of the three structural systems in Universe—tetra, octa, and icosahedron—the octahedron is in the middle and always is inherently doubled-up, the vectors double up.

The

plentiful of all the crystals are octahedral crystals. The embracement of the octahedron is typical of matter, but the embracement is precessed causing a reaction at 90 degrees. Our pulling makes for greater pressure for it to try to come apart.

'The 12 vectors of the octahedron are embraced by gravity.

The two polar pyramids join in a quadrangular equator. This crystal gets between two other celestial masses and is pulled by them. They are pulling like the Chinese finger puzzle device that pulls your finger in and squeezes it. Precessionally, you pull it one way and it squeezes the other way. So this octahedron is a sort of rubber tube; if you pull on it it makes the tube contract. Compression operates on it."

- Cite RDF to Hugh Kenner, Phila.,PA, Transcript p.7; 8 Jun'75

RBF DEFINITIONS

"The precessional effect operates on the octahedron's 12 vectors, and one of them precesses. I want you to think of the six vertexes. You've got four at the top like a

pyramid---a regular Egyptian pyramid---and a reflecting pyramid at the bottom. So there are four vectors at the north pole; four at the south; and four around the equator. The embracing effect is to make one of the four equatorial vectors precess; it lets go from the two adjacent points in the equator and rotates 90 degrees to join the north pole to the south pole.

"We still have exactly the same six vertexes; we simply connected the poles instead of the adjacent equator points. You will find that what this does is to turn this form into an arc where you have three tetrahedra face-bonded. We go from an octahedron of volume four to three tetrahedra face-bonded: six vertexes, eight faces, 12 edges. There is no way topologically that you can tell that anything has happened. But you have dropped out one tetrahedron, or one unit of quantum.

"This explains why Boltzmann saw the Universe with all the stars giving off energy entropically. He said the energy must be being collected elsewhere. Einstein went along with it."

- Cite RBF to Hugh Kenner, Phila. PA., transcript p.7; 8 Jun'75

”But the scientists said that entropy means that energy gets lost: How could it possibly be picked up again over here? So we suddenly see how it does in this form of the three-tetra-arc. One minute you add a tetrahedron to it and the next you have lost one and it disappears. . It comes out on th end and becomes the tetrahelix. The tetrahelix is always this wave, an electromagnetic wave. This wave is the way gravitation becomes radiation. The quantum is separated out when the radiation has an interference with anything, then it immediately precesses again and becomes matter— and it goes from the three-tetra back to the four. And we suddenly have one unit of quantum seemingly disappear in the.Universe and it’s picked up again over there.

''This is how the quantum gets picked up by photosynthesis. Photo-synthesis had not been understood before: it is simply the picking up of that one unit of quantum.

"The transformation from the octahenron to the three tetrahedra was discovered by Don Richter, but he did not know the significance of it as he had not been thinking about it that way. He was not thinking about it as an accounting of energetic phenomena; but it completely explains how the gravitational effect will"

- Cite RBF to Hugh Kenner, Phila. PA., transcript p.8; 8 Jun'75 ”convert matter into radiation... and how the energy is only apparently lost. All the topological accounting is there. But nobody would ever know it because it« is topologically the same, A unit of quantum absolutely disappears from the described Universe. It explains how syntropy could occur. The entropy was there but no one could understand the syntropy. But there it is.”

- Cite RBF to Hugh Kenner, Phila. PA, transcript p.8; 8 Jun'75
Octahedron as Photosynthesis Modal:

See Radiation-gravitation Model

OgwhodraZ Tanawrlty-

See Tensegrity: Depolarized Orientation of Tensegrity Octahedron
Univeraal Joint

"You cannot make big tetrahedra or octahedra out of littler tetrahedra or octahedra respectively. Octahedron and tetrahedron may not be realized independently of one another.

"Tetrahedron is inherently positive or negative. It is not mutually independent. It is independent of the other except in frequency greater than two, which is unity. Tetrahedron cannot be realized out of tetra alone; ergo, has an octahedron."

- Citation & context at Multidimensionality, (1), 11 Sep'63

"An assemblage of octahedrons and tetrahedrons in face to face relationship. Thus when four tetrahedrons are grouped to define a larger tetrahedron, the resulting central space is an octahedron; together, these figures are comprised in a single, or 'common,' octahedron-tetrahedron system."

Cite Patent No. 2,986,241. Kav JO. 1961 SYNERGETIC BUILDING CONSTRUCTION

See Octet Truss

Octahedron: Volume of Cube as Three: (3)

"I am going to take these four one-eighth octahedra, and because each has an equilateral triangular face, I can superimpose it on the equilateral triangular faces of a regular tetrahedron. There are four faces, so the four faces of the tetrahedra will accommodate four one-eighth octahedra superimposed so that the equilateral triangle faces are becoming congruent. This leaves a 90-degree angle sticking outwardly, and it makes the cube. So the cube then is one regular tetrahedron, with four one-eighth octahedra superimposed on its surface. The volume of a one-eighth octahedron is one-half, and four times

one-half on the faces ($4 \times \frac{1}{2} = 2$) and so the volume of the tetrahedron which I superimposed is one, so $2 + 1 = 3$) so the volume of a cube in the system is three. That gets to be very interesting. Here is another nice whole number. You have the tetrahedron as one, octahedron is four, and cube is three. A cube as three is not what people have been thinking. They have been thinking that a cube was one, but I am using unity where a tetrahedron is one."

- Cite Oregon Lecture 6, pp. 215-216. 10 Jul'62

'Here we take an octahedron which has a volume of four.

An octahedron has six vertexes and it is symmetrical because they are all equilateral triangles and all the edges are the same. Therefore we know by it being symmetrical that if we interconnect its opposite vertexes, being six of them, there will be three axes between the six opposite vertexes. Those three axes would be the well-known XYZ coordinate system and the XYZ coordinates then do exist inside the octahedron. If I cut the octahedron through one of the four planes, one of the planes of its equator, it makes me two half-octahedra. If the volume of an octahedron in respect to a tetrahedron is four, then a half-octahedron has a volume of two, and $2 + 2 = 4$."

- Cite Oregon Lecture #6, p.214. 10 Jul'62

XYZ Coordinates: (2)

Octahedron;

"There is a center of gravity of the octahedron and it has eight equilateral triangular faces and there is a little pyramid, or irregular tetrahedron which can be formed on one of the faces of the octahedron whose interior apex is at the center of gravity of the octahedron. . . . Because there are eight such faces and it is at the center of vol-

ume, there are eight of thes that make up one octahedron so this is a one-eighth octahedron. If the volume of an octahedron is four, the one-eighth of an octahedron has the volume of one-half of one tetrahedron."

"Each of the one-eighth octahedra ftas interiorly 90-degree angles because they are the XYZ coordinates and when the XYZ coordinates cross, it is 90 degrees. They have a central angle of 90 degrees and the external angles are 60 degrees each. □ . "

- Cite Oregon Lecture #6, p. 215. 10 Jul'62

osiahsstaa: jU^z 111

See XYZ Quadrant at Canter of Octahedron

See Planck's Constant, 16 Aug'70 Spherical Octahedron, 29 Nov'72

(1}

See Allspace Filling: Octahedron 4 Tetrahedron

Allspace Filling: Octahedron 4 Vector Equilibrium Complexocta Domain of Octahedron Prime Structural Systems Spherical Octahedron XYZ Quadrant at the Center of Octahedron Hedra

Coupler: Nuclear Asynnetric Octahedron

Tetra, Octa 4 Icosa

Dihedral Angles of Tetra 4 Octa

Superoctahedron

Precession of Octa Edge-vector

Tetra, Octa 4 VE

Universal Fabric Joint □ Octahedron

Sea Allspace Filling, 10 Jul*62

Constant Relative Abundance, 29 Nov'72*

Holding Patterns of Energy. Apr*72 Indig, 3 Mar*73 Insideoutable,
22 Apr*71* Physics as Internal Affairs of the Atom, 31 May'71
Physics: Difference Between Physics and Chemistry.

31 May'71*

Sphere, 25 Feb'74 Tetrahedron (2) Volumetric Annihilation, 28
Feb'71* Prism, 31 May*71

Quantum Sequence, (5)*

See Octahedron as Annihilation Model Octahedron as Conservation &
Annihilation Model Octahedron: Eighth-octahedra Octahedron: En-
ergy Holding Pattern Octahedron: Half Octahedron Octahedron: Half
Octahedron: LenIng Model Octahedron Model of Doubleness of Unity
Octahedron: Nuclear Asyuneetric Octahedron Octahedron: Super Oc-
tahedron Octahedral Tensegrity Octahedron-tetrahedron System Oc-
tahedron: Volume of Cube as Three Octahedron: XYZ Coordinates Oc-
tahedron as Photosynthesis Model Octa Edge

Octant:

3 *!?* = ³⁰⁰ JMrtaan-iUlon SSRCD : 312,858,158.319.499
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nuabera in 45 , which la on* 'octant' of trlgonoaatry, which covert all
general aysteaa relatlonahlpa."

- Cite SYNERGETICS draft at Sac. 1238.80, 20 Jul'73 (Proa RB? holo-
graph revlalon of WORLD plecaof 27 Mar'73)

HBF DEFINITIONS

"Indig congruences demonstate that nine is zero and that number system is inherently octave and corresponds to the four positive and four negative octants of the two polar domains (obverse and reverse) of the octahedron--- and of all systems--- which systematic polyhedral octantation limits also govern the eight 45 angle constituent limits of 360° unity in the trigonometric function calculations.

"The inherent +4, -4, 0, +4, -4, 0 --- of number also corresponds to the octantation of "The Coupler" (see section 954.20)

its eight allspace-filling Mites (AAB Modules) which, being inherently plus-or-minus biased, though superficially invariant, i.e., are conformationally identical, altogether provides lucidly synergetic integration (at a kindergarten comprehensible level) of cosmically basic number behavior, quantum mechanics, synergetics, nuclear physics, wave phenomena in general, and topologically rational accountability of experience in general."

- Cite RBF holograph in SYNERGETICS draft at Secs. 1221Jt+13.

14 May '73 'T

Octant Zone:

"Three disparately conformed, nonequilateral, polarized half-octahedra, each consisting of the same four equivolumetric octant zones occur around the three half-octants' common volumetric center. These eight octant zones are all occupied, in three possible different system arrangements, by identical asymmetrical tetrahedra, which are Mites, each consisting of the three AAB Modules."

- Cite RBF partial rewrite of SYNERGETICS galley at Sec.954.01, 20 Dec*73; deleted by him, and restored to text by EJA

Octant Zone:

"Three disparately conformed, nonequitriangular, polarized octahedra each consist of the same eight equivoiumetric octant tones occurring around the three octants' common volumetric center. These eight octant zones are all occupied, in three possible different system arrangements, by identical asymmetrical tetrahedra, which are Mites, each consisting of the three AAB Modules."

- Cite SYNERGETICS draft at Sec. 954.01, 27 May»72

See Degrees: 45°

Trigonometric Limit

XYZ Quadrant at Center of Octahedron

Sea Coupler, 27 Jan'75

Fourth Dimension, 2y Nov'72

9sta-fiphar.£:

See Spherical Octahedron, Aug*72

Octavalont»

See Tetrahedron: Hierarchy of Pulsating Tetrahedral Arrays, 16 Dec*73

Octave:

"Compression is locally expressive in discrete tones and frequencies internal to the octave,

"Tension is both internal and external to the octave and is harmonic with either the unit octave or octave pluralities

- Cite Synergetics Draft at Sec. 'ttO.TO, Dec. *7¹ .

RBF DEFINITIONS

Octave:

"The nucleus can accomodate waves without breaking up the fundamental resonance of the octaves."

- Mair.

5. fl dunrc1gT1.

- Citation at Nucleus , 18 Jun'71

Octave:

"rfaves are octave."

- Cite NUMEROLOGY Draft, April 1971

Octave;

"Relative to the synnetry of equilibrium it gets to be rqEUtively asymmetrical, and I find that it goes to a maximum asymmetry and then it comes back to symmetry again.

"I think this is why we might have something we call octaves in music. There are sort of octaves in our thinking. We think octavely. . . "

- Citation and context at Relative Asymmetry Sequence (1), Jun'69

Octave

"Doubling or halving dimenaion

Increase* or decreases

respectively

The magnitude of volume or force

By expansive or contractive

Increments of eight,

That is, by octave values."

- Cite SINERGETICS Corollaries Sec. 240.49*

- Citation at Dimension. Oct'59

See Octahedron: Nuclear Aeyrmetric Octahedra 1 Apr'73 Octave Wave Model, 9 Apr'75

See Carrier Wave, 9 Mar*73

Octave Wave:

"The interaction of all numbers other than nine create# the wave phenomenon described, i.e., the 8self-invertable, self-inside-outable octave increasing and decreasing pulsatively, fourfoldedly, and tetrahedrally. No matter how complex a number aggregating sequence of events may be this phenomenon is all that ever happens. There is thus a primitively comprehensive, isotropically distributive, carrier-wave order omni-accommodatively permeating and embracing all phenomena."

£10)

- Cite SYNERGETICS draft at Sec. 1223.-44-, 5 Mar'73

"The eight hedra triangles of the inside-out tetrahedron which are the same deployed eight triangles of the vector equilibrium provide a model for the octave wave limit at the number eight where the wave turns back again before the zero-nineness."

- Cite RBF to EJA enroute Union Station, Wash.,

DC., 9 Apr'75

TEXT CITATIONS

Octave Wave:

1 Octation:

Octantatlon

415.40-415.41

1221.18

SIOO6.36

421.05

Table 1221.20

a1013.41

527.22

1222: 1222.10-1222.32

527.31

1223: 1223.10-1223.15

905.45

Fig. 1223.12

954.4b (footnote)

1236.02

Table 962.10 note

1239.10

2946

| | |
|-----------------|---------|
| 1011.61 | 1239.31 |
| 1012.01 | |
| 1012.10-1012.16 | |
| Fig.1.012.1 5 | |

See Interwave Behavior of Number Number System is Inherently Octave Octantation Tetrahedral Octave Phase Model Zero Wave

OgVLYg ^v»Yg:

(2)

See Cube: Volume-3 Cube. 16 Dec*73

Pythagoras. 18 Jun*71

Scheherazade Numbers: Declining Powers Of, 1 Feb'75

Synchronization, Oct'71

Tension, 1944

Zero Wave, 9 FAT'73

Ball at the Center, 9 Mar*73

Scheherazade Numbers: Declining Powers Of 22 May'75

Teleology: Bow Tie Symbol, 19 Jul'76

Potation: Spherical Octation:

See Nonpolar Points, 29 Nov*72; 7 Nov*73

See Number System is Inherently Octave

Harmonic J Harmony

See Dimension, Oct'59*

Geometry of Vectors, Aug'71

Mites t Quarks as Basic Notes, (2)(3) Nucleus, 18 Jun'71*

Relative Asymmetry Sequence, (1)* Tension i Compression, 1944

"The octet truss is not a priori. The octet truss is simply the most economical way of behaving relative to unity and to self. The octet truss is the evolutionary patterning, intervectoring, and intertrajectorying of the ever-recurrent 12 alternative options of action, all 12 of which are equally the most economical ways of self-and-otherness interbehaving--- all of which interbehavings we speak of as Universe."

- Cite SYNERGETICS draft at Sec. 540.02, 24 Sep'73

Octet Trugg:

"The icosahedron and the octet truss display circumferential closest packing."

(h'.D. Above is not accurate. See Synergetics text at Sec. 422.03, Apr '72, and Sec. 222.52 Jan '72.)

- Cite RBF to EJA, Fairfield, Conn. Chea Wolf, 18 June 1971

Octet Truas;

"In 60° coordination the angles are congruent and logically integratable with the radii*"

- Cite tape transcript RBF to EJA, Chez Wolf, 18 June 1971, p. 35«

CoMOWMrwtf. jec.

Octet Truss:

"... The octet truss--- whose omnidirectional growth fills all space with all the lines or vectors being of identical length, and all the triangles being equilateral, and all the vertexes being omnidirectionally evenly spaced from one another. This is the pattern of closest packing of spheres."

- Cite MEXICO >63, *Te rM* »rux fee.

(Ulus. #0-2-30), p. 20, 10 Oct '63

RBF DEFINITIONS

Octet Truesi

"In the octet truss system all the vectors are of identical length and all the angles around any convergence are the same. The patterns repeat themselves consistently. At every convergence there are always 12 vectors coming together and they are always 60° in respect to the next adjacent one.

(There are other angles in the system. By embracing additional angles we can find 90° relationships.) The prime relationship is with the 60° angle." *

- Cite Oregon Lecture #8, p. 299. 12 Jul¹62

Octet Truss :

"The octet truss--- a name compounded from octahedron and tetrahedron--- can be produced from complexes of tetrahedra or complexes of octahedra, whichever is economically preferable."

- Cite DIMAXION .VORLID OF RBF, Caption L2. i960

Octet Truss;

"The octet truss can be fashioned from flat ribbons by spot welding or other high-speed cohering processes.

"The octet truss can be fashioned from hubs employing the 12 faces of the rhombic dodecahedron. . .

"The octet truss can be woven together with continuous rods and wires, seized together by male and female turbinizing hubs.

"The octet truss can be assembled of tubes and rhombic dodecahedron hubs having face-mounted studs to slip into and fasten to tubes.

"The octet truss can be woven continuously from wire-like fencing structures."

- Cite DYMAXION WORLD OF RBF, Captions L3 - L11. (1959)

Octet Truss:

"The octet truss consist entirely of struts. No hubs are required. The x-shaped terminals of the struts unite in such a manner as to weave around the hub nuclei, forming the four planes of the vector equilibrium. The truss has phenomenal three-way 'finite' strength.

"In conventional beam structure systems, the supporting units are parallel to one another. Their ends are infinite (in that they do not curve back into the system) and therefore they do not help one another. In the three-way grid octet truss system loads applied to any one point are distributed radially outward in six directions and are immediately frustrated by the finite hexagonal circles entirely enclosing the six-way-distributed load. Each circle distributes the load 18 ways to the next circle, which 'finitely'¹ inhibits the radially distributed load. Thus the system joins together synergetically to distribute and inhibit the loads. The total loads are finally distributed three ways to the three point support."

(Slightly r-written)

7a" TVjg-rA -Cite DYMAXION WORLD OF RBF, Caption L1A, by RBF, 1959.

ber£T S£G

Octet Truss;

` ` The equilibriously regenerative octet truss is regenerated as fast and as extensively as man explores and experiences it. As I define Universe as the sum-total aggregate of men's experiences, then we may say that the octet truss-vector equilibrium is universally extensive. "Universally extensive" is a term quite other than "to infinity"--- a term which synergetic geometry may not permit. The open end of an angle is infinite, but so is its convergent end, in that the actions cannot pass instantaneously or either simultaneously through the same point. As with the vector equilibrium, infinite is only increasing degrees of experience--- meaning: more or less tunable."

,⁹⁵⁵- Incorporated at
SYNERGETICS Sec. 647.20, 1 Oct'72

Octet Truss:

"Octetw Truss (Octahedron Plus Tetrahedron: octetruss)

"Truss" - "Tree" - "Threes"

Three Phase - Triangular."

- Cite Caption of RBF Ltr to D.W. Robertson, 8 Jan '55.

Octet Truss:

"Considered solely as geometry of structure, the final identification of the octet truss by the chemists and physicists as `closest packing*, puts it into the universal domain as pure principle."

~ Cite RBF Ltr. to DopM W. Robertson, 8 Jan '55, p. 2.

acrer r«uS5- sec. HujTi

"...Down to the minutest atomic components, the octet truss is therefore proved to be synergetic, and its discovery as a structurein contradistinction to its aesthetic or superficial appearance--- is synergetic in performance; that is, its behavior as a whole is unpredicted by its parts. This makes its discovery as a structure a true surprise, qnd therefore it is a true invention."

- Cite SYNERGETICS text at Sec. 650.11, Jan'72

Octat Truss in Tale Art Gallery;

"When a Tale Professor of architeature, Louis Kahn, employed my octet truss in a design for the floor structuring throughout the new Art Gallery at Yale University, that trues, in economic compliance with the building code, had to be fabricated in reinforced concrete. But the Yale Engineering Department and its consulting engineers

refused to credit my three-way beam for the task on the grounds of the Invalidity of two nuan crisscross beams, 'bevauses,' they said, 'three were even more redundant,' Yale, therefore, built the floors on the basis that only one axis of the truss could carry the load. They called it a 'slanting beam construction,' Result: the octet truss was reduced to a role of aesthetic nonsense--- a fantastically expensive set of lampshades.

"Fallacy here was that the architect should not have employed a system which he could not defend structurally before the ignorance of the engineers. Result: relegation of an important new development to submergence in ignorance,"

- Cite RBF Ltr. to Donald W. Robertson, Pp,J-4, 8 Jan*55

See Isotropic Vector Matrix

Octahedron-tetrahedron System

Truss

Vector Equilibrium

Model of Toothpicks it Semi-dried Peas

(2)

See Einstein: RBF Draft Letter To, (5) Invention Sequence, (A)-(D) Rhombic Dodecahedron, 19 Apr*66 Tetrahedral Coordination of Nature, 1965 Icosahedron: Subtriangulation, (1) Bubble Bursting, 20 Jan'78

MAW

□There is a phenomenon that we might describe as the sternal disquietude of the Odd Ball promulgating eternal reorders, realignments, and inexorable transformations to accommodate the eternal regeneration integrity of intellectually-differentiable Universe, which

suggests philosophically that the individual metaphysical human viewpoint-- th* individual ego of the human--- is indeed an essential function of the eternally regenerative integrity of complex law-governed Universe.

"Possibly this mathematical Odd-Ball-oneness inherently regenerates the ever-reborn ego. Just when you think you are negative you find that you are positively so. This is the eternal wellspring of positive-negative regeneration of acceleratingly heating entropy and cooling off syntropy, which is synergetically interoperative between the inherently terminal physical differentiating and the inherently eternal metaphysical integration."

Cite STNERGETICS, 2nd. Ed. at Secs. 310.13 + .14, 10 Nov'74

RBF DEFINITIONS

Odd Ball:

"What we might describe as the eternal disquietude of the Odd Ball promulgating eternal reorderings and realignments to accommodate, in a sense, philosophically suggesting the individual viewpoint, the individual ego of the human.

"Possibly this mathematical Odd Ball oneness inherently regenerates the ever-reborn ego. Just when you think you're negative, you find yodre positive. This is the eternal wellspring of positive-negative regeneration, entrooy, and everything."

- Cite RBF in "metaphysical precession" while dictating Sec. 1051.32, 3200 Idaho, 27 Sep'72

Odd Ball;

Saa Sln gla Intagar Dlffarantlala

Odd Number:

See Nuuber: Even & Odd

See Perfume

Smellable

See Communications Hierarchy, (1)

OX:

See Between and Not Of

Off Centar: Off-center Effecta:

(2)

See Aberration, 22 Nov'73

Apprehension Lags, 11 Sep»75

Off-!

See Nonstate, 11 Sep*75

Office Buildings: Conversion to Apartments;

"Before 1985 we will have abandoned the concept of having to earn a living. We will have given life-long scholarships to everyone. We will have converted all the big city buildings to apartments and will have eliminated 70 percent of local confuting while vastly increasing long-distance travel."

- Citation & context at Building Industry, (10); 20 Sep*76

Office Buildings: Conversion to Apartments:

"We have a great deal of nonsense such as occupancy. We have a law that you can't tyrk and sleep in the same place. But we have all the typewriters sleeping with all the plumbing and all the people sleeping in the slums. All these office buildings are waiting to be converted. The answer is actually right here. . . Unless you have the technical solution, politics can't do anything."

- Cite RBF at DSI Press Conference, NYC, p.19, 28 Jun'72

See Buildings: Multiple Occupancy

See Air Space, May*65

Empty, Pay*70

Invented Jobs, 20 Sep¹76

See Carbondale Office

Official Newat

See Common Sense: Official News

official Panic=

See War ae Official Panic

KBF DtFINITluNb

"There is an official reality which IB sonetimes
unnatural,"

- (;n.e ruvilintHwuTi- AWn iiiiini'i .in w n --rw.itrt, -r, iw* iimit-.t-nrl frcn
uPilurtTUOi rftllui'il 'Fun ¹ PftKhHH(P hAHTH,----

Soe Mr: Official 4 Unofficial

Ohat Georg Simon_f (1787-1B54) German Physicist

See Whole System: Synergetics Principle Of (1)

PW

"We pour 95 out of every 100 barrels of oil right down the drain--- all
as a result of inefficient design decisions, all of which are avoidable."

- Cite RBF at Penn Bell Videotaping session, Philadelphia, 22 Jan*75

See Petroleum

3ee Wood Technology, (2)

Older Generation: Old Lite:

Older World: (1)

Sea Continuous Man

Elders: That Doesn't Moan Young Don't Like Their Elders

Grownup

New Life

Young World

Young & Elders

aoe Child as *Laboratory* (1)

Evolution: Man as Evolution Modifier, May>49 Poets, 1970

Design Revolution: Pulling the Bottom Up (1)(9) Depression: Great Depression of 1930*s, (1)

Old Kan River Project:

"With the general disarmament and the release to life-promoting account of the fabulous production capacity of the world's industrial complexes, will come one-day air-delivery of whole cities similar to the Old Man River Project wherein the operating energy efficiencies will be significantly multiplied and the social concisions provided by the omnivisible central community and the completely private deployed dwelling areas, or the air-delivery of single-family dwelling machines to the remotest sites, or of whole clusters of single-family dwelling machines to near or far sites."

- Citation *k* context at Building Industry. (10); 20 Sep'76

Old Man Hirer Project:

"... Moon-c rat. ar conformed, domed-over cities on Earth (such as the Old Man River Project)."

- **Citation and context at Xnrentability Sequence (1)**

Old. .Man River Project:

See Building Industry, (10)* Inventability Sequence, (1)*

"Once asked , . . original questions become an additional brain-inventory item to be passed on to the next generation in the chromosomal inventory. All old questions were once original questions. . .
"

- Citation and context at Computer (D), 10 Dec'64
old "Qrda»

"If you take the names for numbers, there are amongst old words---
etymologically--- there are a few words that go back of any knowledge
of their derivation by any of the scholars, and these are spoken of as
old words. And the names for numbers are all in the old words, that
is, they transcend any possible discovery by man today--- of anything
we know so far about how they were evolved. None of them have any
identity with experience other than Just the abstract number itself,
except for the name for five, which very often hae the same root as
that for hand... which is very logical.**

- Cite RBF at SIMS, U. Mass., Amherst, Talk 12, p.23, 22 Jul»?1
Old Words?

` ` Thera are metaphysical yet cogent early words emerging from the
limbo of prehistory's quasi-logical accounting continuities.... For in-
stance, divine, the concept of a DEvining deity,"

- Citation and context at Division. I960
21d "orld:
See Early Man
01 factorial:

' 'Olfactoral: preponderantly sensing the liquid and doublebonded
atom and molecule state, including all of the humanly tunable
ranges of the harmonic resonances of the complex, chemical, liquid
substances."

I 00.020

- Cite SYNERGETICS 2 draft at Sec13050522 Feb'77
Olfactoral Sanaa:
2i^fJJ^r th? °*fa^{ct}°ral aenae comes into play

as the child breathes in its -own oxygen and sucks in its own nutrient."

- Citation and context at Brain*s TV Studio (1) + (2) 6

See Human Sense Ranging it Information Gathering Smell: Smellable

Sea Fail-safe. 17 Oct*72

Privacy, 22 Apr»71

Senses, 9 Apr*40; (1)(2)

Omission va, Admission;

See Sin, 7 Nov»75

Omni-accelerating;

"By antientropy I refers to the omniaccelerating-

acceleration of the clarifyingly differentiated and interconinunicated,
experience-derived pattern

cognitions of the human mine. . , "

- Cite Doxiadis, p. 310. 20 Jun'66

Oamlaccommodatlon:

S«« Isotropic Vector Matrix, 9 Hov'?2

Omnladlaccant:

Sas Rhombic Dodecahedron, 22 Mar'73

Omni angular;

See Triangle, Aug*72

Omni-Aroundness;

"A system is a patterning of enclosure consisting of conceptual aggregate of recalled experience items, or events, having inherent inside-ness, outsideness, and omni-aroundness.^{1*}

- Cite SYNERGETICS draft at Sec. 40Q25, 26 May'72

Omniasymmetry:

"Synergetics both equates and accommodates Heisenberg's indeterminism of mensuration inherent in the omniasymmetry of wavelinear physical pulsations in respect to the only metaphysical (ergo, physically unattainable) waveless exactitude of absolute equilibrium."

- Cite SYNERGETICS text at Sec. 211.00; as rewritten by RBF on galley, 11 Oct'73

Omni-automation:

"All the money-making drives toward omni-automation and complete unemployment. Politics keeps inventing the jobs by law.**

- Citation for context at Invented Jobs, 20 Sep*76

Omni-automation: PFinl-autOpafrlgn:

See Industrial Complex. 1} Mar'73

Invented Jobs, 20 Sep* 76*

Omni-balanced:

See Dynamic Symmetry, 31 May'71

°BilclsrsmiforOTtlal:

See Big Sytem, 5 Jun'73

Cfclnl-cloaceC Packing:

See Nucleus, (1)

Model of Toothpicks & Semi-dried Peas, (1)(2)

Omni-coexisting:

"Because the tetrahedron is inherently the minimum structural system of universe, it provides the omni-coexisting convexity and concavity condition in universe."

- Clfire-ttBF on Synargnt.1 es-dnaft, , , traharnt, ?? Jtflr T97F.

''Omni tu pul uy ..XW. etl 5eq.

- Citation i context at Convex & Concave Tetrahedron, Aug'71

Omnicoexiating;

See Convex & Concave Tetrahedron, Aug*71

See Truth & Love, 16 Feb'73 Tunability, 19 Oct'72

OmUcaUoctIYB¹

See Gravity, 23 Sep'?3

Omniconcurrent;

See Design, 8 Sep'75

QwUcwUHgiv

**"The universally Infrequent meshing of wavelengths and frequencies
Produces an omnicondition**

**In which the new omnidirectional system's center must, as each is
created,**

Continually occupy omnidirectionally greater domains of disorder."

- Cite BRAIN *k* MIND, p.89 May >2

See System, 1971

OFfltoflg-ueflgg:

`` When two or wore structural systems are joined vertex to vertex,
edge to edge, or face to face or to omni- rnnpi»fB--- in a single, dou-
ble, triple or quadruple bonding, then the topological accounting must
take cognizance of the congruent components.?

- Cite NASA Speech, pp. 61-62, Jun '66

Omni congruence:

"When two or more systems are joined vertex to vertex, edge to edge, or in omnicongruence--- in single, double, triple, or quadruple bonding, then the topological accounting must take cognisance of the congruent vectorial build in growth.*

- Cite SYNERGETICS text at Sec. 911.10, galley rewrite, 19 Dsc«73

See Bonding

Congruence

Geometry of Vectors

Omnijacent

Self-congruence Packing

Quadrivalent

Chemical Bonds: Quadruple Bond

See Synergetics Constant, (A) Overlapping, 30 May»75 Vector Equilibrium, 23 Oct*72

See Consideration for Others

Not Trespassing

See A Priori Intellect, (1)

Boltzmann Sequence, (20)

Rearranging the Environment, 9 Apr* 71

Universal Requirements of a Dwelling Advantage.

31 Uy'74

World Game, Feb'73

Mind vs« Energy, 19 May'75

Omnicontinuous:

See Frequency Islands of Perception, 13 Nov'75

OtnnlqpnTerfi; "Onm iconvergent le the opposite of radius.

Cite RBF to EJA Sarasota, Florida 7 February 1971

OfnlcQQYtnrenv

See Gravity, (2) Three: Number Function of Three in a Four-axial
System, 24 Jan*76

Omniconverts*-

'Nuclear structural systems consist internally entirely of tetrahedra
which have only one common interior vertex: omniconvertex."

citation &. context at Prime Nuclear Structural Svatcaa, 27 Dec'74

Onnl-GQ-OccurrlM:

See Jitterbug, 4 Oct'72

Omnicoordinate:

See Graphable, 27 May'72 Pole Vaulter, 2 Jul*75

RBF DEFINITIONS

Omnicurvilinear:

"Experience is omnicurvilinear."

RBF DEFINITIONS

Omnicurvilinear;

"Calculus treats discretely and predlctively with frequency rates and
discrete direction of angles of change of the omnicurvilinear event
quanta's successively recurring posltloningsi fixes."

- Citation at Fix. Mar*71
tfrnidflPIQYod Fatterw
Synergetic®, Sec. 931.02 - Apr'72
<MVUwtrlg;

"Omnidiametric can be either inwardly or outwardly diametric but it does not allow for wavilinear operation. It cannot wander; it will always be regenerative from the center.

It is a special case of omnidirectional. If the outwardly omnidiametric source were in motion--- and all phenomena is in motion--- then there is a lag in the rate its output could reach a distant point. Ergo, to itself, nonwandering omnidianjreric radiation would appear to be bent as the whiskers of a cat would appear to be bent backwardly of its trajectory."

- Cite RBF to EJA, 3200 Idaho NW, 23 Sep'73
See Multidiametric
Omniradial
Seo Diatrlbutlve, 23 Sep'73

Package, 23 Sep'73 Radiation, 23 Sep'73

Omnldiffegitlal Lar Rat**:
See Prime Dichotomy, (2)
See Perceptual Peephole aa Fraction of Reality, Dec*69
SaiUdiawiMoMl am Matrix:
See Atomic Computer Complex, (S)
OmnidlBCMlpnal!
See Force Lines: Omnidimensional, (2)

Site, 22 Jun*72

Triangle, (a)

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

Omnidirectional,:

"Omnidirectional can be chaos. It can mean everywhere including re-turning upon itself. It is indiscrete.

It is general case."

- Cite RBF to EJA, 3200 Idaho, 23 Sep'73

Omnidirectional

"Operationally speaking the word omnidirectional involves a speaker who is observing from some viewing point. He says, 'People and things are going every which way around me.' It seems chaotic to him at first but on further consideration he finds the opposite to be true and that only inherent order is being manifest. First we observe that we cannot and do not live and experience either in a one-dimensional linear world, nor in a two-dimensional infinitely extended

planar world."

- ~~13*-&INERGETIC3~~ gygrtz

- Citation 4. context at Nucleus (1), 17 Feb»72

Ognldirectional:

"Instead of omnidirectional. tjay tiaeleaa.

- Citation at TimelesslQ Jun*71

CWdlrKtlgMI!

"It la surprising thing that all closest packing begins with two balls rather than omnidirectionally. Two balla coming together is where thought begins ... it is a wedding thing. . . and it is very beautiful the way the two balls reoccur at each wave outwardly."

- Citation at Two Balls Coming Together,. 19 Jun'71

QRRI<4rs.sUgpal:

"In book /Synergetics/ I must eliminate the words 'three- dimensional*' as meaningful /sic/, and always use omnidirectional observation of multi-dimensional characteristics, with angle and frequency of cyclic reference as the only requirements."

- Citation and context at Size (2), circa 1970

Omnidirectional:

"... Energy goes in all directions, expanding as a bubble--- a spheroidal wave. A spheroidal wave is omnidirectional--- like light going in all directions from a candle. So our energy is going in all directions as a bubble, and the surface of any spherical system always increases as the second power of the linear. The rate at which the surface will grow will be 186,000 miles a second to the second power, that is, c^2 ."

Cite MERGERS & ACQUISITIONS

Vol. 1 , No. 1, p. 46 » '905

Omnidirectional:

"Our experiences are inherently omnidirectional. We ourselves are walking around like this and before we were born in the womb we were moving in all directions. Our Earth is continually rotating and our milky way is continually rotating in the heavens, and so forth."

- Cite OREGON Lecture #2 - p. 65. ² Jul'62

Omnidirectional:

"Because of the incessant wheeling about of humans first in the womb, then in the baby carriage, then on foot, in the auto and ship and plane roundabout a spinning earth in a spinning solar system within an involuting- evolving, spirally spinning galaxy, totally inventoried experiences are inherently omnidirectional when considered as the sum of observational orientations

- Cite OMNIDIRECTIONAL HALO, p. 138, i960

OpinldlrnXopal:

"...Omnidirectional relationships are only angularly configured and are independent of size or dimension.

- Citation and context at Brain's TV Studio, 1960

Omnidirectional:

"Universe, as all experience, is inherently omnidirectional in its observational orientations."

- Cite OKHIDIRECTIONAL HALO, p. 138, i960

Qanidlrnignalt

"•In¹ is unique to individual aystems. One *out* is common to all systems and is omnidirectional in respect to any one system..."

- Citation and context at In and Out. 4 May'57

Omnidirectional:

"This very initiation itself of first division of Universe into an omnidirectional, radially defined sone, between maxima and minima within-ness and without-ness sense and experience tunability, affects not only the local tuned-in system, but also the balance of Universe, within and without, even as does the little and big spherical triangle subdivide the system's 'surface* zoneness, circumferentially, so also here do the basic maxima and minima, radial and circumferential dichotomies, which are the basically differentiated acceleration functions and inherent reciprocal self-processors."

(Above text closely parallels Ltr. to Donald W.

Robertson, p.4, 8 Jan*55 at Zoneness; System Zoneneaa.)

- Cite RBF draft Ltr.
to Jim (Fitzgibbon?),
Raleigh, NC, 1954-59
Omnidirectional:

"Electromagnetic wave phenomena are • . . omnidirectional and om-
nipermittive."

Omnidirectional Clock:
See Fourth Dimensional Modelability, 24 Feb '75
Omnidirectional Clonal Packing of Spherules. Sjawggtlg.
~ Sdnrtgivefi

. Frequency to the second power times ten plus two: is the number of balls in any given layer. This simple formula governing the rate at which balls are agglomerated around other balls or shells in closest packing is an elegant manifest of the reliably Incisive transactions, formings and transformings of universe. X made that discovery and published it in 1944. This is the mathematics which the molecular biologists have confirmed and developed by virtue of which we can predict the number of nodes in the external MBZZBi proteinphells of all the viruses, within which shells are housed the 1JNA-RNA programmed design controls of all the biological species and individuals within those species. Although the poliovirus is quite different from the common cold virus, and both are different from other viruses, all of them employ frequency to the second power times ten plus two in producing those most powerful structural enclosures of all the biological regeneration of life. It is the power of these geodesic-sphere shells that make so lethal those viruses unfriendly to man. They are almost indestructible."

- Cite kBF marginalia. New York, 19 June 1971, to Synergetics draft, Section. 222.32.

"Omnidirectional concentric closest packing of equal spheres about a nuclear sphere forms a series of vector equilibria of progressively higher frequencies. The number of vertices or spheres in any given shell or layer is always edge frequency (F) to the second power plus ten plus two.

Equation: $10 F + 2 \cdot \text{number of vertices or spheres in any layer.}$

"The equation for the total number of vertices, or sphere centers, in all symmetrically concentric shells -

$10 (F_1 + F_2 + F_3 + \dots + F_n) + 2F_n + 1$.-

- Cite SYNERGETICS DRAFT, "Synergetics Principles," March 1971

Omnidirectional Closest Packing of Spheres;

Synergetics

"Now I am going to take an inventory of those balls in the different layers. There are 12 balls in this layer and if we count these up we find that there are 42 balls in the next layer. In this top layer there are 92 balls. If I put on another layer you will find that there are 162--- and another layer will be 252, The number of layers always comes out with the number two as a suffix. We know that this system is a decimal system of notation. Therefore we are counting in what the mathematician calls congruence in modulo ten--- a modulus of 10 units--- and there is a constant excess of two.

"We find in algebraic work if you use a constant suffix (where you always have, say, 33 and 53, you could treat it as 50 and come out with the same algebraic conditions.) Therefore if all these come out with the number two, I can drop off the number two and not affect the algebraic relationships.

"If I drop off the number two in that column they will all be zeros; so this would read. 10, 40, 90, 160, 250, and if I had another one it would be 300. I see each one of these are 10^n s,"

- Cite Oregon Lecture #7, pp.238-239, 11 Jul*62

Closest Packing of Spheres: Synergetics Principle Of- 12J

"so I divide each one by 10 and then I have 1, 4, 9, 16, 25 and you recognise that it is a progression of second powering. The next one would be 36, then 49. Each one of these are two to the second power, three to the second power, and so forth.

"We then discover that the number of balls in any one layer--- we could call it frequency, or radius, because we have found that they are the same words. In the vector equilibrium the number of units coining from the center outwardly are exactly the same as the edge units; so I can say frequency to the second power times ten plus two: that is how many balls there will always be in a given layer. It is a very simple kind of formula-- frequency to the second power, times 10, plus 2. That is the formula I have discovered regarding the rate at which balls are agglomerated around other balls or shells. I made that discovery and published it in 1944.

"And that was the mathematics that the molecular biologists discovered that I had developed by virtue of which I was able to predict the number of external shell members they found were following this form in the virus, and that is when they really**

- Cite Oregon Lecture #7, pp.238-239, 11 Jul»62

HBF DEFINITIONS

Omnidirectional Closest Packing of Spheres: Synergetics Principle

"began to get their clues. All the different viruses had different kinds of protein shells and so the polio virus was quite different from the other-- as was the common cold virus, but all of them were some kind of frequency brought out in this system, and the mathematics of it was cleanly predictable."

- Cite Oregon Lecture f?, pp.236-239, 11 Jul*62

See Closest Packing of Spheres

Equation: Omnidirectional Closest Packing Of Spheres

Prime Number Inherency & Constant Relative Abundance of the
Topology of Symmetrical Structural Systems

Concentric Layering

Shell Growth Rate

Vector Equilibrium

See Powering, 11 Jul'62

Powering: Fifth Dimension, 29 Nor*72 Synergetics, 29 Nor*72

Mite as Model for Quark, 3 May'77

Omnidirectional frame, af Reference:

See Vector Equilibrium, 19 Nov'74

See Heaven, 23 Way*72

How Little I Know, 1 Feb'75

Omnidirectional Growth:

"A cone is simply a tetrahedron being rotated. Omnidirectional growth--- which means all life--- can only be accommodated by tetrahedron."

~~QIHJ nmr tu Ejty neaj TSIIHJ, zyTrngj~~

- Citation at Tetrahedron. 25 Aug'71

Opnldirertiopal Growth-

See Fireworks, (2J

"Any conceptual thought is a system and is structured tetrahedrally. This is because all conceptuality is polyhedral. The sums of all the angles around all the vertexes--- even crocodile, or a 10,000 frequency geodesic (which is what the Earth really is)--- will always be 720° less than the number of vertexes times 360° ."

- Cite RBF answer to Hugh Kenner query, 2 Mar'72
- incorporated in SYNERGETICS draft at Sec. 501.10, 14 Mar'72

See Halo: Halo Concept Omnihalo

See Epistemology, 9 May*62

Omnidirectional Infoscope:

See Infoscope, 13 NOT¹75

Omnidirectionality;

"The connection between the six degrees of freedom and omnidirectionality is, of course, the vector equilibrium which combines the threeness of the cube in relation to 20 as unity ``VE." . . .

"Experience is inherently omnidirectional."

- AJA, Bteu AmlauU,

- Citation 4 context at Experience. 25 Aug'71

"Empirically we have only omnidirectional!tv without any fixed universal reference points."

old Synergetics Manuscript, circa 1970

- Cite RBP holograph with

i co

QqaitflrMUQnU Obaorvatlon:

See Center, 21 Jan*75

"The Department of tothematics at M.I.T states categorically the following:

Mathematics is the science of structure and pattern.

"I will state our case in the terms of an omnidirectional pattern- an isotropic vector matrix— rather than in the more usually employed linear or planar patterns, and thus satisfy M.I.T.'s primary mathematical premise of structural patterning, which structure is inherently an omnidirectional plural wavelength and frequency event system."

- Cite Ltr. to Jim Fitzgibbon (?), Raleigh NC, pp.J3-J4, undated

Omnidirectional Pattern:

See Angle & Frequency Design Control, Jul'71

"Omnidirectional means that a center of a movable sphere of observation has been established a priori by Universe for each individual's life's inescapably mobile viewpoint which, like humans' shadows, move everywhere silently with them. These physical existence environment surrounds of life events spontaneously resolve into two classes:

(1) those events which are passing tangentially by

the observer, and

(2) those events entitled other than self which

are moving radially either towards or away from the observer.

"The tangentially passing energy events are always and only moving in lines perpendicular to the radii of the observer, which means that the multiplicity of his real events does not produce chaos: it produces discretely apprehendable experience increments all of which can be chartingly identified by angle and frequency data."

- Cite SYNERGETICS draft at Sec. 1001.02, 27 Feb '72

RBF DEFINITIONS

Omnidirectional: Phvalc.1 Existence Envlrpiwent Surround.: I

(2)

ℒ ”

"The observer's unfamiliarity with the phenomena which he is observing, and the multiplicity of items of interaction and their velocity of transformations and thefr omniengulfing occurences tend observer's hope of

reasonable or immediateTherefore observer's are often induced to their attempts at technical

comprehension of their experience— which surrender of the drive to comprehend fills theyfobserver with a sense of chaos, which sensation he then subconsciously converts into MI n in Hi i I-mill-ng py himself that the environment is

|x5.

* »

chaotic, ergo inherently incoraprehndJ.Me.// Thus he satisfies *•— himself that he is 8super-reasonableJ.ana £nat the Universe

Z7 annoyingly disorderly; ergo frequently dismissible, which

L— seemingly warrants his invention of whatever kind of

Universe seems momentarily most satisfying to him.

"The more humanity probes and verifies experimentally by reducing its theories to demonstrable practice in order to learn whether their theories are valid or not, the more clearly does Universe reveal itself as being generated and regenerated only upon a complex of entirely orderly Relationships. The inherent spherical center viewpoint

-Cite SYNERGETICS draftat Secs. 1001.03+04, 27 Feb '72

"with which each individual is endowed generates its own orderly radii of observation in a closed finite system of event observations which are subject to orderly angular subdividing, recording, and interrelating in spherically trigonometric computational relationships to the observer's inherently orderly sphere of reference."

- Cite SYNERGETICS draft At Sec. 1001.04, 27 Feb '72
Omnidirectional Milltv y». PolttrMtlon:

See Cornucopia, 24 Feb'72

MSB OBnilrjctlglnal Pr?s,walgn: "Omnidirectional precession is generalised."

- Citation and context at General Case. 16 Feb*73
"We need an omnidirectional shuttable aieve

where we can Increase or reduce the magnitudes of our omnidirectional valve openings.

"Since we wish to be able to see in any direction and likewise be able to obscure in any direction, we recognize that it is difficult to make an opaque wall transparent but it is very easy to opaque a transparent wall by curtaining and shuttering."

- Citation & context at Environmental Controls (2), 31 May'74

See Membrane Occulting Membranes

"Since the central or nuclear sphere has no outer layer and is only the nucleus, its frequency of layer enclosures is zero. Following our symmetrically and convergently diminishing uniform rate of contraction to its inherent minimum and terminal frequency case of zero. and applying our generalized formula $10 F^2 + 2$, we have $0^2 - 0$, $0 \cdot 10 - 0$, $0 + 2 - 2$, we discover that unity is two. This single nuclear sphere consists of both its concave inside and its exterior convex sphere, its inbounding turnaround to become outboundness consequently co-occurring. Unity is plural and at minimum two. That the nuclear ball is inherently two has been incontrovertibly discovered by getting nature into her omnidirectional terminal case corner."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 261.04; U Nov'75

Omnidirectional Typewriter: (1)

"All model studies are mainly probability studies and nearly always deal with linear probability. But my problems are not linear; they are omnidirectional. I am dealing with total system. That's what the world is not paying any attention to and that's why we're in trouble: Synergy shows that you cannot solve comprehensive problems by exclusively local linear models, "rfe must begin with the general coordinating system used by nature in the closest packing of atoms such as the coordinates of the Dymaxion airocean world map. Another example is the omnitriangulated strip whose width M exactly equals the altitude of the tetrahedron. You can completely spool wrap all four faces of the tetrahedron; and the tetrahedron so wrapped has an axis running through it and out through the two unwrapped edges of the tetrahedron spool. Being a tetrahedron, this spool may be endlessly wrapped as an omnidirectionally closed system. Ergo, we have a device for recording all of the omnidirectionally occurring and observed data into a minimum system which is unwrappable into a flat ribbon printout with four-dimensional coordination."

"In this way of doing things everything remains in perpendicularity"

- Tape transcript, phila. Pa. pp.4-8; SYNERGETICS draft new Sec. 1130, 10 Sep'74

1ft

Omnidirectional Typewriter; (2)

"larity, as in the Dymaxlon map where any star regains in exact perpendicularity over the point on the map of the world. The same triangles are going to come out flat and the same stars are in exact zenith over that point, as the radii remain perpendicular to the system independent of whether the triangular area edges are arcs or chords.

This is an extraordinary mathematical transformation in which you can have omnidirectionality phenomena of all systems--- all gravitation, radiation, stars, fishes, everything--- all coming into coordinate printout in one flat ribbon map.

"What we have is an actual literal model of an omnidirectional typewriter providing a complete convergent-divergent modelability for the data. When you put the data on such a strip it is identified specifically in the transformation wherever it is at all times.

"This can really identify the largest of all the computers on the Earth due to the fact that it reflects the pattern of the greatcircle railroad tracks of energy. In other words, if you want to go from here to there in Universe, you've got to go through"

- Tape transcript, Phila. Pa., pp. 4-8, 15 Jun»74: SYNERGETICS draft new Sec. 1130, 10 Sep'74

Omnidirectional Typewriter: 3)

"the points of intertangency of the 25 great circles of fundamental symmetry which apply to all the atoms and their association as crystals in all the seven of the fundamental symmetry subsets. The 31 great circles of the icosahedron always shunt energies into local holding great-circle orbits, while the vector equilibrium opens the switching to omniuniverse energy travel. The icosahedron is red light, holding, No-Go; whereas vector equilibrium is a green light Go. The six great circles of the icosahedron act as holding patterns for energies. The 25 great circles of the vector equilibrium all go through the 12 tangential contact points of the 12 atomic spheres always closest packed around any one spherical atom domain. The 25 great circles of the vector equilibrium are the only railroad tracks of energy in the Universe, and as they get opened up some of them go through the 12 points just twice per circuit; whereas some of them go through the 12

points six times per circuit. That is. each of the four sets of great circles of the vector equilibrium's total of 25 (3, 4, 6, 12 =25) have different numbers of local switch-off points per great-circle circuiting. With all these beautiful switches and stop-go controls, we comprehend the"

- Tape transcript, Phil., Pa. pp.4-8, 15 Jun*74; SYNERGETICS draft new Sec. 1130, 10 Sep'74

Omnidirectional Typewriter: (4)

"method by which nature can shunt, valve, hold, and transmit all information in Universe. This is the information control system of the Universe. This is the way spheres transmit through closest packing patterns. This is why transistors work; that's how somebody suddenly discovered this little piece of metal valving energy with reliable regularities. Science stupidly called it 'solid State' physics because they couldn't see those beautiful little atoms and electrons' railroad tracks and their great-circle energy holding patterns.

"So we have here the design for an omnidirectional info-storing- and-retrieving and printout typewriter for conmini eating all acquirable info. Synergetics mathematics has the ability to take the spherical and pull it out in the flat. The least distorted transformational projection of the Dymaxion airocean world map is an icosahedron, but the simplest frame of reference is the spherical tetrahedron which provides the omnitriangulated grid, strip-wrapped tetrahedron.

"This is how you bring the omdidirectional into a flat projection. This is how the tetrahedron, the basic structural system of"

- Tape transcript, Phila. Pa., pp.4-8, 1\$ Jun'74; SYNERGETICS draft new Sec. 1130, 10 Sep'74

"Universe, unwraps linearly to an infinity of varying frequencies of angle and frequency modulation. Here we have a conceptual □ model that you can program: that is exactly what all the theoretical computer model specialists have been missing, ergo the chasm between their projective strategies and mine; they are running blindly into catastrophe but they need not do so."

- Tape transcript, Phila.. Pa. pp.4-8, 15 Jun*74; SYNERGETICS draft new Sec. 1130, 10 Sep'74

Atomic Computer Complex

See Tetrahelix: Continuous Pattern Strip

See Wave Pattern of a Stone Dropped in Liquid, (1)

Omnidirectional Wheel:

See Stone as Omnidirectional Wheel

See Closest Packing of Spheres Force Lines: Omnidirectional Lines Of Halo Concept Inhibit - Omnidirectional Indrinking Inwardness vs. Omnidirectional Omnidirectionality & Polarization Radial-circumferential Coordination Radiation Shell Growth Rate Spherical Wave Supradirectional Television: Omnidirectional TV Set Wave Propagation Wow: The Last Wow Field of Omnidirectional Nothingness Sphericity Experience in the Round Linear vs. Omnidirectional Wave Pattern of a Stone Dropped In Liquid

See Bird's Nest as A Tool. (A)(B) Brain's TV Studio, 1960* Child, 1970 Cyclic Bundling of Experiences, May'49 Directionless, 19 Jun'?1 Ecology, 16 Feb'73 Experience, 25 Aug*71*; 20 Dec*71 Fuller, R,B: His Writing Style, 22 Jan*75 In & Out, 4 May'57* Inhibit. 29 Oct'72 Linear & Curvilinear, Jun*66 Min-Max Limits. 22 Jun'75 Nucleus, (1)□ (2) Omnipervasive, 9 Apr'40* Radial Depth, 20 Dec'74 Resolution, 12 May'75 Size, (2)* Individuality ft. Degrees of Freedom, (1)

See Tetrahedron, 25 Aug'71*

Timeless, 19 Jun*71*

Two Balls Coming Together, 19 Jun'71* Vector Equilibrium, 30 Oct'73;
25 Aug*71 Twilight Zone, 22 Jun'75 Four Intergeared Mobility Free-
doms, 2 Nov'73 Human Beings at the Center, (1) Human Beings 6.
Complex Universe, (14) (15)

See Omnidirectional Clock

Omnidirectional Closest Packing of Spheres

Omnidirectional Frame of Reference

Omnidirectional Games

Omnidirectional Growth

Omnidirectional Halo

Omnidirectionality

Omnidirectional Observation

Omnidirectional Pattern

Omnidirectional: Physical Existence Environment Surrounds

Omnidirectionality vs. Polarisation

Omnidirectional Precession

Omnidirectional Shutterable Sieve

Omnidirectional Typewriter

Omnidirectional Wheel

Omnidirectional Wave

See Three: Humber Function of Three in a Four-axial System, 24
Jan'76

Omnidynamic:

"The vector equilibrium produces conservation of omnidynamic Universe despite many entropic local energy dissipations of star tetrahedra."

- Cite RBF dictation, Washington, DC, 7 Oct. *71 incorporated in Synergetics Text at 'Antitetrahedron,' Sec.

See Conservation of Omnidynamic Universe

See Air Space, Way*65

Future of Synergetics, 19 Apr*66 Star Tetrahedron & VE, 9 Nov*73

See Trespassing: Not Trespassing (a)

OmniflCQnQialc:

See Interaccommodate, 30 Jan'73 Scheme of Reference. 24 Sep'73 Energy Event, Mar'71

Omniceal1tarlap-

See Revolution, Jan'72

OmlMbrtslRgs

"Gravity is circumferentially omniembracing and is always whole, but is always whole."

"it is the sum of all the no-points embracing all the points; and it compounds at the surface-embracing second-power rates of the linear proximity gains. All the HBB no-points (novents) are always embracing all the points."

- Citation and context at Integrity of Universe, 23 Sep*73

RBF DEFINITIONS

Omni-embracing;

"Gravity is omni-embracing and is not focusable.

- Ofce Synergetic;
- Citation at Gravity. Aug*71
- Omniggiffracing ve.* PcnmUm:

"Joseph Needham's 'above and below* and hie 'higher and lower are linear.

"'Out' expressly is the containing and the contained: in synergetics, the omniembracing and the permeating."

- Citation & context at Synergetic Hierarchy. 5 May'74
- Omnembracing Squeeze:
- See Inward Explosion, 8 Apr'75

See Gravity

Linear vs. Omniembracing

Love

Omnembracing ve. Permeating

Truth

(2)

Principle, 5 Jun'73

Truth t Love, 16 Feb'73

Spherical Quadrant Phases, 9 Jul*75

See Ecology. 16 Feb*73 Generalization, 8 Mar*73 Gravity, Aug'7»*
Integrity of Universe, 23 Sep'73* Prime Structural Systems (1)

See Trisection of an Angle, 22 Nov*73 Model of Toothpicks 4 Semi-dried Peas, (1}

Qmnl-eaui-divisible:

See XYZ Quadrant at Center of Octahedron, 14 May*75

See Normal to Universe, 10 Sep'74 Model of Toothpicks 4. Semi-dried Peas, (1)

See Hierarchy of Constellar Configurations, 1959
ppyiloquillbrluffl: d)

"I seek a word to express most succinctly the complexedly pulsative, inside-outing, integrative-disintegrative, countervailing behaviors of the vector equilibrium. 'Librium' represents the degrees of freedom. Universe is omnilibrious because it accommodates all the every-time-recurrent, 12-alternatively-optional degrees of equieconomical freedoms. Omniequilibrium means all the foregoing.

"The sphere is a convex vector equilibrium, and the spaces between closest-packed uniradius spheres are the concave vector equilibria or, in their contractive form, the concave octahedra. In going contractively from Sector equilibrium to equi-vector-edged tetrahedron we go from a volumetric 20-ness to a vblumetric bneness, a twenty-fold contraction.

In the vector-equilibrium Jitterbug, the axis does not rotate, but the equator does. On the other hand, if you hold the equator and rotate the axis, the system contracts. Twisting one end of the axis to rotate it terminates the jitterbug's 20-volume to 4-volume octahedral state contraction, whereafter the contraction momentum throws a torque in the system with a leverage force of 20 to 1. It contracts until it becomes a"

- Cite SYNERGETICS text at Secs. 1030.10 & .11, 27 Dec*73

RBF DEFINITIONS

nni equilibrium:

"volume of one as a quadrivalent tetrahedron, that is, with the four edges of the tetrahedron congruent. Precessionally aided by other galaxies' mass-attractive tensional forces acting upon them to accelerate their axial, twist-and-torque- imposed contractions, this torque momentum may account for the way stars contract into dwarfs and pulsars, or for the way that galaxies pulsate or contract into the incredibly vast and dense, paradoxically named 'black holes.' "

- Cite SYNERGETICS text at Sec. 1030.11, 27 Dec'73 (RBF galley rewrite)

See Centers of Equilibrioua Symmetry Omnilibrium

Basic Equilibrium 48 LCD Triangle,

See Basic Triangle: 16 Dec'73

Onal-equl-optimum:

See Tenaegrty: Icosahedron Teneegrity, Dec*61

(1)

See Expanding Physical Universe

See Entropy, (p.90) May'72

Gravity, (z)

Universal Integrity: Second-power Congruence of

Gravitational t Radiational Constants, 9 Jan'74

Omniexperienceable:

See Integer, 15 Oct'72

Omni explicable:

See Skinner, B.F.

See Artifact#, (1)

Omniinfinite:

"Universe is finite because it is the aggregate of omniinfinite local experiences. All experiences begin and end. Physics has found no continuums; instead it has found only discrete omniseparate, finite quanta.

"Meaningful segments of scenario Universe are finitely furnished with omnifinite experiences."

-Cite RBF rewrite of Finite Furniture, 1960, done at Sarasota, Fla., 11 Feb'71

°nnlfnlte:

See Twenty-foot Earth Globe & 200-foot Celestial Sphere,

Omnifreedom:

See Powering: Fourth & Fifth Dimensions, 18 Nov*72

Omnifrequency:

See Individuality & Degrees of Freedom, (i)

Omnifunction:

See Generalised Principle, (4)

°BiUt<>ar«l:

See Irreversibility, 4 May'57

Omnizeometric:

"... A tethered ball on a long string is free to describe any omnizeometric forms oircles, spheres, or giraffes, but it cannot get away from the Universe."

- Cite SYNERGETICS draft at Sec.-tOt702, 27 May'72

opinlKraB; :

See Kinetic Omnigramming

Omnihalo;

"The considered relevancy within the aone of lucidity consists of one tetrahedron or more. For each •considered tetrahedron, there are three complementary always and only co-occurring parametric tetrahedra. We discover that our omnihalo epistemological accounting consists entirely of rational tetrahedral quantation."

- Cite SYNERGETICS text at Sec. 535.07; RBF rewrite of "Omnidirectional Halo," p.53, Nov*71

See Halo Concept

See Cosmic Accounting, 20 Sep*76

See Frame of Reference, 4 Oct'72

Omni-Inbound;

See Point: Inbound Point, 23 Sep'73

See Love, May'72; Oct'72 Truth A Love, 16 Feb'73

Omninexorable;

See Artifacts, (1)

Omni-innate:

"I have powerful reasons for assuming that genius is omni-innate. Our first child was born at the time of World ./ar I /"and so on, into the Alexandra Theme . .

- of Muaeumaj-p. 1- 2 Jun¹71 '

- Citation at Genius. 2 Jun'71

Omni Integra ting: O;nni integration

See Ecology Sequence (G)

Life Alters Environment t Environment Alters Life,

16 Aug'70

Science: Comprehensive Integration of the Sciences

4 Apr'73

Precession & Degrees of Freedom, (1)

Unsettling vs. Settlements, 20 Sep'76

Omni-Integrity:

"But within the mystery
Lies the region
Of humanly discovered phenomena
Whose whole region
Is progressively disclosing
An omni-integrity of orderliness,

Of interactive and interaccoinnodative Generalized principles."

- Cite INTUITION, pp.39-40 May '72

Omniintegrity:

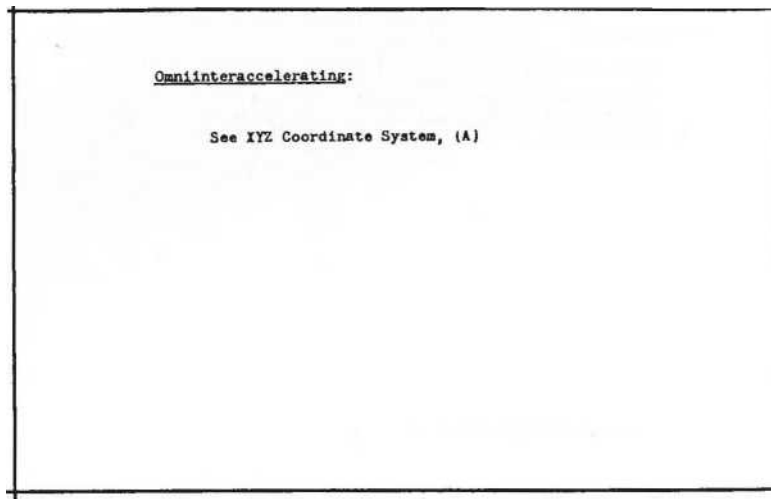
See Design, 1J Mar*73

Whole System, 28 May'72

pre- nxyniT Timin

Omni-Intellectual:

See God, May '72



' • And the whv-for and how-come

Of omni-interaccommodation
 Of all the known family
 Of weightless, eternal, generalised principles—
 Thus far discovered
 By scientific' observation
 To be metaphysically governing
 In elegant mathematical order
 All Scenario Universe's
 Interrelationships, transformations and transactions
 Without one principle contradicting another—
 Are all and together
 Absolute mystery."

- Cite IL.TUITIOi., p.42 Nay '72

"... The complex code of eternal metaphysical principles is omni-interaccommodative.

That is it has no intercontradiction."

- Cite Dreyfuss Preface, "DECEASE OF MEANING," 28 Apr '71, pp 4-5.

£ffinUntyr«tt?m<jgaUfln: Omnllnter«ccomod»tiv<>:

See Eternal Principles, 22 Nov*73

Generalized Principle, (3)

Regularity, 2 Nov'72

Synegetric Integral, May*72

Topological Aspects: Inventory Of, 9 Feb*73

Design, 8 Sep'75

Words & Coping, 7 Nov'75

Omni-interacting;

**"The Universe is the minimum as well as the maximum closed system
 of omni-interacting, precessionally transforming, complementary
 transactions of synergetic regeneration, ..."**

- Cite OMNIDIRECTIONAL HALO, p. 135. i960

Omni-interactive:

. The orderly complex of omni-interactive.
pure, weightless and apparently eternal principles. . . ”
- Cite Doxiadis, p. 310. 20 Jun'66

QW4|nteragt|on<: Omni in teracting:

See Halo Concept, Jun'?1

bee Acceleration: Angular 4 Linear, i960

Omni - i nt er-»be tween:

See Gravity, 11 Feb'76

Omniintercomni amentation

See Export-import Centers, 20 May*75

Omniintercoordinat in«:

See Ecology Sequence, (F)

Qffinllnterdcpfndffncfl •

See Young World, (1)j k Jul'72

Omnlintereffective:

See Preceeeion, 13 Nov*69

Otnni interfering:

See Geoeocial Revolution_t (3)

See Gear Train! Locking & Blocking, 18 Nov*72

Ognilnterorderlineea:

See Ninety-two Elementa: Periodic Regularltiee Or 1> Jan'70

Omniinterpulsative

See Scenario Universe, Jan*72

See Crystallization. 28 Oct'64

God as Verb of Optimum Understanding, (1)

Omniinterrelevant:

See Conceptual Systems, 27 May*75

**See Seven Axes of Symmetry, 13 May*73 Precession At Degrees of
Freedom, (2)**

Omni-intertangency:

"Systems are individually conceptual polyhedral integrities. Human awareness's concession of 'space' acknowledges a nonconceptually-defined experience. The omniorderly integrity of omnidirectionally and infinitely extensible, fundamentally coordinating, closest packing of uniradius spheres and their ever coordinately uniform radial expandibility accommodates seemingly remote spherical nucleations which expand radially into omni-intertangency. Omni-intertangency evidences closest sphere packing and its inherent isotropic vector matrix, which clearly and finitely defines the omnirational volumetric ratios of the only concave octahedra and concave vector equilibria discretely domaining all the in-betweeness of closest-packed-sphere interspace. The closest-packed-sphere interspace had been inscrutable a priori to the limit phase of omni-intertangencies: which limit phase is, was, and always will be, omnipotential of experimental verification of orderly integrity of omni-intercomplementarity of the space-time, special-case, local conceptualising and the momentarily unconsidered seeming nothingness of all otherness.^{1*}

- Cite SYNERGETICS draft at Sec. 1006.13, 17 Feb'73
See Horseshit, 9 Feb*73

Vector Equilibrium as Starting Point, 8 Apr'75

Model of Nonbeing, 11 Sep*75

See Synergetics, 26 May'72

Universal Integrity: Principle Of, 23 Sep'73

See Comprehension, 16 Feb'73

Curvature: Compound, 25 Jan'73

Stable 4 Unstable Systems, 2 Nov*73: 23 Jan'72

Universal Integrity: VE 4 leosa, (2)

Structural System, 9 Nov'73

Model of Toothpicks 4 Semi-dried Peas, (1)

Onmiinvisble:

See Life, 5 Jun»75

Onnikinatlc:

See Rearrange the Scenery, (p.y2) Nay*72

Omniknowing:

See Metaphysical Intellect, May'72

Omnilibrium:

"I want a word to express the integrative-disintegrative balance of the vector equilibrium. 'Librium'¹ represents the degrees of freedom. Umnilibrious: Universe is omni- librious because it accom-odates all the degrees of freedom Omnilibrious means we do not have to use degrees of freedom any more.

'•The sphere is the convex vector equilibrium and the spaces between are the concave vector equilibrium or, in its contractive form, the octahedron.

"We go from a 20-ness to a fourness: a fivefold contraction, ... as pulsars, stars go to dwarfs. ITIs a five-power acceleration. . . in the jitter-bug the axis does not rotate but the equator does. On the other hand, if you hold the equator and contract the system, you force the axis to twist; it throws a torque in it at a 20-to-1 leverage. Lt contracts until it becomes the tetrahedron. This is the way galaxies interpulsate. The nebula plunge through zero and become negative, invisible, the black hole."

- Cite R3F to EJA, 3200 idano, DC, ly Feb '72

Omniliterate:

See Revolution, Jan'72

Omnilocal:

See Heres & Theres, 4 Jun'72 History, 2? Dec*73 Rain, 11 Feb'76

Omnimanifest;

See Relation-gravitation Sequence, (1)

"There are two kinds of flying:

(a) soaring— like a gull

(b) running on water— like a duck. You've seen a duck taking off the water or landing: it's like a

hanin er th rower or a pdie vaulter: jet stilting.

"Fruits and seeds are also streamlined, not just birds. Seeds are tubes designed to withstand the frost, to work down into the Earth, and also to come ud at the right time....

"A naked man jumps his own height in the high jump. With a pole vault he can jump about three times his own height, even though he is weighted down by the pole, by running he can build up momentum into the situation. If he could grab another pole each time he could keep up the momentum and vaulting indefinitely.

"A duck keeps falling but builds it up into more altitude. Like a plane launched from a carrier, the first thing it does is to nose down for increased speed. Jet stilts. A duck has two jet stilts; it then builds up the lift like a blimp flier.

- Cite HJF at Penn Bell videotaping, Philadelphia, 29 Jan'75 "All this suggests that we could build an omnimediu vehicle without wings; therefore it could be much lighter and be propelled by twin-angled jet stilts. Omnimediu twin-jet orientable stilts. It could have a turbine jet effect with liquid oxygen for jet propulsion and with wheels. The stilts would converge just above your head. Like stilt walking: when you move the stilt forward it becomes the third compression member which is always initiatable. You'd be hanging from the vectors which converge above your head. A tetrahedron.

"There was not enough capital available for a proper design solution to the housing shortage; nor was there enough capital for the development of a full omnimediu transport system. I saw that the first artifact could suggest only one phase of a full omnimediu transport system, the Dymaxion car was not designed as just a new type of automobile; it was designed to test the ground-taxi-ing nualty of an omnimediu transoort system. The most dangerous condition of flying is when you make contact with the Earth. The fairing and streamlining has to be superb. It was difficult to control the Dymaxion car with wind on the highway and you had to learn how to manage it."

- Cite K3F at Penn dell videotaping, Philadelphia, 29 Jan*75

RBF DEFINITION

"I did not design an automobile; I was not putting a car into production. I was merely designing a prototype omnimediu vehicle. The propulsion was up forward and the steering was in the rear--- for ruddering: that's the way nature does it-- with front traction and rear steering.

"Take a wheelbarrow. You push it and a bad bump will hit you in the stomach. But if you pull a wheelbarrow it will not skid.... The front-steered car, due to kingpins, can only turn at about 34 degrees, without a rudder post, out with a rudder post you can turn at 90 degrees. And the center of gravity was so low that you could not turn it over; it was like a gun carriage. At 15 m.p.h. the inboard wheel could turn on a one-foot radius.

"It could carry eleven passengers. It was 19 feet long. But it tended to head into cross winds. So very fine controls were needed. So we had all custom hardware and shivs. The tires would tend to distort.

"One of the oldest creatures known to man is the horseshoe crab. It is designed to go across streams. It is shaped in"

- Cite RBF at -Penn Bell videotaping, Philadelphia, 29 Jan'75 a **120-degree crescent with single-tail focus, thup able to use its secondary tail to go across currents. So I made the second Dymaxion with its rear wheel on an extensible boom that retracts when the car slows down. It went 122 m.p.h.**

I just wanted to see whether the principles were right. It had a beautiful faired underbelly. And the car could waltz: it really could waltz.

"I worked with Starling Burgess. He understood that the navy is world and the army is local. At one stage we had what Burgess called the 'flying bedstead': he thought it could work at low altitude, just above water, with JATO and ram-jets. The ideal would be to put humans in harness with jet stilts."

- Cite RJF at Penn Bell videotaping, Philadelphia, 29 Jan'75

"In the 1930's I first used the term omnimedium transport to describe an automotive system adopted to land, seas, and air

- Cite RBF to EJA & BO'R, 3200 Idaho, 18 Feb'72

(1)

Onu tedium Tranaport:

See Dymaxion Car

See Humane aa Machines, (2)

See Deaovereigniation Sequence, 15 May'75

Omnimotions:

"Precession is uniquely dependent Upon the entirely unexplained,
Ergo mystically occurring, Omnimotions of Universe

Successfully hypothesized by Einstein In contradistinction

To Newton's assumed

A priori cosmic norm of 'at rest.'**

- Cite INTUITION, pp.30-31 May »?2

Omnimotion:

See Fourth Dimension. 12 Jul*62

Motion Apprehension, 1966

Powering: Fourth k Fifth Dimensions, 18 Nov*7²

Canlordarly:

See Design, 22 May'73

Ecology Sequence, (A)

Scheme of Heference, 26 Sep'73

Succes as Norn of Today i Tomorrow, May*?2

Omni-orientation:

"Omni-orientation of focal points of structure is at most symmetrical
equivalence of interdistancing."

- Citation and context at Radome Sequence (1), 29 Dec*5S

See Halo Concept, Nov'71

Radome Sequence, (1)*

Omnipermeative:
omnidirectional

"Electromagnetic wave phenomena are and omnipermeative."

- Cite NO MORE SECOND HAND GOD, p. 89. 9 Apr'40
OmlpgraefitlyB =

See Generalization, fl Far'72 God, (p.176) May'72 Principle, 5 Jun'73

OwnJlpergmngnt •
Synergetics text at Sec. 206

See Tetrahedron: Hierarchy of Pulsating Tetrahedral Arraye, 16
Dec'73

Qanl planetary:
See Economic Accounting System, (D)
See tenleclence Transcendental of Omnipotence
Wp°t»nc?: Panlpotential:
(2)
See A Priori Intellect, {1}

Limit Case: Closet-packed Symmetry, 17 Feb'73

Omnipotential-energy Phase:
See Teneegrity, 20 Oct'72
ftmimarful

See Metaphysical Intellect, May'72

£Salarmg!!l°n*V

See Structure, 29 Dec'58

Qnnlprgfitit:

See Gravity, 23 Sep'73> 12 May'75

See Invention, (a)

"The difference between the physical and the metaphysical is the om-nipulsatire asymmetry of all the physical oscillation in respect to the equilibrium."

- Citation 4 context at Metaphysical 4 Physical. 26 eb'71

__ Xd EJA for SINERGETICEdmft-7Tec.~2g573.

See Seven Axes of Symmetry, 13 May'73

RBF DEFINITIONS

nalraal:

"Omniradial is a special case of omnidiametric. It is very discrete. It permits only one direction: inwardly OR outwardly. Omnidiametric permite two directions: inwardly AND outwardly."

- Cite RBF to EJA, 3200 Idaho NW, 23 Sep'73

Omniradtally:

"Tension is omniradially conversive and is both electromagnet ically and gravitationally tensive because eternally and integrally compre-hensive."

- Cite Synergetics Draft, at Sec. 6/fOT7t>, Dec. *71.

See Omnidiametric

See Focus Beatnable • Wirable, 1 Apr*72

Omniradiant:

See Gravity, 42) Jitterbug, 4 Oct*72

Ctanlradiational;

See laotropic Sector Matrix, 13 Nov*69

Onnirandomnesa:

See Cryatalllxation, 28 Oct*64

°mnirational control Matrix*

"The great-circle subdivistoning of the 48 basic equilibrrious LCD triangles of the vector equilibrium may be representation- ally draw within the 120 basic disequilibrium LCD triangles of the icosahedron, thus defining all the aberrations--- and their magnitudes--- exisiting between the equilibrrious and disequilibrrious states, and providing an omniratlional control matrix for all topological, trigonometric, physical, and chemical accounting."

- Cite RBF marginalia at p.483 incorporated in SYNERGETICS, 2nd. Ed. at S_{ec}. 901.19, 12 May'75

Omnlrattional Control Matrix:

See Coordinate System

Grid

Matrix

Spherical Grid

Information Control System

QanlraUgmUfrY:

"While nature oscillates and palpitates asynnetrically in respect to the frame of the omnirational vector equilibrium, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrrious state..."

- Citation 4 context at Vector Equilibrium_f 21 Dec'71

QpnimiopaUty:

. The proton group and the neutron group account rationally for all physical structures.

"Chemistry's Omnirationality. When I first sought to find the comprehensive coordinate system employed by nature's omnirational associating and disassociating--- always Joining in whole low order numbers, as forinstance, H₂O, and never H₂O--- persuaded me that nature's comprehensive coordination must be omnirational despite geometry's transcendental irrational number and other 'pure' non- experimentally demonstrable incommensurable inter-integer relationships."

- Cite NASA Speech, pp. 64. Jun '66

CLOSEST' *oP* — *SEC*- H

See Bubbles in the Wake of a Ship Nature Has No Separate Departments Low Order Prime Numbers Rational Whole Numbers Synergetic Hierarchy Unity: Principle Of

Generalization 4 Special Casa, 23 Jan*77 See Isotropic Vector Matrix, 30 Nov'72 Oscillation. 21 Dec'71 Powering: Fourth Dimension. 18 Nov'72 Powering: Sixth Powering, 26 Nov'72 Synergetics, 1959

XiZ Quadrant at Center of Octahedron, 14 May*75

OBnlEas«nsmlsia:

See Fail-safe. 5 Jun*73

God, (p.176) May'72

Isotropic Vector Matrix, 9 Mar `73 Export-import Centers, 20 May'75

Omniresonant:

See Life la a Suntotal of Mlatakea, (2)

fanlaflaoneaffi

See Isotropic Vector Matrix, Jun'66

Omniscience;

"rfhat 1 naan by omniscience

Is synergetically transcendental

Even to Einstein."

- Cite RBF to EJA Sarasota, Florida 7 February 1971

Omniscience:

"Omniscience is evidently of comprehensively transcendental alacrity to the speed of light whose relatively slow articulations in Universe are readily anticipated by intellectually initiated and disciplined computation of mind."

Intellection, 1960

- For citation and context see

RBF DEFINITIONS

Omniscience Transcendent of Omnipotence

"There is a question-asking possibility that metaphysical omniscience may be transcendental in its velocity to that of omnipotence, i.e., the definitive physical speed of energy as radiation."

- fiXKl/DIRfaOTIONAfr llAW.-py'163, as rewi'titten by RRfr.ii*

Waehi*gt«n PC', 21 Deo, 1971.

- Citation at MfilfiEhYfliCfl Mid PhYglgftl. 21 Dec*71

RBF DEFINITIONS y

Omni sciencgfTranscendent of Omnipotence:

"There is a question-asking-possibility that omniscience may be transcendental in velocity to the definitive physical speed of energy omnipot nee."

Future of Synergetica, 1960

Citation k context at

- OUe-iacnlllrvcPlonal Hale, p, 163. -19*Q__

Omniscience Transcendent of Omnipotence:

"The synergetic anticipatory capabilities of intellect... imply the possibility of a velocity transcendence of omniscient functioning over omnipotence functioning, which could mean an intellectually regenerated evolutionary extension of Universe in generalized synergetical Integrity.

- Citation and context at Anticipatory. 1960

See Metaphysical Transcendent of Physical

See Anticipatory, 1960*

Energy, 28 Apr*48

Future of Synergetics, 1960* Intellect: Equation Of, 28 Apr'48 Metaphysical i Physical, 21 Dec'71*

Omniscience vs. Ego:

See Local vs. Comprehensive (2)

See Ego: Separating Ego out of Omniscience

Omniknowing

Competence: A Knowing Competence Greater than That of Humans

See A Priori Intellect, (1)

Intellections, 1960

Local vs. Comprehensive, (1J(2)

Omnisimilar:

See Spherical Octahedron, Aug*72

OnnljMClall««d:

17\$

Omnistructured:

See Model of Toothpicks t Semi-dried Peas, (1)

Oiani subconscious:

bee Invisible Architecture, (E)

0mnl8U9C_{?g,a}:

**See Deeign Revolution, 7 Nov'67; 6 Mar'74 Economic Accounting Sy-
atem. 18 Feb¹71 Industrialisation, (p.95) May'72**

frnnisurface:

See Embracement

See Radiation-gravitation: Harmonics, 3 Jan'75

KBF uEFINXTIuNS

OmiBurround:

. .of such sixes that the crocodile is large enough to omnisurround or
swallow the 20-foot miniature Earth globe. . . ⁿ

- Citation and context at Twenty-Foot Earth Globe and 200-Foot Ce-
lestial Sphere (4)

Omnisvnrnetrical:

"Poles are symmetrical to each other, but not

omnisymmetrical like the icosahedron and tetrahedron

- Cite RBF to EJA, 3200 Idaho, Wash DC, 17 Feb '72

OBaj.aymaetntAl?

"Symmetrical means having no local asymmetries.

Omniasymmetrical permits local asymmetries. Universe is omnisymmetrical. A three-bladed propeller is dynamically symmetrical (three pear-shaped blades at 120° to each other inscribed in an equilateral triangle). The propeller blade is locally asymmetrical."

- uae nar to biaexotono Hotm, enicage--31 May.
- Citation 4. context at Asymmetry. 31 May'71

Onnisymmetricaly Generated:

bee Isotropic Vector Matrix, 30 Nov*72

ftnni symmetrical:

See Prime Structural Systems

Omnisymmetry:

12)

See Asymmetry. 31 May*71*

Atom, 3 Nov*73

Isotropic Vector Matrix, 16 Nov'72

Life, 31 May'71

System Totality, 7 Mar*73

Tetrahedron, ? Mar*73 Vector Equilibrium, 3 Nov*73

PpnlPYnergetic:

"This omnirational, omnidirectional comprehensive coordinate system of Universe is omnisynthetic."

"This coordinate system is ever regenerative in respect to the nuclear centers all of which are rationally accounted for by synergetics."

- Cite SYNERGETICS draft at Sec. 1004.11, 30 Jan'73

Oanlevnergetlc:

See Synergy of Synergies:

See Principle, 5 Jun'73

ftmlgYstgn*

See Prime Nuclear Structural Syeteme, 27 Dec¹74

Omnitensional:

"Universe is omnitensional integrity •

- Cite Synergetics Draft (Dec -71) at Sec. 650.07.

See. 700.01., 16 Oct'72

Qmnltohmhdral*

See Viral Steerability! 1960

OwUtQPPIQW

"The conceptual-system geometries of omnitopology are defined only by the system withinness and withoutness differentiating a plurality of loci occurring approximately midway between the most intimate proximity moments of the respectively convergent-divergent wavin-linear vectors, orbits, and spin equators of the system.**

- Citation and context at Interference: You Really Can't Get There from Here, 19 Dec*73

Omnitopology;

"Omnitopology differs from Euler's superficial topology in that it extends its concerns to the topological domains of non-nuclear closest-packed spherical arrays and with the domains of the non-nuclear-containing polyhedra thus formed. Omnitopology is concerned, for instance, with the individually unself-identifying concave octahedra and concave vector equilibria volumetric space domains betweeningly defined with! the closest-packed sphere complexes; as well as with the individually self-identifying convex

octahedra and convex vector equilibria, which latter are spontaneously singled out by the observer's optical comprehensibility as the finite integrities and entities of the locally and individual-spherically-closed systems dividing all the Universe into all the macrocosmic outsideness and all the microcosmic insideness of the observably closed, finite, local systems--- in contradistinction to the undefinability of the omnidirectional space nothingness frequently confronting the observer."

- Cite SYNERGETICS draft at Sec. 1006.11, 17 Feb'73
Panimalpffif:

"In contradistinction to, and in complementation of, Eulerian topology, omnitopology deals with the generalized equatabilities of a priori generalized omnidirectional domains of vectorially articulated linear interrelationships, their vertexial interference loci, and consequent uniquely differentiated areal and volumetric domains, angles, frequencies, symmetries, asymmetries, polarizations, structural-pattern integrities, associative interbondabilities, intertransformabilities, and transformative-system limits, simplexes, complexes, nucleations, exportabilities, and omniinteraccommodations."

- Synergetics text at Sec. 1007.15, 9 Feb'73
on
KBF UbFIHlThuib
UnmitopoloRy •

"in omnitopology the domains of volumes are the minimum volumes topologically enclosable by the fewest points."

- Cite Synergetics draft, Sec. ~~Augyut~~ 1011.03, Apr '72
OanitopoloKy:

"Omnitopology differs from Euler's superficial topology in that it extends its concerns to the topological domains of non-nuclear closest packed spherical arrays and with the domains of the non-nuclear containing polyhedra thus formed Omnitopology is concerned, for instance, with the concave octahedra and concave vector equilibria volumetric spaces defined within the closest-packed sphere complexes."

- Cite SYNERGETICS draft at Sec. 1011.01, Apr '72

OanitODoloev:

"Omnitopology differs from Euler's superficial topology, onnitopology being nuclear."

- Cite RBF to EJA, Fairfield, Conn., Che* Wolf.

18 June 1971.

"Omnitopological domains are defined in terms of the unique central-angle-defined insideness and its unique surface-angle-defined outsideness

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1074.21, 27 Dec'74

"Topological domains are clearly defined in terms of the systems involved having unique centrally angled insideness and surface-angle-defined outsideness."

- Citation at Central Angles & Surface Anglg, 20 Dec'71

Omni topological Domains:

Synergetics ; Sec. 1006.20

See Nucleated Systems

Topology: Synergetic 4 Eulerian

See Prime Enclosure, 17 Feb*73

See Universe, 8spring*71j 1971

Phase &. Interphase, 9 Feb'76

Onnl triangulation:

"Omnitriangulation la the noat intimate interchord!ng. The endb of the chorda emerge outalde the aphere because the centers of the chords are closer to the center of the sphere."ⁿ

- Cite RBF at Penn Bell videotaping session Philadelphia, PA._t 20 Jan»75

Oanitrlangulation;

"By structure, we naan a self-stabilizing pattern. The triangle is the only self-stabilizing polygon.

"By structure, we mean omnitriangulated. The triangle ie the only atructure. Unless it is self-regeneratively stabilised, it is not a structure.

"Everything that you have ever recognized in Universe as a pattern la re-cognitod as the same pattern you have seen before. Because only the triangle persists as a constant pattern, any recognized patterns are inherently recognizable only by virtue of their triangularly structured pattern integrities. Recognition is as dependent on triangulation as is original cognition. Only triangularly structured patterns are regenerative patterns. Triangular structuring is a pattern integrity itself. This is what we mean by structure."

- Cite SYNERGETICS text at Secs. 610.01-.02-.03; 3

Oct'72

Omnitriangulation:

"We start with tetrahedron, octahedron, cube; and the cube has been triangulated because cubes would not stand up by themselves. So I make it structural. And then we get into vector equilibrium and it has to be triangulated. All I am doing is deliberately omnitriangulating. We have a square face and we simply put one diagonal in.

We take the square face of the cube and put a diagonal in and that is all you have to do so that it has structural stability."

- Cite OREGON Lecture #7, 11 July '62, p. 274

Omnitriangulation:

"If you find all the connections between all the points, the system is omnitriangulated. A spherical polyhedron is a high-frequency geodesic polyhedron,"

MWAWFWWXgn:

"it will be discovered . . . that all the polygons formed by the interacting vectors consist entirely of equilateral triangles and squares--- the latter occurring as the cross-sections of the octahedra and the triangles as the external facets of both the tetrahedra and octahedra."

- Cite NEHKU SPEECH, p. 24, 13 Nov '69 /SoTRoPK vCen>< MATRIX - SEC
OGI

RBF DEFINITIONS

"The sphere is complex unity and the triangle simplex unity. Here and here alone lie the principles governing finite solution of all structural and general systems theory problems. Local Isolations of infinite open-ended, plane and linear edged (seemingly 'flat' anti infinite) segments of what are, in reality, Vast spherical systems--- when taken out of context--- are hopelessly special-cased, indeterminate situations. '

"Unfortunately engineering has committed itself in the past exclusively to these locally infinite and inherently indeterminate systems and have had to rely essentially on the test proven, local behaviors of small systems such as columns, beams, levers, et. al., opinionatedly fortified with 'safely guesstimated'¹ complex predictions. Kot until we have universal finite, omnitriangulated. nonredundant, structural system comprehension can we enjoy the advantage of powerful physical generalizations concisely describing all structural behaviors."

~~Im, to Shoji Sadae, 1\$ Feb,~~

- Citation and context at Spherical Barrel: Sphere Aa Complex auiy, etc. 15 Feb*66

RBF DEFINITIONS

Omnitriangulation;

"The largest volume, least event, omnitriangular system is the icosahedron and its multiple subtriangulated geodesic patterning . . . what I call geodesic structuring."

- Cite RED Ltr. to Dr. Urmston, 8 Oct. '64, p. 2.

See Jitterbug

See Quanta Losa by Congruence, (2)

See Intertriangulated

Minimum Omnitriangulated Differentiator Omn i i n t e r t r i a n g u l a t e d Omniselftriangulating Prime Structural Systems Surface Triangle Structures Triangulate: Triangulation

See Four Color Theorem, 23 Sep*73

Frequency, 15 Oct'72

Radome Sequence. (1)

Twelve Universal Degrees of Freedom, Feb'72

Radial Depth, 20 Dec'74

Geodesic Sphere, (2)*

Stable t Unstable Structures, 7 Jun'72

Vector Equilibrium, 8 Sep'77

See leotropic Vector Matrix, 16 Nov*72

M TEXT CITATIONS

Omni-unique:

See Synergetics Jraft, ^xeb '72 at Sec.

952.71

See Relationship Analysis, (1)

Spherical Interstices, 18 Nov*72

See Earning a Living, Dec'72

OpniYl«lblqt

See Old Nan River Project, 20 Sep'76

See Change, 9 Nov*72

Vector Equilibrium, 16 Oct'72

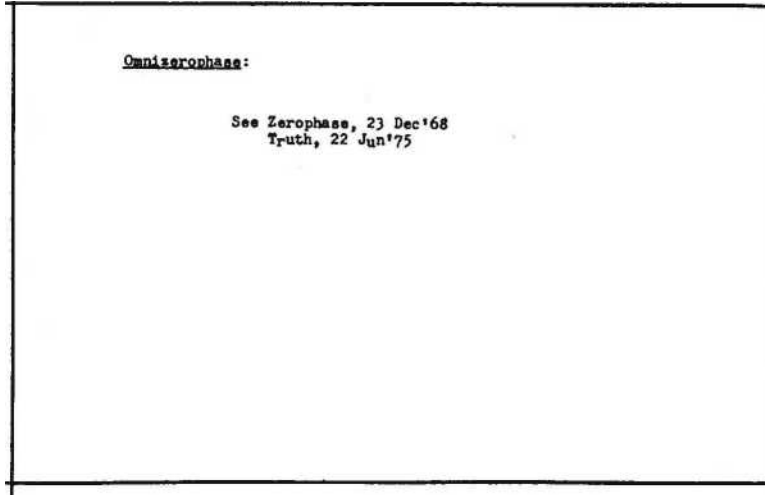
Paniwave;

See Vector Equilibrium, 30 Oct'73

Omnlwavilinear:

See Frame of Reference, 27 Feb'72 Nucleus, 11)

See Quantum Wave Phenomena Sequence, (1)



One:

"Here we may be Identifying the cosmic bridge between the equilibrrious prime number one of metaphysics and the disequilibrrious prime number one of realisable physical reality."

- Cite RBF rewrite of SYNERGETICS galley at Sec, 954.51, 20 Dec»73

RBF DEFINITIONS

One:

"One is subfrequency."

- Citation and context at Prime. 17 Feb'73

One:

Unity 1b plural and at ainimum two. There 18 a priae one but It io half of unity,"

- Cite RBF to EJA, Beverly Hotel, New York, 26 Jan '72

One:

"In structural systems, the tetrahedron uniquely articulates the prime number 1, and is therefore logically to be identified as the most economic quantation unit in universal energy accounting.^{1'}

- Citation at Tetrahedron, i960

One:

"The concept one as unity is only available in respect to one-half of twoness."

- Citation and context at Experience, Feb*50

Oneness:

"Tetrahedra have a fundamental prime number: oneness."

- -G4e CarWnnlale Drafts

Kuiuiu to Modelabi 1 i by, p.<-

- Cits NASA Speech, p.73> Jun¹66

Oneness:

"Twoness and oneness can't make a system. They don't have inside-ness and outsidenss at all."

- Cite Oregon Lecture #7_t p. 248. 11 Jul'62

"Two individual unresolvable somethings identify a line: one dimensionality, which has inherent polarity of the two line-definJg somethings."

- Cite SYNERGETICS, 2nd. Ed. At Sec. 1013.13, 11 Sep*75

See Initial Frequency, 6 Nov'72

Nine None - Zero, 3 Mar'73

See Prime One

(2)

Sea One, 20 Dec'73

Unity Is Plural 26 Jan'72 Prime Number, 16 Feb'78

See Trigonometric Limit: First 14 Primes, 14 Jan*74

Qn«-.Tflwn

"... The inexorable development of a one-town world and its progressively crossbreeding world citizenship lying around the spherical bottom of the sky ocean. Modern technology has terminated the fundamental Isolation of any part of the Spaceship Earth's surface from another part. It is effectively integrating humanity as its individuals live ever more dynamically around our Spaceship Earth's spherical deck."

- Citation and context at Millay, Edna St. Vincent (3), 1968

One-town World of 1927:

See Ekistics, 11 Nov'75

One-Town World:

Kino Chains to the Moon, p.49ff - 1938

See Earth Shrunk to One-town Dimension Global Village One-world World-around

See Ekisti.es, SHMMB Nov* 75

World Man, 6 Jul'62

One as Unity;

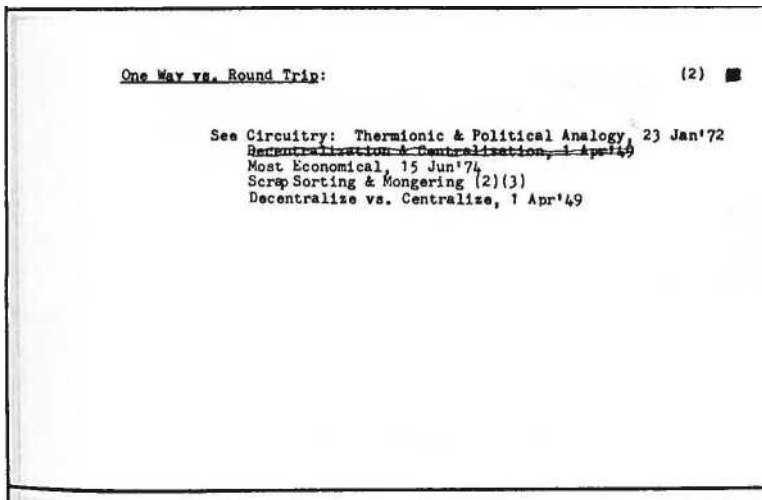
Synergetics : Sec. 502.03, (2nd. Ed.)

Seo One, Feb'50

Sphere of Unit Vector Radius, 20 Nov'75

Ont Wav vo. Round Trip:

See Linear ve. Orbital Radial vs. Orbital



See City Management Concept of World Government Making the World Work

See Electronic Referendum, 9 Jan*75

See Novent, 23 Sep'73

See Approximately One

Plus One

Prime One

Tetrahedron: One Tetrahedron

Unity

Universe: Toward Oneness

Frequency One One vs. Zero

Plus-and-minus One

Twelve-around-One

No One

Six - Five - One

Frequency as One

See Building Blocks Disparate, 22 Mar*73 Experience, Feb*50* Inter-effects, 25 Sep*73 Prime, 17 Feb'73' Tetrahedron, 1960* Zero Volume Tetrahedron, 10 Dec*75 Human Beings & Complex Universe, (9)

See Ownership

Only ^kI_{neaGaoablP}:

See Reality: Structurings as the Only & Inescapable Reality

Only the Whole Big Syatem Works:

See Big System, 5 Jun'73

Only;

See Always 4 Only

Only & Inescapable

Opaque: Opacity:

See Omnidirectional Shutterable Sieve Occulting

See Light, 29 Dec'5\$

Walls, 29 Jan'75

Human Beings & Complex Universe, (9)

Open cirwlP

See Equiinterval, 17 Feb¹73 Remenberable Numbers, 14 Jan*74

Opening!:

"Our definition of an open.ng is that it is surrounded, that is framed, by trajectories. Every trajectory in a system will have to have at least two crossings. These are always as viewed, because the lines could be at different levels from other points of observation."

- Cite RBF £o EJA, Somerset Club, Boston, 22 April 1971

Openings:

"There are no surfaces. Therefore there are no areas.

So Euler's topological aspects have to be altered to read: "'lines" « trajectories: "vertexes" - crossings; and "areas" `` openings, i.e., where there are no trajectories or crossings. This relates to systems."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

Opening:

See Area

Face

Noncrossing

Crossings, Openings & Trajectories

OECD Sygyentf:

"The arbitrary open parameters of infinite systems can never be guaranteed to be adequate statements of all possible variables."

- **Citation and context at General Systems Theory_f 8 Nov¹73**

See Closed Systems

Closed Systems & Open Systems

Infinite Systems

Pollution: Infinite Room to Pollute

See General Systems Theory, 8 NOY'73

XYZ Coordinate System, Jun*66

"Triangular Spiral Events Form Polyhedral Open triangular spirals may be combined to make a variety of different figures Note that the tetrahedron and icosahedron require both left- and right-handed (positive and negative) spirals in equal numbers, whereas the other polyhedra require spirals of only one-handedness. (See Sec. 452, Great Circle Railroad Tracks of Energy.) If the tetrahedron is considered to be one quantum, then the triangular spiral equahs one-half quantum. It follows from this that the octahedron and cube are each two quanta, the icosahedron five quanta, the two-frequency spherical geodesic is 15 Quanta."

- Cite SYNERGETICS text
at Sec. B513.O1; Nov'71
Open Triangular Spirals:

See Basic Evenet Three-vector Teams Z Cobras

See Area

Face

Plane

Areas « Openings

Crossings, Openings 4 Trajectories

Ko Open Endings

Window

See Triangle, 5 Jul*62; Nov*71

Angle. 7 Nov'75

Human Beings & Complex Universe, (1)

tomut. J*AyjMtoa'

See Behavioral Science Behavioral Scientists Conditioning Psychology

Behavior & Environment

See Design Science, 2 Jun'71

Human Tolerance Limits, (B)(D)

Operating Manual for Spaceship Earth:

See Spaceship Earth, (c)

Operational:

'` The Greeks defined a triangle as an area bound by a closed line of three edges and three angles. A triangle drawn on the earth's surface is actually a spherical triangle described by three great-circle arcs. It is evident that the arcs divide the surface of the sphere into two areas each of which is bound by a closed line consisting of three edges

and three angles, ergo dividing the total area of the sphere into two complementary triangles. The area apparently 'outside' one triangle is seen to be 'inside' the other. Because every spherical surface has two aspects--- convex if viewed from outside, concave if viewed from within--- each of these triangles is, in itself, two triangles. Thus one triangle becomes four when the total complex is understood. 'Drawing' or 'scribing' is an operational term. It is impossible to draw without an object upon which to draw. The drawing may be by depositing on, or by carving away, that is, by creating a trajectory or tracery of the operational event. All the objects upon which drawing may be operationally accomplished are structural systems having insideness and out- sideness. The drawn upon object may be symmetrical or asymmetrical, a piece of paper or a blackboard system having insideness and outsideness."

- Cite RBF holograph revised caption for Synergetics Illustration, //1S (EJA Master Set), typed up 3 Jan'72. (Sees. 811, 812 +

Operational:

"!e cannot produce constructively and operationally, a real experience-augmenting operational system, with less than four points, i.e., a fourth point not in the piano of the first three points. It takes three points to define a plane. The fourth point not in the plane of the first three produces a tetrahedron having inside-ness and outsideness corresponding with the reality of operational experience."

- Cite SYNERGETICS draft "Antitetrahedron," 7 Oct. *71.

p. 1. (dictated to EJA.)

Operational;

"We got to that big definition of Universe and we discovered that it was the only way we could state it and be faithful to our rule of this game, which is what Bridgman called operational. that is, we must state whatever we have to state in terms of our personal experience. Some of the philosophers of a century ago were calling it pragmatism. At any rate they were stating what we know about our life in terms of a description of the events themselves, the most faithful description of the events themselves that precipitated any thought in any way we could think about it. Faithfulness of the description of our own experiences, so we were not interested in what somebody said they thought was significant."

- Cite Oregon Lecture p, 276. 12 Jul'62

'Percival Bridgeman at Harvard gave a name to Einstein's

Operational:

strategy of consideration which he called 'operational.'» Bridgman said Einstein became purely operational because he thought only in terms of experience.*'

- Cite OREGON Lecture «2 - p. 72, 2 Jul'62

'• Our operational construction method employs the constant radius and identifies every point on the circumference and every point on the internal radii. This is in contradistinction to analytical geometry in which the identification is only in terms of the XYZ coordinates and the perpendiculars to them. Analytic geometry disregards circumferential construction, ergo is unable to provide for the direct identifications of angular accelerations

"Mathematics," Wash. DC, 7 Oct. *71 •

- Cite RBF dictation to EJA for SYNERGETICS, "Operational
See Unified Operational Field

See Field of Cosmic Formabilities, 28 Jan*73 Synergetics Constant.
(A) Trisection of an Angle, 22 Nov'73

”Operational Geometry invalidatee all bias,”

- Cite SYNERGETICS, "Operational Mathematics, One Spherical Triangle Considered as Four."

RBF ubFINITIUhS

"operationally speaking we always deal only in systems and all systems are characterized projectionally by spherical triangles which control all our experiential transformations."

- Citation at Spherical Triangle, 1971

Operational Mathematics:

See Skinning

Operational - Physically Realized:

See Structure, 27 Dec'74

We found out the disparity ourselves by examining the limit-case conditions, which can only be discovered by physical experience. This method of discovery is called operational procedure.'

• Citation and context at Human Sense Ranging and Information Gathering (2), 22 Nov'73

See Rules of Operational Procedure

See Universe (1)

See Prime Number Inherency Constant Relative
Abundance, 27 Dec'74

See Bridgman

General Systems Theory Operational

See Synergetics vs. Model (D)

General Systems Theory, M (B)

Operational Science:

The "always and only coexisting functions of experience and experiments embrace the fundamental parameters of operational science."

- Cite SYNERGETICS Draft 'Structures* Mar '71

- Citation &. context at Axis of Conceptual Observation. 25 Mar'71

See Environmental Inventory, 28 Apr'77

Operational; Operative:

See Operational - Physically Realized Potential vs. Operative Trisection of an Angle Interoperativenessb Rules of Operational Procedure

See Analytical Geometry, 7 Oct*71

Drawing, 1971

Franklin, Ben, 22 Jan*73

(2)

18 Nov'72

Hunan Sense Ranging & Information Gathering, Mother: Infant Nursing at Mother's Breast, Spherical Triangle Sequence, (a)(e) Vectorial Geometry Field, 22 Nov'73 Axis of Conceptual Observation, 2\$ Mar*71• Proofs, 7 Oct'75

See Public Opinion Polls

See General Systems Theory, 4 Jan*70 Excluded Answer Resources,
Oct*66

Opposite:

"Every fundamental component of Universe has its opposite.

Citation and context at Zero ' /eight. 1968

See Alternate: Alternative

Complementary

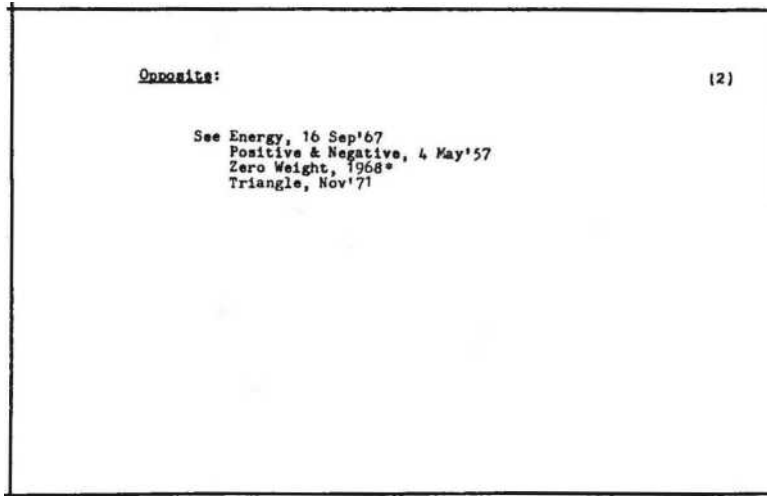
Dynamic Opposition

Reversibility

Face Congruence with Opposite Vertex

No Opposites

Action-reaction: Equal & Opposite Enantiodromia



Optical;

"Optical means we're using disorderly radiation to identify the positioning of the stars. . . "

- Citation and context at Radiation Sequence <1>, Jun-Jul'69

Optical Motion spectra- H)

"There are a myriad of economic trends and other vital evolutionary events taking place today which are invisible to humanity only because they are too fast or too slow for man to apprehend and to comprehend them. We will be able to accelerate or decelerate such evolutionary events by electronic controls as played visibly as played on our football-field- sized playing surface.

"Humanity has a very limited optical spectrum, wherefore man can see today only one-millionth of the total physical 'reality' as the latter is evidenced by the full range of the electromagnetic spectrum, man used to think of reality as everything that he could sense with his eyes, ears, nose, taste, and touch. We have learned only since about 1930--- when the first technical chart of the great electromagnetic spectrum was published--- that man has sensorial tunability and is sensorially aware of only one millionth of physical reality. The little rainbow color band of human 'seeing' is less than one-millionth of the stretched-out reality of the invisible colors of all the 92 regenerative chemical elements of associative energy or of the various radiations"

- Cite SENATE HEARINGS,p.6, 4 Mar'69

Optical Motion Spectrum; (2)

"of energy in its disassociative phase.

"In addition to the electromagnetic frequencies spectrum we have also a motion spectrum. The sense of motion is produced by an overlapping continuity of afterimages of a plurality of optically tunable separate and sequentially occurring electromagnetic frequency events Just as music is produced for the hearing by a metrically momentum sequence of both separate and resonantly overlapped sound frequency notes. Motion is visual music made possible by the spontaneous retention in the brain of a series of separate still

picture® frames of our separate sense experiences scanned and reviewed in the brain at a vastly accelerated sequence rate. Our brain discovers that each successive electromagnetic picture is just a little different from the ones OH before and our dawning awareness of that increasing difference constitutes our motion sense."

"The overall range of our human motion spectrum is even more limited in respect to the full range of cosmic motions than is our optical frequency spectrum tunability in respect to the total electromagnetic spectrum. We can't see the atoms in"

- Cite SENATE HEARINGS, p.6, 4 Mar'69
Optical Motion Spectrum; (3)

"motion; we can't see the stars move, though their motions are thousandsfold faster than our fastest rockets; we can't see the trees grow; we can't see the hands of the clock move. Most important of all we cannot see the abstract weightless thoughts in the minds of other men. When we survey the total inventory of motions and informations which we can sense, we find it to be very limited. The significance of all the foregoing is appreciated when we realize that it is only by such phenomena as can be seen to be moving or changing by the public that are politically recognized and heeded. That is why public opinion and vote sampling has come into ever more reliable use.

**Our computerized world game is designed to accelerate the too slow and to decelerate the too fast of all the known vital trendings and thereby to bring them dramatically within popular consideration and our world game's solution. The game will show clearly how the trends will affect everybody's lives everywhere around Earth and how they could be taken advantage of in ways' favorable to all humanity.'*

- Cite SENATE HEARINGS, p.6, 4 Mar'69

See Invisible Motion

Motion Apprehension

See Lags (1)(2)

Visual Symphony (2)

(1)

See Color Spectrum Electromagnetic Spectrum Sensorial Spectrum
Tunability

See Conceptual Tuning, 24 Hay»72

Manifest: Two, 1973

Swaepout: Spherical, (1)(2)

Optical Tuning & Scanning:

See Brain's TV Studio; (1); 6 Jun'69

See ~~U-Jolt~~ **Optical Rainbow Range**

Seeing

Sight Vision: Visual

Range Finding

See Energetic Words, 1 Jul*62

Senses. 9 Apr'40

Radiation Sequence (1)*

Sweepout: Spherical Sweepout (1)(2)

Optimism: I Am Not an Optimist:

"People think that I am an optimist, but all that I am doing is simply to point out that humans do have options. You don't have to know anything to be negative; but you have to know really quite a lot in order to be positive.*

- Cite RBF to Ben Forgey, Wash Star. Jefferson Hotel, Wash. DC: 26 Apr'77

Optimism: I Am Not an Optimist:

"I often find myself being called an optimist. I am anything but an optimist. An optimist is as unbalanced as a pessimist. The point is, I'm able to give you some knowledge you didn't have before. You have an option. You can make it. You better do it. Thank you.¹¹

- RBF concluding remarks to

Forum

Harvard law School 10 Dec'73

~~OpUftUp~~: I Am Not an Optimist;

"I say I'm not an optimist at all. Now the fact that I'm the first person to know by technical and resource information that it's possible for humanity to be a success is quite different from wishing or dreaming that humanity could be successful. Because I can show people it's feasible for humans to be successful, they acquire new hope, which they had lost. They then feel optimistic and say I am an optimist. I could tell them many reasons why humanity may not succeed despite its potential,¹¹

- Cite RBF quoted in HOUSE & GARDEN Interview by Beverly Russel, p. 202, May '72

See Stillbirth of Humanity, 10 Dec'73 Options, 13 May*77

See Reverse Optimism Survival Sequence: Love Options / Optimism

RBF DEFINITIONS

Optimum: Confluence of Optimum Factors:

"Tensegrity is a confluence of optimum factors."

- Cite Washington, DC, 26-~~rfnn~~

- Citation at Tensegrity. 26 Jan*72

Optlava Halt*

See Sphere, 2 Mar'68

Opf-J W|im :

(1)

**See Determinability: Optimum Degree Of God a a Verb at Optimum
Understaning Omni-equ1-optimum**

**See Limit Structural Transformative Tendencies, Nov'52 Prime Num-
ber Inherency & CRA: Principle Of, 1y5y Tensegrity, 26 Jan*72***

Optional:

"... There is a vast plurality of alternate and optional patterns of realizability of the change. By adequate thinking the individual can discover many of the optional patterns of controllability of evolutionary change. Because of the vast range of frequencies, magnitudes and angular directions the number of options is astronomical."

- Cite Museums Keynote Address Denver, p.3. 2 Jun'71

RDF DEFINITIONS

Options-

I don't try to promote my ideas, but rather to make clear the options to let human beings have the tools around when it comes to an emergency, which this clearly is... I'm not an optimist at all. 'What I do know—that many people don't—is that we have the options to make it. Whether we will or not, I really don't know. But my hope that we'll make it lies with the young world."

- Cite RBF to Susan Watter in W (women's *dear* Dally); 13 May'77

Options:

• •...Truth is over approaching a catalogue of alternate transform tive options of ever more inclusive and refining degrees." ⁶

- Citation and context at Truth. 10 Nov'72

Option: "Women and their clothes are like poets. They anticipate.

All options are open."

- Cite RBF quoted in Queen, May '70

See Womb of Permitted Ignorance, (2)

Options: Pptlppal:

(1)

See Alternate: Alternative

Catalog of Alternate Transformative Options

Degrees of Freedom

Electable

Nature Has So Many Options

Multioptioned

Twelve Alternative Options of Action

See Economic Accounting System. Sep'72

Optimism: I Am Not an Optimist, 10 Dec'73; 26 Apr*77

Prospect for Humanity, 2 Feb*75

Stillbirth of Humanity, 10 Dec'73

Trespassing: Not Trespassing, (a)-(c)

Truth, 10 Nov'72*

Vectorial Orientation, Mar'71

World Game, (1); Jun-Jul'69

Children as Only Pure Scientists, (B)

Womb of Permitted Ignorance, (2)

Man as a Function of Universe, 30 Apr'7fl

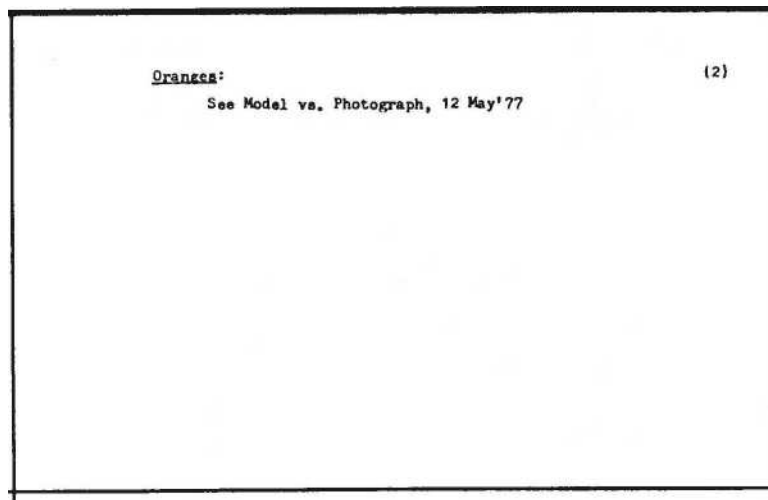
Will,

Oranges:

"...Oranges are icosahedrally based..."

- Citation 4 context at Twelve Pentagons_t Aug*71

See Stacking of Oranges



Orbit:

"Orbits mean tensive restraints. A composite of all the other pulls..."

- Citation & context at Ellipse, 20 Jan'75

Orbit:

"rfrhat the physicists have failed to elucidate to themselves is that linear acceleration is also orbital but constitutes release from co-orbiting (or critical proximity orbiting) into the generalized orbiting of all Universe."

- Cite SYNERGETICS draft at Sec. 1009.66, 14 Feb'73

Orbiting:

/e are not going to survivganless we become spherically integrated and go into cosmically normal, individual orbiting, which is always inherently considerate of the rest of the Universe. Knowledge is orbital..."

- Citation and context at Ecology Sequence (G), 5 Jun*73

Orbiting:

"Ninety-nine point nine-nine percent of the bodies in motion in physical Universe are operating orbitally; therefore normally...."

- Citation at Normal, 6 Mar*73

Orbiting:

"As the Sun's pull on the Earth produces orbiting, orbiting electrons produce directional field pulls.

- Citation and context at Mass Attraction, 6 Mar'73

Orbiting:

(1)

"Unlike ninety-nine point nine nine nine Percent of all humans,
Goddard, carefully heeding the laws Of both mass attraction and
precession, Realized that an object, Rocket-propelled or accelerated,
Into a different velocity---
And into a different direction To that of the Earth's
Speed and course around the Sun--- Would have its gravitational pull
Toward the Earth Reduced fourfold

Every time it doubled

Its distance away from the Earth;

Only a hundred miles out From our Earth's surface The attraction
would be So diminished

That it would permit the Moon's pull To become significant, At which
distance"

- Cite INTUITION, p.32 May '72

Orbiting: (2)

"The rocketed object

Would lose its tendency

To fall abck into the Earth,

And now affected dominantly

By the integrated mass attractions

Of all other celestial bodies, Would go into orbit Around our Earth.

"And to understand How little is that One-hundred-mile distance Out from Earth's surface At which orbiting Replaces the tendency To fall back into the Earth, We note that Stea The thickness of a matchstick Out from the surface Of a twelve-inch diametered Household 'World Globe' Is the distance at which Our first rocketed objects Do go into orbit."

Cite INTUITION, pp.32-33, May '72

nbF uwIrtI/Tiui.t

orb it in::

"Critical proximity occurs where there is a 90° angular transition from falling back in at 180°

which is precession."

(This is RBF's explanation of precisely what happens at the moment that an earth satellite goes into orbit.)

- Cite RBF to EJA

Beverly Hotel, New York 28 Feb 1971

Orbiting;

"And the transition from being an entity to being a plurality of entities
is precession

which is a peeling off into orbit

rather than falling back into the original entity.

- Cite RBF to EJA

Beverly Hotel, New York 28 Feb 1971

Orbiting:

"Each local system has its own orbiting, and its own frequencies, and so forth « .

- Citation and context at Relative Asymmetry Sequence (1), JUn'69

Orbit ~ Circuit;

"The reality is always orbital. Orbit - circuit. All critical paths orbit the Sun. No path could possibly be linear. The Universe never reverts to the smaller and simpler circuits."

- Cite RBF to EJA, 3200 Idaho, Wash., DC, 10 Sep'74

See Events & Novents, 10 Sep¹74

"All the experimentally harvested information says that the 'field*
must now be recognized as a complex of never straight lines, which,
at their simplest, always will be very great circular orbits. And the
orbits are all elliptical due to the fact that unity is plural and at
minimum two. There will always be at least one other critical
proximity aberration with both of its diametric alterations of orbit."

- Citation and context at Field_f 14 Feb*73

See Aberration

Eccentric: Eccentricity

Otherness Restraints &. Elliptical Orbits

Orbits Are Elliptical:

(2)

See Field, U Feb'73'

Orbital Escape from Critical Proximity: {1j}

"Human mind, while discovering generalized principles, eternally persisted in special-case experience sequences, but has gradually developed the capability to employ those principles and then self into such acceleration as to escape the fall-back-in proclivity and to escape the general ecological fall-in program of invisible interorbiting regeneration.

"As each human being discovers self and others and employs more principles Ml more and more consciously to the advantage of others, the more effectively does the individual retain the integrity of his own unique orbiting in Universe, local though it may seem aboard our planet. Hit unique orbiting brings him into a vast variety of critical-proximity fall-ins. Fan has progressively acquired enough knowledge to raise his vision from the horizontal to the vertical, to stay first atop the watery ocean and next atop the airocean heights, and most recently to orbit beyond the biosphere with ever greater independence, with ever greater competence, and with ever greater familiarity with the reliability of the generalized principles."

Orbital escape from Critical Proximity: {2}

"Little individuals in orbit around little berry patches, fruit trees, nut piles, and fishing holes are instinctively programme i to pick up rocks and pile up walls around the patches, orchards, and gathering places. Some men floating on the waters and blown by the wind were challenged to respond to the accelerating frequency of stress and high-energy impacts, and they went into vastly longer orbital voyages. Others went into lesser and slower orbits on camels and horses, or even slower orbits on their own legs. The effect of human beings on other human beings is always precessional. All of us orbit around one another in ever greater acceleration, finally going into

greater orbits. The critical-proximity fall-in and its 99.9999 percent designed-in programming become longer in critical-proximity evidence, while all the time the apprehending and comprehending of the generalized principles elucidates their eternal integrity in contrast to the complex inscrutability of the local critical-proximity aberrations permitted and effected in pure principle whenever the frictional effect on the two stones lying before us overcomes their tendency to fall into one another--- with $\square\square$ QB naught else in Universe but two of tones--- which statement

- Cite SYNERGETICS text at Sec. 1009.72; RBF galley rewrite of 29 Lee'73

Qrbtlal. Escape frpm.CritlcalPrpxlmitj: (3)

"in itself discloses our proclivity for forgetting all the billions of atoms involved in the two stones, and their great electron orbits around their nuclei; guaranteeing the omniacceleration, yet synergetically and totally cohered by the mass-interattractiveness, which is always more effective (because of its finit&losures) than any of the centrifugal disintegrative effects of the acceleration. All the interaberrations imposed on all the orbits bring about all the wave-frequency phenomena of our Universe. The unique wave frequencies of the unique 92 chemical elements are unique to the local critical-proximity event frequency of the elemental event patternings locally and precessionally regenerated.

Finally, we must recall that what man has been calling 'linear.' is simply big orbit arc seemingly attained by escaping at 90 degrees from local orbit. There are only two kinds of acceleration, greater and lesser, with the greater being like the lesser, with the lesser being like the radius of the nucleus of an atom in respect to the diameter of its electron shell."

- Cite SYNEkGbTICb text at Sec. 1009.72; RBF galley rewrite of 29 Dec'73

Orbital Escape from Critical Proximity:

(4)

"Humanity at this present moment is breaking the critical- proximity barrier that has programmed him to operate almost entirely as a part of the ecological organisms growing within the planet Earth's biosphere. His visit to Moon is only symptomatic of his total, local social breakout from a land-possessing, fearful barnacle into a world-around-swimming ealmon. Some have reached deep-water fish state, some have become world-around migrating birds, and some have gone out beyond the biosphere. Long ago man's mind went into orbit to understand a little about the stars. And little man on little Earth has now accumulated in the light emanating from all the stars a cosmic inventory of the relative abundance of each of the 92 regenerative chemical Agents present in our thus-far-discoverdd billion galaxies Of approximately a hundred billion stars each, omnidirectionally observed around us at a radius of 11 billion light years. Man can always go into infinitely great, eternalorbit. Kind always has and always will.

- Cite SYNERGETICS text at Sec. 1009.73i RBF galley rewrite of 29 Dec'73

Orbital Escape from Critical Proximity;

See Critical Proximity Threshold Fall-in Proclivity In-ness Proclivity

Orbital Feedbacks:

"Conventional 'critical path' conceptioning ia 'linear' and self-underinformative, Only orbital feedbacks are valid. Orbital, critical feedback circuits are pulsative, tidal, importing and exporting. Critical path elements are not overlapping linear modules in a plane. Each step survives after completion; like a building, they are regenerative feedbacks, circuits."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 10 Sep'74
sets. U30. 71 + H3O.X2)

Prbltal Feedback Circuitry vs. Critical Path:

"Orbital feedback circuits are pulaative, tidal, importing and exporting. *

"Each circuit is a year. Tears are not linear.

"Critical path conceptionIng is 'linear¹ and self-misinfor- ina 11 ve•

- Cite RBF holograph, Wash. DC: 9 Sep'74

20. - 19 Nov'74

1009.56

20. - 15 Jan'74

1032.23

RBF holograph, Santa Barban* 12 Feb*73

See Local vs. Comprehensive Local Radius ve. Wide Arcs Linear vs.
Orbital Radial vs. Orbital

QxbXtU ^IntcrllnXlng:

See Nlnety-degreeneea, 5 Jun*73

See Astro & Nucleic Interpositioning

Atom as Solar System

Chords &, Arcs

Physics as Internal Affairs of the Atom

Rules of Interval

Relative Activity Diameters of Stars i Electrons Human Sense Ranging
&, Information Gathering Sweepout

Local Radius vs. Wide Arc

Nucleus & Nebular: Nucleus &. Galaxies

Orbital Feedback Circuitry vs. Critical Path

Orbiting Magnitudes:

Synergetics, Sec. 1009.20, 1009.30, 1051.51

See Compound: Difference Between Atoms & Compounds, 27 Dec'73

A c c e l e r a t i o n, 15 Feb * 73

Radiation: Speed Of (C)(D)

Event, 8 Mar'73

Field, 14 Feb'73

Constellar, 3 Oct"72

Pneumatic Structures, 10 Jul*62

Eternal Designing Capability Sequence (1J

Subconscious, 14 Feb'72

Tunability, Mar'66

Gravity: Circumferential Leverage, (2)

Orbital Escape from Critical Proximity, (2) (3)

See Umbilical Cord, 4 Mar¹73

See Birth: When You are Born You Go into Orbit Circle Co-orbiting Co-
orbiting of Earth & Moon Around Sun Critical Proximity Co-orbiting El-
lipse Linear vs. Orbital Motion: Six Positive & Negative Motions Mul-
ti-orbital Radial vs. Orbital Spinning t Orbiting Unwrap the Orbitals In-
terorbiting Otherness Restraints t Elliptical O_rbits Local Orbit

Acceleration of Change (1)

See Cone. 22 Sep'73

Critical Proximity, 15 Feb'73; 10 Feb'73

Ecology, 15 Feb'73

Ecology Sequence (G)»

Field, U Feb'73*

Einstein: General Theory k Special Theory, 4 Mar'73

Dancing, 6 Jul'62

Gravity (b)

Line, 7 Nov'72

Mass Attraction, 6 Mar'73*

Normal, 6 Mar'7**; 22 Jan*73

Precession, 24 Sep'73

Relative Asymmetry Sequence (1)*

Radiation: Speed Of (D)

Unity is Plural, 14 Feb'73*

In, Out & Around Experiences, (1)

Four Intergeared Mobility Freedoms, 2 Nov'73

See Orbits are Elliptical Orbital Feedbacks Orbitally Interlinking Orbiting Magnitudes Orbital Closure Orbital Phase Orbital Escape from Critical Proximity Orbital Feedback Circuitry vs. Critical Path

Orchestra; Orchestration:

See Symphony

Order:

"There is no true 'noise*' or 'static.' There are only as yet undifferentiated and uncomprehended frequency and magnitude orders. Chaos and ignorance are both conditions of the Join's IIMRO® only-sense-harvested and stored information, as yet unenlightenedly reviewed and comprehend!ngly orocessed by the order-seeking and -finding mind."

- Cite SYNERGETICS text at Sec. 532.13; RBF galley rewrite 7 Nov'73

Order:

"Science has been cogently defined by others as the attempt to set in order the facts of experience. When science discovers order subjectively it is pure science. When the order discovered by science is objectively employed it is called applied science. The facts of experience are always special cases. The order sought for and sometimes found by science is always eternally generalised; that is, it holds true in every special case. The scientific generalizations are always mathematically statable as equations with one term on one side of the equation and a plurality of at least two terms on the other side of the equation."

- Cite RBF Ltr. to Karan Singh (draft) incopporated in SYNERGETICS at Sec. 1(>1, 13 liar'73

Order:

"I am not a creator. I am a swimmer and a diemieser of irrelevancies. Everything we need to work with is already around us, although most of it is initially confusing. To find order in what we experience we must first inventory the total experiences, then temporarily set aside all irrelevancies. I do not invent my thoughts. I merely separate out some local patterns from a confusing whole. . . . Flight was the discovery of the lift--- not the push."

2 For full text see Nobt. W. Marks citation, 1960._7

- Cite KBF quoted by William Kuhns in "The Post-Industrial ^{Pr2J\$et?} interpretations of Technology," Harper- Colophon, p.222, 1971

rtBF uEFihll'luKb

Order:

, Nature proceeds from the obviously orderly and symmetrical to the nonobviously, but always orderly transformation phases Known as asymmetries which, having gone through their maximum or peak positive phase asymmetry . . . always return transformatively thereafter through an orderly progression of decreasing asymmetry to the fleeting passing through the condition of obvious symmetry or equilibrium popularly recognized as 'order.'^w

- Cite Synergetics Draft, "Symmetry," Sec 52 July 1971

Order:

"What the scientists have always found by physical experiment was an a priori orderliness of 'nature' or 'universe' always operating at an elegance level which made the discovering scientists' own working hypotheses seem so crude by comparison to the discovered reality as to seem relatively disorderly."

Cite Synergetics Draft, "Symmetry,"* Sec 53OT, July 1971.

Order:

"All the biologicals are antientropic. A baby couldn't grow to be entropic; the child would shrink, getting smaller and smaller. But a child get's bigger, so it's antientropic. And it's absolutely order--- the most beautiful pair of two eyes doing whatever. Everything about it is antientropic. And everything about a human being that makes you sit where you're sitting in a quiet way is because we're seeking to understand and put in order. Understanding is finding order."

- Citation and context at World Game (7), RBF to World Game at NT Studio School, from Saturn tape #327, p.13, Jun-Jul'69

Order:

"We become more aware of this uniqueness of organising principle in the Universe, in science. The long held myth that science wrests order out of chaos is fast disappearing in due ratio to the extent that all great scientists have found the Universe to exhibit an a priori orderliness. All the various specialties are discovering that their variously remote studies which seemingly 'ordered' local aspects of nature are converging within progressively simpler and more comprehensive patterns. The 'ordering' is coming together. When we refer to the computer and automation taking over we refer really to man's externalization of his internal and organic functions into a total organic system which we call industrialization. This metabolic regenerating automated organism is going to be able to support life in an extraordinary way. -The machines will increasingly assume various specialized functions. Man who was born spontaneously comprehensive but was focused by survival needs into specialization is now to be brought back to comprehensivity."

- Citation and context at Population Sequence (5), Feb*67

Order:

"Order is achieved through— positive and negative—
Magnitude and frequency controlled
Iteration
Of the successive steering angles.
We move by zig-zagging control
Aasar
From one phase of physical universe evolution to another."

- Cite HOW LITTLE, p. ?1.
- Also cite AAUW Journal, May *65.

Order:

"As man becomes less of a subconscious function in the universe,, which he has been, and consciously employs his faculty to differentiate experiences and to reassociate them in preferred ways, he will become more and more effective. By becoming more conscious and developing more and more orderliness, he simply discovers more facets of the universe Neither he nor the universe are getting more complex.« As he learns more, man is becoming more orderly, more understanding, and more understandable."

(The question was: "Do you believe the world is getting more complex?")

- Cite AAUW JOURNAL, Ray 1965, P. 176

Order;

"Order is achieved through positive and negative, magnitude and frequency-controlled alteration of the successive steering angle. We move by zigzagging control from one phase of physical Universe evolution to another."

from JOURNAL, T., 1965, T, 170

- Citation and context at Ruddering: Rudder Concept, May 1965

Order:

The "extraordinary world of weightless, Invisible waves is governed by mathematical laws and not by the opinions of men. The magnificent orderliness of that ever individually and uniquely patterning weightless wave universe is not of man's contriving. The infinite variety of evolutionary complexities, inherent to the orderliness of complementary principles operative in the universe, is of unending synergetic uniqueness."

- Cite MEXICO, p. 102, 10 Oct'63

Order:

"The actual fact is that each scientist penetrating into his own area, when he has made a discovery, has always discovered orderliness. Orderliness was a priori. There was no beginning of orderliness. He went from a rather rough disorderly hypothesis and had enough conviction to set up an apparatus to make an experiment and after the experiments were made he found orderliness. Now they are beginning to discover that gradually they are all coming into the same room, and all the orderliness is permeated, so the orderliness is all interrelated. They are suddenly coming into a comprehensive coordinate system employed by nature, which apparently, as far as any scientist could possibly tell you, if you were to talk comprehensively, has always been operative. There is no beginning about it."

- Cite Oregon Lecture #4, p. 128. 6 Jul'62

Order:

"I am not a creator. I am a swimmer and a dismitter of irrelevancies. Everything we need to work with is around us, although most of it is initially confusing. To find order in what we experience we must first inventory the total experiences, then temporarily set aside all irrelevancies.

I do not invent my thoughts. I merely separate out some local patterns from a confusing whole. The act is a dismissal of pressures. Flight was the discovery of the lift--- not the push."

- Cit Robt. W. Marks DYHAXION WORLD OF RBF, p.63, 1960

"Order *k* Disorder:

"Order is obviously the complementary, but not mirror-image of disorder."

- Citation and context at Svntropy k Entropy. 5 May'74

"...There is a great deal of difference Between absolute disorder, i.e., chaos, And the only one-sidedly considered, Relative asymmetry, whose pulsative balancing At a later time with other systems was not awaited By the too hasty and biased observer.

On the contrary, I am convinced By comprehensively considered experience That a total integrity of order prevails..."

- Cite BRAIN & MIND, p.91 toy '72
Order k Disorder:

"The seeming disorder of physical entropy is only superficial and explains why metaphysical thought can always find the orderliness which engulfs disorderliness. DiBorderliness is nonthinking.**

- Citation & context at Relationship Analysis Jun*66
RBF DEFINITIONS
Order & Disorder?

"Men of the Einstein Age are discovering the universal orderliness of constant, comprehensive transformation, utterly transcendental in the exquisite and magnificent orderliness of its wavelength and frequency when compared to the crude disorderly, conscious thinking and articulation of mere humans."

- Citation & context at New York City (12); 1964 ";/e don't have any idea of the relative depth of the heavens. The fact that the heavens seem to be a sort of array which we are familiar with is extremely deceiving. Where those stars really are we don't hardly know at all. They seem to be rather disorderly in the sky. They may be in fabulously orderly array if we were able to get better kinds of reports. ..hen we begin to get into the macrocosm this same kind of feeling about this disorderly chaos

obtained for a long time. Ken's minds have been confused and therefore they have thought of the Universe as confused. Not being a nonsimultaneously conceptual affair gets the human mind into a lot of troubles. «t any rate, man thought of the universe as chaotic. . . .

"We find that the portion of the Universe that is still chaos is rapidly diminishing. As fast as we get a telescope or microscope, the orderliness □ is discovered : and it begins to be fairly much in evidence that the Universe was at all times orderly. The only idea of disorderliness was in the human mind. «e are dealing in a finite Universe of extraordinary order and which was always orderly and the only thing which has ever been disorderly is in man's mind."

- Cite Lecture 3 - pr. 104-1CJ, 5 Jul'62

See Symmetry & Asymmetry

Syntropy & Entropy Wow: The Last Wow Expanding Physical Universe vs. Contracting Metaphysical

Universe

Information vs. Entropy

Meshing & Nonmeshing

See Baseball, 11 Feb'73

Extraterrestrial Humans, 23 Aug'70 Games. 13 Dec'73

Pendulum Model vs. Scenario Model, 23 Dec*68

Relationship Analysis, (1J(2)*

Syntropy & Entropy, 5 May'74*

Vector Equilibrium, (I)

Wow, (2)

Macro-micro, 1964

New York City, (12J*

See Entropy as Lack of Information Information Field

See Chaos, Jun'66

MMMHI QrttrMnm oprutiw la frtw; (1)

"... All of these specialists, we get more and more of them in there, and even though each one is getting finer and finer, each of them are shoulder to shoulder representing a larger and larger angle and they begin to overlap. I spoke of them all discovering themselves rally in the same Universe and they were not in separate departments of nature. They began then to have to divide up the work, and every one of them had made an important discovery, recognising that in his line he had discovered a greater orderliness operative in nature than he had supposed was there; and then they are finding an integrity of all those informations.

"... In the immediate decade ahead you are going to hear more and more from the world of science, stating that it is clearly discovering a comprehensive operational integrity, a very complex plurality of clearly differentiable principles, such as tension and compression that are complementary and utterly reliable in their total interactions and the whole thing Is clearly not something that has come out of the ooze at all but the pure principles were generalizable and of no weight at all. The principles were always there and the generalizable had nothing to do with the special case. The generalized was?

Cite Oregon Lecture #5, pp.162-163, 9 Jul'62

MHMHB Orderliness Operative in Nature: (2)

"always present in the special case, but it had nothing to do with the avoirdupois, fbr it is not weighable. Mathematics weighs nothing and this is mathematics. It is a mathematical correspondence."

- Cite Oregon Lecture #5, pp. 162-163, 9 Jul»62

Sea Connections and Relatedness Number: Tetrahedral Number Relationship Analysis

See Relationships, 1\$ Oct*64

See Absolute Order

Antientropic Ordering Principles

Chaos: Myph that Scientists Wrest Order from Chaos Disorder Eternal Orderliness

Generalization: Law of Contractively Orderly Generalizations

Local Order

Omniorderly: Omniinterorderliness

Order & Disorder Primordial Progressive Order: Law Of Manifest

Rearrange Elemental Order Sorting

Nature's Subvisible Order

Ecology, 5 Jul'62

See Generalization Sequence (1)

Instrumentation. 1963

Intellect. 6 Jul'62

Life, 22 Apr'65

Man's Conscious Participation in Evolution. May¹65

Mind, Dec'72

Number: Tetrahedral Number, May'65

Omnidirectional, 27 Feb*72

Population Sequence (5)*

Proton & Neutron, 22 Jul*71

Ruddering: Rudder Concept, May*65*

Seed, Dec*72

World Game (7)*

Synergetics, 20 Jan'75; 17 Oct*77

Large Pattern, 22 Jan'75

Truth, Jan*72

Invisible Operation of Thousands of Radio

Programs, (a)

Syntropy & Time, 14 May'75

Nucleus, 13 Nov'75

See Mutual Survival Principle, (3)

See Coordinates: Coordinate System

Subordinate *k* Superordinate

Organic:

"Organic means regenerative system integrity.

- Citation and context at Unit. 26 May'72

Organic;

**"... There is original integral and Mtabolic regeneration which we call
organic."**

- Cite THIS IS TOUR GRAND STRATEGY, 4 Feb «68, p . 32.

"It could be that organic chemiatrrea do not require nuclei."

- Cite SYNERGETICS Draft at Sec. 415.20, 22 Jun»72

Organic Chemistry:

"The cube relates to chemistry. the external affairs
of the atom/ Organic chemistry begins with the cube: carbon.

**The tetrahedron, octahedron and icosahedron relate to physics, the
eternal affairs of the atom."**

- C±ie--aBg-iq Hill Hl, rrriragn, gV
Difference Between Physics and Chemistry,
- Citation an Physics:

31 May'71

Organic Chemistry:

"Apparently, all the chemical compounding in the organic chemistry relates to the polarised system."

- Cite Oregon Lecture #7, p. 235. 11 Jul'62

See Hex: Chemical Hex

Inorganic Chemistry Organic & Inorganic Chemistry van't Hoff

See Universal Joint: Tetrahedron, 9 Hov'73

organic Inomnlc;

"Organic chemistry and inorganic chemistry are both tetrahedrally coordinate* This relates to the thinking process where the fundamental configuration came out a tetrahedron. Nature's formulations here are a very, very high frequency thing. Nature makes viruses in split seconds. Whatever she does has very high frequency. We come to the tetrahedron as the first apontaneous Aggregate of the experiences. We discover that nature is using tetrahedron in her fundamental formulation of the organic and inorganic chemistry. All structures are tetrahedrally baseband we find our thoughts resolving themselves spontaneously into the tetrahedron as it comes the the generalization of the special cases which are the physics or the chemistry."

- Cite SYNERGETICS draft at Sec. 620.08, Nov'71
- Organic & inorganic:

"The scientist as specialist in isolation of phenomenon from phenomena has now come-- by progressive reduction of the superficially remote behavior complexities of the organic and inorganic worlds--- to discover simplified common component behavior phases of each world respectively. Here the energetic interactions of the resultant structures are uniform. Here the man-controlled original inorganic growth is in all ways congruent with the animate, organic 'de-grown' by man, or separated out toward primary functions of the original totality: Universe."

- Cite TOTAL THINKING, (1*1), p.226, May*49

(* Organic 4. Inorganic Chemistry:

"What Linus Pauling found for the inorganic chemistry
 . . . van't Hoff found for the organic chemistry."

- For citation and context see Tetrahedroning. 10 Jul '62

See Animate & Inanimate

See Tetrahedron, 2 Jul'62

Tetrahedroning, 10 Jul*62

Social Problems: Tetrahedral Coordination Of

4 Kay'57 *

Organic Model: Biological World as Model for Society:

"We have to look on our society

As we look on the biological world in general

Recognizing, for instance,

The extraordinary contributions

Of the fungi, the manures, the worms, et.al.—

In the chemical reprocessing

And fertility upgrading of the earth.

We must learn to think

Of the functions of the trees' roots

As being of equal importance
To the leaves' functions.
We tend to applaud
Only the flower and the fruit
Just as we applaud only the football player
Who makes the touchdown
And not the lineman
Who opened the way.”
- Cite HOW LITTLE, p. 69. Oct. '66
- Cite AAUW JOURNAL, p. 174, May *6\$
See Epigenetic Landscape

Metabolic Flow

Social Sciences: Analogue to Physical Sciences

"It could be that organics doesn't require the nucleus; that whatever the mysterious, weightless phenomenon regenerative life may be, may be the nucleus of all biological species including you and me. The first closest-packed, omnitriangulated, ergo structurally stabilized, cube has 14 spheres, but without a nucleus. This could be carbon. And carbon is the initially closest-packed, omnisymmetrical, polyhedral fourteenness to present a surface of triangular nest availability for mounting hydrogen structurally to produce all organic matter."

- Cite RBF to EJA, 3200 Idaho. Wash. DC (3rd draft), 28 May'72 incorporated in SYNERGETICS at Sec. 415.21

"It could be that organics doesn't require the nucleus;

that whatever the mysterious weightless phenomenon regenerative life may be, may be the nucleus of all biological species including you and me. The first closest-packed, omnitriangulated, ergo structurally stabilized, cube has 14 spheres, but without a nucleus. This could be carbon. And carbon has the polyhedral nest availability for mounting hydrogen of all organic matter."

- Cite RBF to EJA, 3200 Idaho, Wash. DC (2nd draft), 26 May'72
- "It could be that organics doesn't require the nucleus...

that you and I are the nucleus. The first nuclear cube comes in at 14."

- Cite RBF to EJA, 3200 Idaho, Wash. DC (1st draft), 26 May'72
- See Space as Nontuned Angle k Frequency Information,

22 Feb'77

Organism:

"C'Mrly all organisms consist physically and in entirety of inherently inanimate atoms."

- Cite RBF correction in margin of "Chronicle" sequence, p.14, SYN-ERGETICS, in EJA car enroute Charlottesville-Wash, 3 Jun'?2

K3F ULFIMTlutb

Organisms:

' 'What is inanimate is clearly the v/hole physical world.

Jut what is animate they lost track of altogether. The organics are information processing devices. The creatures and the trees adjust to information. But life is none of these things. The organism gets information for life, but it is not life. Ian has confused the telephones with the people talking on the telephones."

__ Cite KJF to h-JA, 3200 Idaho, DC, 12 Feb '73

Organism:

"The Universe is

The min-max, self-regenerative organism

"Human organisms are Universe's

Most complex local technologies. ..."

"Organisms are machines, Life 'is not the organism-machine.

The organic residues progressively disassociate And reassociate chemically. Only the physical reassociations Are organic machines rfhich are inherently temporary Evolutionary formulations,"

- Cite Dreyfus Preface, "Decease of Meaning,"

28 April 1971, pp, 1, 2, 4nd 3.

Organism / Life:

See Life is Not Physical Metabolic Flow / Man

(2)

See Information, 12 Feb'72

Life is Not Physical. 20 Fab'77 Human Beings, 22 Jun'77 Womb of Permitted Ignorance, (1)(2)

2naniag:

(i)

See Aniuat *It*, Inanimate

Life

Organlan f Life

Community aa Unit Mechanical Organ!am Human Organism

See Compoundings of Systems, 10 May*76 House as Terminal of Community Mechanism.

20 Sep*76 Industrialisation. (A); Feb'72: Jun*66 Intuition: Hot Line
Of, Jan*7* Minimum Awareness, (1) Physics: Difference Between
Physics k Chemistry,

31 May*71*

Regenerativity, 17 Jan*75

Space as Nontuned Angle it Frequency Information.

22 Feb'77

Turtle Hex-pent. 12 May'75

Unit, 26 May*72*

Vector Equilibrium: Polarisation, (1)(2) Environment, 29 Mar'77 Sub-
conscious, 20 Feb*77 Human Beings at the Center, (1)(2)

See Organic

Organic Chemistry

Organic & Inorganic

Organic Model: Biological World as Model for Society

Organics to the Nucleus

Organic Tunability

Organism + Life

Organism Principle:

Sea Order, Feb*67

See Self-organizing Principle

Social Organisation Social Problems: Tetrahedral Coordination Of Will
of Organizations

No Organization

9rr.anJjaU9n:

Oraanltatlional Structure: (2)

See Wealth, 20 Sep'76

Rental Feeling-About Paa th:

See Death, 170

°riontability¹ Orientation

**See Four-dimensional Reality Multidimensional Accommodation Ob-
servation: Observing Time-angle-size Aspects Vectorial Orientation**

**Axis of Conceptual Observation Omnitriangularly Oriented No Up &
Down**

In, Out & Around

System Center of Observation

Orifij-nality:

**"An 'original' or 'prime' event is conceptual. . . originality being inher-
ently complex integrals."**

(For later context see Energy Event. May'71)

**- Cite RDF marginal is, Synergetics Draft at i'ec. 511.01 (Nov) done at
Boston in April 1971 •**

Originality:

**'•It is found in cybernetics tha original questions, asked either
by humans or computers, are always produced by unexpected
interferences."**

- Citation at Interference. May*65
- eixxnXXUW”JUWftAL, Kay 1965, p. 1?6.

Origin: Original Event:

See Beginning

Life's Original Event Question: Original Question

origin* 1^sln:

"The concept of Original Sin is completely invalid. It is a denial of re-generativity. It derives from failure to appreciate the aberration of lags, the differential rate of recalls."

- Cite HBF to EJA, 3200 Idaho, rflash DC, 29 May*72

See Perfection: Utter Perfection Unattainable by Humans Physical:
Corruptibility Of Residual Error

Truth as Progressive Diminution of Original Error Residual Ignorance

See Local ve, Comprehensive (1)(2)

See Isotropic Vector Matrix, 30 Nov'72

Spherics, 30 Nov*72

Interference, May'65*

Genius: Children Are Born Geniuses, 8 Apr*75

Oscillation:

"While nature oscillates and palpitates asymmetrically in respect to the frame of omnirational vector equilibrium, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrious state, ergo, omnirationally commensurable and mod-
elable to the sixth power, which order of powering embraces all exper-
imentally disclosed physical behavior."

- Citation *k* context at Vector Equilibrium, 21 Dec»71

WA_r 326GIdao Ave. Washington DC, 21

Oscillation:

****••• the disappearance, or the isolating aspect, of our Universe ... is always present. It oscillates with what you call the tetrahedra as unit measure. . . "**

- Citation and context at

1 May'71

Invisible Tetrahedron.

Oscillation:

"So what we call life ia bacillation between varying degree# of asymmetry, or laga in conception!ng, which bring about what seems to be the temporal."

- ~~Ed A~~, 13 Ear!?!
- Citation & context at Life, 13 Mar'7J

"... The difference between the physical and the metaphysical * is the omnipulsative asymmetry of all the physical oscillation in respect to the equilibrium. . . "

“'Cite RBF dicUtion to EJA for SYNERGETICS, Sec. 205.3, Oct. *7J.

- Citation at Omnipulsative Asymmetry_t Oct¹71

"Physics finds only waves. Some are of exquisitely high frequency, but inherently discontinuous because consisting of separate event packages. They are oscillating to and from negative Universe, that is to say, in pulsation."

- h JA, Somerset Club, Boston, 22 April 1971
 - Citation & context at Wave, 22 Apr*71
- RBF DEFDirriUKS

. Temporality is time and the relative asymmetries of oscillation are realizable only in time--- in the time required for pulsative frequency cycling. . . "

- CiXajyJF-dictation .for SYNERGETICS, Beverly Hotel, Hew York

2tt Feb.—4;—See Sec. 205.5 of Oct. »?1.

- Citation *k* context at Time, 2d Feb'71

See Inward & Outward Twoness Triangular-canned Model

See Calculus, Jul¹71

Omnipulsative Asymmetry, Oct*71*

Time, 28 Feb*71*

Wave, 22 Apr'71*

Inward & Outward Twoness, Aug¹71

Vector Equilibrium Field, 20 Dec*73

Nonstate, 11 Sep'75

oasiilailan:

See Boltzmann Sequence

Discontinuity

Energetic Functions

Meshing

Nuclear & Nebular Zonal Waves

Observing vs. Articulation

Pulsation

Had ial-circumferential

Vector Equilibrium: Field of Energy Jave-angle Oscillating Extremes

Wow: The Last Wow

Pulse: Pulsive: Pulsivity

Interoscillate

OwlllMlgn:

12)

Cdsmic Discontinuity 4 Local Continuity, 15 Jan'74 Invisible Tetrahe-
dron, 1 May'71* Inward 4 Outward Twoness, Aug'71 Omnipulsative
Asymmetry, Oct'71* Plastic Flowers, Oct'70 Reciprocity (3), May'49
Time, 28 Feb`71* Transformation. 10 Oct'50 Syte, 31 Fay'71 Vec-
tor Equilibrium, 21 Dec'71* Twoness. 23 May* 72 Prime Dichotomy
(1)(2)

Metaphysical 4 Physical Tetrahedral Quanta, 25 Mar'71

Finite Minus De-finite, Nov'71

Six Motion Freedoms 4 Degrees of Freedom, <5)(6) Energetic Func-
tions, 8 Aug'77

S®e Postorioral Oeculations

Kissing

OBmoeia: Ogmotical:

See Ecology Sequence, 11); (a)

Other:

"Humanity can only survive by complete regard for all of humanity.
Humans are beginning to learn, *No other, no me.

- Citation and context at Ecology Sequence (G), 5 Jun¹73

Other:

"There will always be at least one other,"

- Citation and context at Field_T 14 Feb*73

Other:

"Unity relate# to realisable experience which ie omnidirectional. Ergo, there ie not just one ¹ other.

There are always at least 12 *others.* Ergo, rector equilibrium, which is subfrequency."

- Cite RBF to EJA, Bear Island, 25 August 1971.

BBF DEFINITIONS

Other;

*. . . Twoness is the beginning and essence of consciousness, with which human awareness begins: consciousness of the other, the other experience, the other being, the child's Bother. . . . arly humanity's concept of the ilmun increment of time was the second, because time and awareness begin with the second experience after the other. ... Life and the universe that goes with it begins with two spheres: you and me. . . and you are always prior to me."

- Cite RBF marginalis on Synergetics draft. Sec. 223.31 - 19 Jun '71.

Otherness:

"Only the tetrahedron can accommodate the otherness which is the aberration, otherness being essential to awareness and awareness being the minimum statement of the experience life."

- Citation 4 context at Tetrahedron ae Primitively Central Iq Life, 3 Mar'77

Otherneaa;

"Neither Euclid nor Euler credited the surface on which they were scribing. They failed to identify the surface with the otherness."

- Cite RBF to EJA, 3200 Idaho, Wash., DC; 8 Feb'76

Otherness:

"Without otherness there is no consciousness and no direction. If there were only one entity--- say it is a sphere called 'one there would be no Universe: no otherness: no awareness;

no consciousness: no direction. Once another entity, let's say a sphere, is sighted, there is awareness and direction. There is no way to tell how far away the other sphere may be, nor what its size may be. Size sense comes with comparative experience."

- Cite SYNERGETICS draft At Sec. 411.03, 28 May*72

Otherness:

"Universe is a scenario of events, The regenerative interactions Of all otherness and me«*

- Cite A Definition of Evolution, p. 1. 15 Sep*71

Otherness:

"Consciousness means an awareness of otherness."

Otherness:

"Communicated means informing self or others."

otlwrsw-

"The a priori otherness of comparative awareness inherently requires time."

- Cite KBF marginalia on Synergetic# draft, Sec. 223.31- 19 Jun '71

"Life is the difference between temporality and eternity."

. . . Inatantaneity would eliminate otherness, time, and self-and-other-awareness. Inatantaneity and eternal are

both timeless: they are the same.”

- Citation & context at Life. Mar'71

Other: At Least One Other:

"... Unity is plural and at minimum two. There will always be at least one other critical proximity aberration..."

- Citation and context at Orbits Are Elliptical. 14 Feb'73

Otherness: At Least One Other:

See Unity Is Plural. 14 Feb'73 Outside. 26 Jan*73 Aberration, 19 Dec'73

SSMnkaa-' At Leaathralre Othara:

See Self & Otherness, 19 Nov'74 Initial Frequency, 6 Nov'72 Other, 25 Aug'71 Six Degrees of Freedom, Dec'71

TEXT CITATIONS Otherness; At Least Twelve Others; Synergetics : Sec. 502.25
537.12

PfchflEiWM Point?

"Because of discontinuity, the otherness points and subpoints may be anywhere. We start always with any point--- event points being as yet noneomprehended; ergo, initially only as an apprehended otherness entity. Synergetics, as a strategy of converting apprehension to discrete comprehension, always proceeds vectorially."

- Cite **SYNERGETICS** draft at Sec. 540.07, 24 Sep'73

Otherness Rant points & Elliptical Orbits; (1)

"Angular acceleration is the local accumulation of momentum; angular deceleration is the local depletion of momentum.

"Release from angular acceleration appears to be linear acceleration but the linearity is only theoretical. Linear acceleration is the release from the restraint of the nearest accelerator over to the angularly accelerative or decelerative restraint of the integrated vectorial resultant of all the neighborly dominant forever-otherness restraints in Universe. Linear acceleration never occurs because there is never innocence of otherness.

"The hammer thrower releases his 'hammer's' ball-and-rod assembly from his extended arm's-end grasp seemingly to allow the hammer to take a linear trajectory, but Earth's gravitational pull immediately takes over and converts the quasi-straight trajectory into an elliptical arc of greater orbiting radius than before, but an arc of ever-decreasing radius as the Earth's gravity takes over and the hammer thrower's steel ball seemingly comes to rest on the Earth's surface which is, however, in reality to travel around the Earth's axis in"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 826.11-.13, 20 Kay*75
 QUiamfiao Rmralnta EUpUcal. Qihlta- (2)

"synchronised consonance with the other together-huddled atoms of the Earth's surface which, if near the Earth's equator would be at a circular velocity of approximately 1000 miles an hour and, if near the Earth's poles, of only inches an hour around the Earth's axis; but as yet traveling at 60,000 miles an hour around the Sun at a radial restraint of approximately 92 million miles, with the galaxies of the Universe's other nonsimultaneously generated restraints of all the othernesses' overlappingly effective dominance variations, as produced by degrees of neighboring energy concentrations and dispersions. It is the pulsation of such concentrations and dispersions that brings about the elliptical orbitings.

"This is fundamental complementarity as Intuited In Einstein's curved space prior to the scientific establishment of generalized complementarity, which we may now also speak of as the 'generalized otherness' of Universe. This is why there can only be curved space.

"Isaac Newton's first law of motion, *A body persists in a state of rest or in a straight line except as affected by other forces,* should now be restated to say, 'Any one

- Cite SYNERGETICS, 2nd. Ed. at Secs. 826.13-15, 20 ' • ay* 75

"considered body persists in any one elliptical orbit until that orbit is altered to another elliptical orbit by the ceaselessly varying interpositionings and integrated restraint effects imposed upon the considered body by the generalized cosmic otherness.' A body is always responding orbitally to a varying plurality of otherness forces."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 826.15, 20 May'75

"The closest** packed symmetry of uniradius spheres is the mathematical limit case which inadvertently 'captures'¹ all the previously unidentifiable otherness of Universe whose inscrutability we call 'space,'"

Cloaaat Packed Symmetry *a

- Citation & context at Limit Casa: Limit Case. 1? Feb'73

"The other side of the Universe is not like the other side of a river, but an inside-outing,"

- Citation & context at Inside-outing. 1? Jun*75

See Annihilation Rubber Glove

See Awareness

Balls Coming Together Consideration for Others

Dichotomy

Eternity: Equation Of

Madonna Theme

No Otherness □ No Awareness

No Other, No Me

Observer & Otherness

Prime Otherness

Pulsatively Precessed by the Otherness Self

Selfishness

Self & Otherness

Shape Awareness

Swallow the Otherness

Previous Otherness

No Innocence of Otherness

Forf/er-oth erne ss

See Future Otherness Past Otherness Present Otherness Integral

Otherness Secondness - Otherness Macro-micro Otherness Plural

Otherness Single Otherness

See Communication, 1971*

Conceptualise, 17 Feb*73

Consciousness, 1971*

Ecology Sequence, (G)*

Field, 14 Feb'73*

Geometry of Thinking, 16 Dec¹73

Eternity, 27 May'72

Isotropic Vector Matrix, 6 Nov'72

Life, 13 Mar'71*

Limit Case: Closest Packed Symmetry, 17 Feb*73

Love, May'72; 15 Oct'72

Mother, 17 Oct'72

Motion, 27 May'72

Nature Permits It Sequence, (3)

Orbits Are Elliptical, 14 Feb'73*

Pull, 22 Jun'72

Sensorial Identification of Reality, (1)

Somethingness, 16 Nov'72

We-Me Awareness, 31 May'74

Prospects for Humanity, 1 Feb'75

Womb, 20 Feb*73

See Visibility & Invisibility of Systems, Individuality & Degrees of Freedom, (2) Pronouns: I - We - Us, (1) Irrelevancies: Dismissal Of, 8 Feb'76 Children as. Only Pure Scientists, (2) Tetrahedrons Primitively Central to Life, 3 Mar'77* Environment, 28 Apr'77 Sensings & Eventings, 28 Apr*77 Energetic Functions, 8 Aug'77

"Out is directionless and timeless."

- nibs iinrift A_r__Haxi7Fyrirr

- Citation and context at Directionless. 19 Jun'71

Out:

"Out is nondirectional because it is anydirectional

- Cite SYNERGETICS draft at Sec.524.05; BBF rewrite of 19 Jun*71

Out:

"You are always in Universe, You cannot get out of Universe. You can only get out of systems."

- Cite tape transcript KBF to EJA and BO'R, Chicago, 1 June 1971

Out:

"There is only omnidirectional nonconceptual tout¹ and the specifically directioned conceptual 'in.'. . .

*"In' is always a direction. 'Out' is not a direction.'

- **Citation 4 context at In t Out. May*71**

1971

Out:

"All the word 'out* means is that you are not inside a system. 'Out' is not a direction."

- Cite RBF to e.JA, Beverly Hotel, New York, 24 April 1971

Out:

"We . . . realize conceptually the finite, yet non- sensorial, out-ness which can be converted into sensorial in-ness by the inside-outing process."

- Cite NEHRU SPEr.CH, p. 12. 1} Nov'69

"Put" as the c_{pnt}»XDXnK KJthg. ganialnfd;

"Joseph Needham's 'above and below' and his 'higher and lower' are linear.

"'Out* expressly is the containing and the contained: in synergetics, the omnibracing and the permeating."

- Citation &. context at Synergetic Hierarchy_T 5 May'74

See Anydirectional

In & Out

In. Out & Around

Point: Outbound Point Outside

See Directionless, 19 Jun*71*

See Resouces: Freeh vs. Waste Valuable Chemistry

See Dymaxion Artifacts, (1)

Wichita House, (2)

Scrap Sorting *h.* Mongering, (3)(4)

Outbreeding:

Sea Inbreeding, Jun'66

See Events *k* Nonevents, 16 Dec'73

See Indoors ve« Outdoors

Outlaw;

"Three-quarters of the spherical Earth's surface is water and men's dry-land-made laws were unenforceable upon the seas. Those whose lives were lived on the sea lived outside any manmade laws and were inherently * outlaws_T' not because they flouted other men's laws, but because they lived and operated where only the physical laws of Universe were enforced. And those laws of nature were often formidably harsh. The sailormen had to take the initiative moment upon moment, and with keenest logic, else they perished. But the sailormen of Penobscot Bay addresses as 'Darling*' or 'Dear' all young people both of its own family or of the stranger's family. He didn't learn to do so from Hollywood's people. The 'Darling*' custom antedates Hollywood by at least several centuries. The custom developed, we may guess, from the coastal-fisherman's throttling to idling speed his otherwise powerful and incisive capabilities. Getting angry at hurricanes won't save you. 'Easy does it ' they say,"

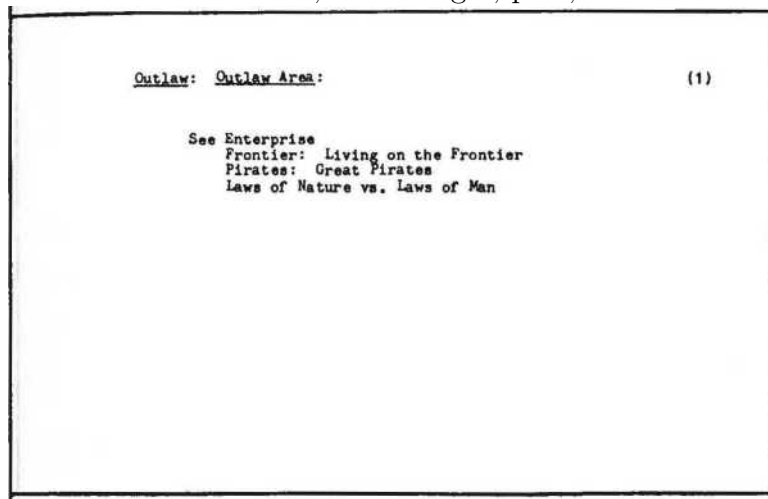
- Cite BEAK ISLAND LTUKY, galley p.1'7, 1968

The Outlaw Area:

". . . Since the last ice age three-quarters of the Earth has been water, and of the one-quarter that is land very little has been lived on. Ninety-nine percent of humanity has lived on only about five per cent of the Earth--- a few little dry spots. Now, the law has always been applicable only to this five per cent of the Earth, and anyone who went outside of it--- the tiny minority who went to sea, for example--- immediately found himself outside the law. And the whole development of technology has been in the attlaw area, where you're dealing with the toughness of nature. T find this fascinating and utterly true. All improvement has to be made in the outlaw area. You can't reform man, and you can't improve his situation where he is. But whehw you've made things so good out there in the outlaw area that they can't help being recognized, then gradually they get drawn in and assimilated. . .

"A good example of what I mean is going on right now in the space program . . . where there's no atmosphere and no water and no sewer lines and no berries to eat, for the first time in history you have to look out for man. Inadvertently, man is trying for the first time to learn how to make man a success. It-'s inadvertent, but it's being done."

- Cite Calvin Tomkins, New Yorger, p.?8, 8 Jan'bb



See Up & Down Sequence, IfcJ

Outline:

See Windowing the Nothingness, 25 Mar'76

Out-lining:

"Out-lining - perimetering: empty-picturing the divergent outwardness, i.e. somethinging the nothingness: How to see or identify nothing.

"In-lining - in-sighting: conceptualizing in the direction of multiexperience trends convergence."

- Cite RBF holograph for EJA; Windsor Castle, Berks; 22 Mar'76

See Sweepout

See Middle, Feb»73

tXitset:

See Dymaxion Outset Eternal Outset Beginnings Start: Starters

Outside:

"It might be argued that inside and outaide are the same, but not so. While there are an infinity of insides in Experience Universe there is only one outside comprehensive to all insides. So they are not the same..."

- Citation and context at Spherical Triangle Sequence (ii), 26 Jan

Outside: What¹a Outside Outside?:

"I'm sure you have often said to yourself: I wonder what's outside outside.* That question assumes a static, instant sculptural, single-frame concept of Universe, which sculptural, static array has an ¹ outside.* But you cannot

have an outside to a scenario,"ⁿ

- Cite Museums Keynote Address Denver, p. 10. 2 Jun'71

See Sight: No Man Has Ever Seen Outside of Himself Imaginary Universe vs. This Universe Not Out of This World Shapeless: Universe Does Not Have a Shape

See Sculpture as Single Frame, 22 Jul¹71

Shapeless: Universe Does Not Have a Shape, 1965

Measurement, (p.65) 1969

Out, 1 Jun'71

Scenario, 24 Apr'67

Outside-Out;

"Now, what we call thinkable is always outside-out. *What we call space is just exactly as real, but it is inside-out. There is no such thing as right and left!"

- C. > iM ~ TUY « un p
- Citation at 1 May* 71

Parity

See Convex & Concave: Law Of, 27 May'72 Outside-out, 1 Kay *71

See Convex & Concave

Insideness It Outsideness

Rubber Glove

Shape:

Sight: No Man Has Ever Seen Outside of Himself

Spherical Wave

Shell Growth Rate

See Civil War, (2)

Parity, 1 Fay' 71 □ Spherical Triangle Sequence, (ii)*

Outward Limit of Nuclear Phenomena:

See Vector Equilibrium: Three-frequency V5, 18 Oct'72

Outward:

See Inward & Outward

Oval:

See North Face Borneo, 20 Sep'76

Oyariee:

See Female, 20 Apr'72

Ovattonal Gearing:

bee Energetic Functions, 1954

Overlapping:

"Nouns can be at the same time, but verbs cannot. Events can never be omnicongruently simultaneous, which would mean having all the component-four events' beginnings and endings always simultaneous. Events occur. Occur is a time word. The overlappingness of scenario Universe makes events appear simultaneous when they are not. Events are only overlappingly co-occurrent but never omn simultaneous.**

- Cite SYNERGETICS, 2nd. Ed. at Sec. 530.12, 30 May'75

Overlapping:

". . . That overlapping quality that gives you a continuity of life despite individual births and deaths."

- Cite RBF in Barry Farrell PlayboAInterview/ 1972 - Draft, p.17.

Overlapping:

`` Overlapping because every event has duration and their initial and termination are most often of different

duration.”

- Cite RBF marginalia Universe draft 28 Feb '71

* Cite also SYNERGETICS, "Universe," Sec. 302. Oct. '71

Overlapping:

"We discover our way by overlapping interrelatednesses.

- Citation & context at Thinking (b), 5 Jul*62

Oygrlapplivu

(1}

See Interweaving Partially Overlapping Scenario Tapestry Young & Elders

.QY.ftrla_{re}lng:

(2)

See Building. 10 Sep*74

Death, 22 Jul*71

Ecology Sequence, (A)

Human Beings, 1972

Intuition Sequence, (1)

Music, 4 Mar*69

Scenario, Kay*72

Thinking, (bj»; 1960

World Game: Grand Strategy, 2 Jun*74

Duality of Universe, May*49

Otherness Restraints & Elliptical Orbits. (2)

Jlloya, 30 May'75

Nonsimultaneity, 30 Kay*75

Thirty Minimum Topological Characterlatlea, (l)

Minimum Awareness, (1)

Starting with Universe, J1 May*75

Tunability, 24 Apr'76

Overlive:

(1)

See Cumulative Patterning Overlays

Overlays:

(2)

See Synergetics, 1959

Overload the System:

. The system knew what to do and has been overloaded¹ or 'starved' by ignorance. Learn how not to overload or starve. Let trace elements be available. Don't meddle."

- Citation and context at Triangular Tology Integrity, 15 May*72

QYorp<?puXau?n»

See Population Explosion

RBF DEFINITIONS

Overproduction:

Q. Isn't overproduction an inevitable outcome of increasing industrialization?

RBF: "I talk about disassociating industrialization from

money-making. Money makers hoard and prohibit release of good information. It would only be overproduction if stupidity was operating."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb'75

Oversight:

See Science Opened the Wrong Door

Overspecialization of biological Species and Nations:

"At the December 1962 annual meeting of the American Association for the Advancement of Science a research paper was read which showed that biological species and nations which have become extinct did so because of their becoming overspecialized .**

- For citation and context see Computers As Specialists.

13 Aug '64

Overspecialization of Biological Species:

Generalized Principles, p.3, 28 Jan'69

Trend No. The Prospect for Humanity, WDSO Doc. 3, p. 69, Aug'64

See Bird's Nest as a Tool

Extinction

Human Being at the Center

Overspecialization of Biological Species: (2) See Divide & Conquer Sequence (1)

Generalised Principle (4)

Overspecialization of Biological Sciences:

See Club of Rome: Limits to Growth, (C)

Overspecialization:

See Degenius, 26 Sep*68

Pollution, 12 Jun*69

Nonsimultaneity, 7 Nov*73

See Mine: That's Mine

Private Property

Obsolete: inventory of Obsolete Concepts

Service Industry

Cosmic ve. Terrestrial Accounting

Havenness

Property: You Can't Take it With You

Land Exploitation

Deed: (Property Deed)

Mobile Rentability vs. Immobile Purchasing

See Resources, 4 Jul*72 Design Science (B) Telephone (1)(2)

fttlflrt "niYgrgtY-

See Divide &. Conquer Sequence, (4) (5)

Oxygen: See Circuit: Hydrogan k Oxygen aa a Circuit Air

18: Add Card 12913

P

Package:

• • • Package* ie a thing word and I don't think things; I think verba. I keep house cleaning my language— but, there, 'house' ie a bad word too. In my spontaneous reflexes I often use reflex thing words. I apologize.”

- Cite RBF videotaping in Philadelphia, PA., 1 Feb'75

Package:

"We package our foods coming inbound: 'Why don't we package them going outbound? It's just exactly as easy. When nature takes so much trouble to separate liquids and solids it is preposterous to put them together again."

- Citation 4. context at Wichita House, (1) (2), 31 Jan'75

RBF DEFINITIONS

Package:

`` Radiation is always packaged... All the quanta are local- system, center-of-event activity, focal points--- fractionations of the whole point: what are minimally, ergo most economically packaged, and expanded outwardly and omnidiametrically as three-central-angle-defined tetrahedra."

Citation and context at
tv of Universe.

2) Sep*73

Package:

"In the quantum and wave phenomena we deal with individual packages. We do not have continuous surfaces. In synergetics we find the familiar practice of second powering displaying a congruence with the points, or little separate energy packages of the shell arrays. Electromagnetic frequencies of systems are sometimes complex, but they always exist in complementation of gravitational forces and together provide prime rational integer characteristics in all physical systems. Little energy actions, little separate stars: this is what we mean by quantum. Synergetics provides geometrical conceptuality in respect to energy quanta."

- Cite SYNERGETICS draft at Sec. 964.33-, 17 Nov'72
Package;

"... Angular accelerations are in finite package impelments which are chordal (not Arcs)..."

- Citation and context at Hexagon. Nov'71
fflgkaged Creepy

"... Experience ia often a packaged concept. Such packages consist of complexedly interrelated and not aa-yet differentially analysed phenomena which, as initially unit cognitions, are potentially re-experienciable."

- Citation and context at Brain and Rose. 3 Jun'72
See Conceptuality. 1965

Earth. 1965

Equanimity Model. 26 May*72 Point, 19 Feb'72; 1 Apr'72 Spherical Triangle Sequence, leJ

Packaged:

"Each experience begins and ends; ergo is finite. Because our apprehending is packaged, both physically and metaphysically into time increments of alternate awakenesa and asleepness as well as into separate finite conceptions such as the discrete energy quanta and the atomic nucleus components of the fundamental physical discontinuity, all experiences are finite."

- Citation & context at Universq (p.62), 1969
Packaged;

It is the nature of all of our experiences that they begin and end. They are packaged. For instance, we see in 60 separate picture frames per second, as in a movIng«picture continuity. Each fraae is a finiteincre-ment. Our brain's afterimage lag is so powerful that it gives a sense of absolute eccentricity / ` ` sic_7 to our only-subconsciously packaged seeing. We wake up and go to sleep.

SHi HAS* Opuui.li, p«jW| Jun'66

- Citation and context at Finite, Jun'66
See Container

Diecontinuity

Discrete

Energy Package

Finite Package Photon Quantum Vector Equilibrium Package Periodic
Experience Terminal Outbound Packaging

See Centers of Energy Rebirth, 16 Nov*72

Finite, Jun'6b*

Hexagon, Nov*71*

In, 1 Jun*71

Integrity of Universe, 23 Sep'73*

Metaphysics, 2 Jul*62

Point: Outbound Point, 23 Sep*73

Polyhedron, 20 Feb*73

Powering (fl)

Rose, 3 Jun*72*

Thinkability: Thinkable System Takeout, 16 Jun*72

Thinking (2)

Universe (p,62) 1969

Dwelling Service Industry (B)(D)

Scenario, 1 Feb*75

Wichita House, (1)(2)*

Dome House Grand Strategy: 1927-1977 (2)

Human Beings & Complex Universe, (1)

Packet:

See Autonomous Living Technology Packet

Paddle;

See Precession, (II)

Paiq;

See Good ft Bril Sequence, (2) Human Belnge & Complex Universe, (1)

EAIRED CONCEPTS: CHECKLIST

U)

See Aesthetics ft Intuition* Annihilation & Conservation* Annihilation
ft Synergy Antipriorities ft Priorities* Apprehending ft Comprehend-
ing Articulated ft Unarticulated Articulating ft Observing* Aesthetics
ft Integrity Angle & Frequency Action & Thought* Artifact ft Grand
Strategy Always & Only Away ft Ago

See Boast t. Fear

Blas: Fear & Political Bias* Bonding &. Degrees of Freedom* Black
Holes & Synergetics Behavior & Environment

See Circuit 4 Noncircuit

Comprehending & Apprehending* Connections 4 Relatedness Critical
Proximity 4 Orbital Escape* Conservation & Annihilation Complemen-
tary 4 Reciprocal Consciousness 4 Time¹* Climate A Intellect Cosmic
Discontinuity A Local Continuity Convergence & Nonconvergence Cold
A Vacuum

Cognition &. Time*

Coming Apart & Holding Together Conceptuality 4 Space Congruence
4 Incongruence Complex Universe 4 Human Beings*

See Discovery k Loss

Domain k Quantum

Discontinuity k Energy Flow* Degrees of Freedom & Bonding Decay k
Growth*

Cited under other formulation

See Energy & Number

Escape: Orbital Escape & Critical Proximity*

Experiences & Principles

Energy & Information

Energy i Intellect

Energy & Time

Elliptical Orbits & Otherness Restraints*

Energy Flow i Discontinuity

Embracement & Nucleus*

Energy a. Volume

Energy <fc Thought*

Eventings & Sensings*

Environment & Behavior*

Everywhere & Everywhen

See Fear i Longing Fear & Political Bias Figures t Words Fear &

Boast* Frequency k Mass* Frequency &. Angle* Frequency t Gravity

Frequency k Magnitude Frequency k Wave

See Geometry & Number

Gravity & Frequency*

Growth k Decay Grand Strategy k Artifact*

Generalists k Specialists

See Human Mind ft Physical Evolution Holding Together ft Coming

Apart Human Beings ft Hard Machinery Human Beings ft Complex Uni-

verse

Paired Concepts: °h«=iaiat I¹)

See Information 4c Energy*

Intellect 4c Energy* Intellect & Climate*

Intuition & Aesthetics

Intellect & Physical Universe* integrity & Aesthetics*

Islanded Radiation & Tensional Constancy

Incongruence & Congruence*

Inescapable & Only*

Pfllrad. cgncepta: ShsgMIM ⁴⁸

(K)

See Know-how, Export Of & Transnational Capitalism*

See Longing & Fear*

Loss & Discovery*

Local Continuity & Cosmic Discontinuity*

Love 4 Truth*

Line a Nonline

See Mechanics i Structure*

Mass k Frequency

Magnitude k Frequency*

See Noncircuit i Circuit*

Nonself & Self*

Number & Energy*

Now 4 Self*

Nontruth k Truth

Nonconvergence & Divergence*

Number & Geometry*

Nonline & Line*

Nucleus 8c Embrace

**See Orbital Escape & Critical Proximity Otherness Restraints & Ellip-
tical Orbits Otherness & Self* Observing & Articulating Only Always*
Only and Inescapable**

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See Proximity i Remoteness

Proximity: Orbital Escape & Critical Proximity*

Political Bias & Fear*

Principles & Experience*

Priorities & Antipriorities

Physical Evolution it, Human Mind*

Physical Universe fc Intellect*

Principle & Resource*

See Quantum *tc* Domain*

See Remoteness & Proximity* Relatedness & Connections* Reciprocal & Complementary* Review k View* Rate i Terminal Reinvestable Time k Survival Needs Resource & Principle

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Synergy k. Annihilation* Self ® Unity* Structure & echanice Syntropy & Time Self & Otherness Self-now Surface-volume* System 4 Zero* Spheres 4 Vertexes Structural Performance 4 Site Space 4 Conceptuality* Survival Needs & Reinvestible Time* Space Nothingness & Time Somethingness Synergetics & Black Holes* Sensings it Eventings Sleeping 4 Thinking Specialists 4 Generalists*

See Time 4 Energy

Time 4 Consciousness

Time & Syntropy*

Truth & Love

Truth 4 Nontruth

Time 4 Cognition

Terminal 4 Rate*

Thought 4 Action

Thought 4 Energy

Tensional Constancy 4 Islanded Radiation*

Transnational Capitalism 4 Export of Know-how

Time Somethingness 4 Space Nothingness*

Tuning-in 4 Tuning-out

Thinking 4 Sleeping*

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Unarticulated & Articulated⁴⁹

Unstructurings i Restructurings

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Spheres* Volume & Energy*

See Words & Figures* Wave k Frequency*

See Zero & System

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Paired Concepts: Checklist: (1)

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Dichotomising Equals: Checklist

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Nonequals: Checklist

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See Complementarity, 12 Sep'71

See Reciprocal Involvement

Sleeping in the Same Bed

See Congruence, 25 Aug'71

See Cofunctions

Coupled: Coupling Covariables: Covariation Paired Concepts: Check-list Prime Numbers: Pairing Of Swimmers: Two Swimmers Twins

Two Kinds of Twoness Quantum: Event-paired Quanta

See Generalized Dichotomy: Grand Strategy, (1)

Palm:

Sea Pine Tree & Palm Tree Belts

Palpitate:

"... Nature oscillates and palpitates asymmetrically in respect to the frame of the omnirational vector equilibrium, the plus and minus magnitudes of asymmetry are rational fractions off the omni rationality of the equilibrious state. .

- Citation & context at Vector Equilibrium. 21 Dec*71

- CL r-.J11VIL EQ uaohingtorr-Uir, 41

See Oscillation

Oscillation & Pulsation

Pulse: Pulsive: Pulsivity

See Now, 14 Feb'72

Physical Reality, 1 May'71

Vector Equilibrium, 21 Dec*71; 1 May*71

Modules: k to B Quanta Modules, 20 Dec '73

Pandora's Box of Invisibility:

(See Transcript of RBF address to MXC

Dubuque, IA, 15 Dec. '71, p. 17.)

&J1£'

See Official Panic

Fira In a Theater

See Human Tolerance Limits, (2)

(2)

See Child Tearing Paper Newspaper Foldability Mark Your Paper

See Curvature: Simple, (1) Drawing, 1971 Squatters, (1)

Parable:

"Playboy: 'But since you mentioned Adam and Eve a moment ago, let's take the Garden of Eden as a parable and ask if the element of man's will mightn't make him a stranger to this universal perfection. Couldn't the Scenario Universe be a tragedy as far as human affairs are concerned?'"

"Fuller: 'In the first place I don't take anything arfa parable. I'm interested in stories if I can understand them, but I don't use fiction as the basis of doing any strong thinking, •specially wheh it comes to such matters as •man's will.' I think we'd better not assume that what we've been told about the Garden of Eden has any validity whatsoever. I don't think there was a Garden of Eden, and I don't think there was an Adam and Eve, and I don't think Eve was born out of Adam's rib. So I can't accept the parable. '"

- Cite RBF in Barry Farrell PLAYBOY Interview, February 1972, Above passage was in BF transcript, but omitted from final passage as it appears on p. 66. of magazine.

Para ble:

**See Christian Legend &. Philosophy- Goldilocks and the Three Bears
Myth Naga Theme Legend**

Parabola: Paraboloid:

See Hyperbolic Paraboloid

See Computer: Paradox of the Computer Zeno's Paradox

See Artist: Histrionics (1)

Parallax:

"When the relative circle size in respect to the observer is of macro-differential magnitudes, such as that of the circumference of the galactic system in respect to each planet observer, then the central-angle magnitude of the subtended macrocosmic arc becomes undetectable and the astronomer and navigator assume parallelism—parallax— to have set in, which produces a constant factor of error which must be incorporated in mathematical formulation of system descriptions. In quantum accounting and analysis of energy events and transformative transactions, this parallelism separates one quantum tetrahedron from its three surrounding tetrahedra."

- Cite SYNERGETICS draft at Sec. 539.10, 23 Sep'73

RBF DEFINITIONS

Parallel:

"There can be no nucleus with parallels."

- Cite RBF holograph at SYNERGETICS 2, Sec. 100.000; 28 Mar'77

Parallel:

"Parallel and antiparallel are precession."

- CTte-RBF

SnWfcirt.c

- Citation at Precession, 5 Sep'65

Parallelism;

'Parallelism is uniquely characterizing the three dimensional system."

- CHx- Carteonde±e-Oraft--- Nature*s Coordination---

- Cite Oregon Lecture, f7, p. 245. 11 Jul¹62

Pa.ra2A.ftl • Quagi-Parallel Lines:

The bow tie symbol "is currently more fitting as an equation symbol than the old equation mark because we know that parallel lines, or conditions, are impossible, however, quasi-parallel lines, never coming in contact, are procreatively sterile."

` ` The is, then, inaccurate as a sign to link integrators and product."

- eiTFTUkr. CHXINs, p. 42 , 1938

- Citation i context at Teleology:

Bow Tie Symbol, 1938

Parallel: Quasi-parallel Lln:

See Teleology: Bow Tie Symbol, 1938

See Antiparallel Inflection Interparallel Nonparallel Parallax Convergent vs. Parallel Perception Series vs. Parallel Circuitry XYZ Coordinate System

ParaXlal: (2)

See Curvature: Simple, (1)(2)

Equation Symbol, 9 May*60

Terminala, 4 Feb*68

Dimensionality, 30 Mar*75

Means, 22 Jun'75

Minimum Limit Case, 12 May'75

Nature in a Corner. 6 Nov'75

Verse vs. Prose, 11 Dec*75

Nuclear Pattern of Growth & Decay, 8 Dec*75

Dynamic Equilibrium, 24 Apr*76

Module: A Quanta Module: Introduction Of,
22 Feb'77

See Force Lines: Omnidirectional Lines of Force

(1)

See Deliberately Nonetralght Lino

t'ar»i;elograa:

12)

See Prime Vector, (2)(3)

Parameters:

"... The variables outside the system may affect the system from outside. In varying degrees specific levels of sub-classes of these 'background' or outside variables are identified as parameters. This background 'inside and outside' concept is a two dimensional or flatprojection concept."

- Cite UMNIDIRECTIONAL HALO, p. 1 53 , I960

Parameters:

"Our omnioriented Halo concept converts the parameter consideration to conceptual four dimensionality and discloses a set of parameters inside as well as outside the zone of lucidly considered WMB system* stars. And the parameters are at minimum fourfold: (1) the convex twilight zone of inward relevancy, (2) the concave twilight zone of outward relevancy, (3) the stark nonconceptual irrelevancy inward, and the stark nonconceptual irrelevancy outward. Parameter (1) is a tetrahedron. Parameter (2) is a tetrahedron. Parameter (3) plus parameter (4) comprise an invisible tetrahedron."

- I DIRECTIONAL HALO, ~p, 153, I960

- Citation *k* context at Halo Concept. 1960

See General Systems Theory, 18 Dec'74 • 0| (B) Halo Concept, 1960*
» Nov'71 Variables: Theory Of, 1960; Nov*71 design Science: Grand
Strategy, 31 Jan'75 Omninalo, Nov'71

ParapavchPIQ£Y;

See Ho >agic Universe, 8 Apr¹75

Parents;

"Sometimes parents say 'don't*' because they want to protect the child from getting into trouble. At other times, when they fail to say 'no,* the child gets into trouble. The child, frustrated, stops exploring."

See Children

Education

Mother

Televieion: Third Parent

See Environment, 22 Jul'71 Freeh, 3 Oct*71

Parity:

"That la the way our Universe la. There are the visibles and the invisibles of the inside-outing nonsimultaneity. What we call thinkable is always outside-out. What we call space is just exactly as real but is inside out. There 1b no such thing as right and left,"

- Cite SYNERGETICS text at Sec. 507.02, Nov'71

Parity?

"Now, what we call thinkable la always Allie-out, What we call apace la Juat exactly ai real, but It la inalde- out. There la no auch thing aa right and left!"

- Cite Rbf to BO*I. Carbondale Done, 1 May 1971.

Towe a'ruaurYpa«>TY- SEC 3 ' >l.o'L\

Parity:

"Positive (right) and Negative (left) nake one tetrahedron;
therefore no parity.

1 + 1 « 4.

- Cite P. PEARCE, Inventory of Concepts, June 1967

oMctprCiirY—P.ZIT Y- SFCS»7.ft

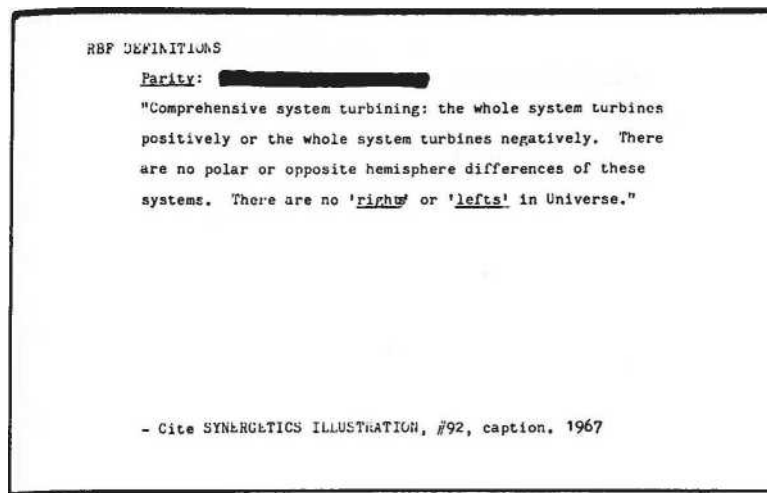
Parity:

"We cannot build Universe with juat the rightness or leftneas 'blocks' exclusively of one another***

- Citation and context at Monological, Jun'66
parity-

"... Physics long-held law of conservation of parity held the obverse and reverse to be identical, ergo, redundant.**

- Cite OWNIDIRECTIONAL HALO, 1960, Pp. 153-156.



RBF DEFINITIONS

MHB ^{Par}UY & Disparity:

"Disparity is a complementary of parity."

- Cite RBF to EJA, Beyerly Hotel, New fork, 19 June 1971.

Cone w'ru *MT Y- fa < rry- sec. y»7.o5

fruity & uisparUy:

"The complementary of parity is disparity and not a reflective image."

- Cite RBF reqrite of SYNERGETICS galJey at Sec. 507.06, 6 Nov'73

forUr

See Complementarity Complementor Disparity Left & Right Negative
Mirror Image Non-mirror Image Parity & Disparity Proton & Neutron
Rubber Glove

Partial Generalization;

See Vector, 26 May'72

Partially:

•... A vector is a partial generalisation being either metaphysically
theoretical or physically realized, and in either sense an abstraction
of a special case..."

- Citation and context at Vector. 26 May*72

KdF UnFINITuKS

Partiality:

Q: is partiality a complementary of totality?

A: Synergy says/Partiality is inherently a complementary,

which means it is not witnessable in the part, per se. The part does
not say it, but they are always intercomplementarities. You have to
have the other parts in order for them to be complemented by.

- Cite RBF answer dictated to EJA. Kennedy airport, NY,
1 Apr '72

Partiality:

"Compression is inherently partial. Tension is inherently
total."

- Citation at Tontlon fc Conoro.alon- Dec'71

- Cite Synergetics Jiraft at Sec. 6/.O.70, Dec. *?1.

~~Cite RBF at Students International Meditation
Ur-tass, Amsterdam, 22 July 1971.~~ Partiality:

"Conceptuality is systematic but always partial."

L Sdniiiax *

- Citation at Conceptuality_t 22 Jul'71

See Cosmic Partiality Part: Parts: Partial: Particulars Totality

Partiality:

(2)

See Conceptuality, 22 Jul'71* Experience. 12 Sep'71 Tenaion Com-
preaeion, Dec*71* Vector, 26 May'72*

nBF dsFIKITIUKS

"The complex of event sequences are most often characterized by
overlappings. A man is born, grows up, has children and grandchil-
dren. His life overlaps that of his grandfather and father and that of
his children and grandchildren. But his grandfather's life did not over-
lap his children's nor his grandchildren's lives. Hence, partially over-
lapping."

- Cite ItBF marginalia

Universe draft - 2£ Feb 1971

301. os']

See Newton vs, Einstein (2}

Scenario, 1 Feb'75

RBF DEFINITIONS

Particle:

"The primitive is quite different from the fundamental particles game
of the high-energy research physicists."*

- Citation & context at Primitive. 19 Feb*76

R0F DEFINITIONS

Particle:

"A unique energy patterning--- erroneously referred to in archaic
terms as a particle."

- Citation *L* context at Annihilation, 13 Nov'69

CMCrruHny-_{5e}c

RBF DIKITHAL

Particle:

(D

"One of the most interesting things about the modern chemistry and physics is that men have discovered that there are no things, there are no small particles. The physicist deliberately misleads society by using-the ,words 'solid state*' and things like that and-by still using the word particle. .. he may say that of course, he doesn't mean anything by it, but he just doesn't know what else to call it.. He is so busy with his work that he doesn't want to bother with semantics so he aalls it a particle. There is some kind of local preoccupation here and we just call it particle. We identify it as special local behavior. It is a special local behavior but it is pure principle, such as the wave concent. It has no weight whatsoever. . .

"a'e well then® get in to what we call the nucleus, the positive particles if you want to call them that. 3ut it has since been discovered that every one of them has an antiparticle. All the negative particles have negative weight and so you have neutrons, positrons, and so on: you have positives, and negatives and neutrals. The sum total of

- Cite Oregon Lecture #4, p.123, 6 Jul'62

"all the fugitive weights and all the negative weights is »ero. You are dealing in pure principle. This is the actual fact. And it is weightless. There is no smallest thing.

There are very minute energy events in pure pattern, but they are pure pattern--- Just as the knot was not a rope but a pure regenerative principle. The wave was not the water or the milk or the kerosene. The quantum in wave mechanics is simply the way we deal with these pure principles in an absolutely weightless manner."

- Cite Oregon Lecture #4, pp.122-123, 6 Jul'62

RBF DEFINITIONS

smallest, hard-core,

Particles;

"There are no ponderable,
'thing' particles.'*

1

Cite SECOND HAND GOD, p.36
9 Apr*40

See fIMBMHHI

Wave vs. Particle

Whole to Particular

Corpuscle: Corpuscular

Rules of No Actual Particulate Solids

Strange Particles No Building Blocks Quarks

See Energy Event, 1} Far*73

Minimum Set, 18 Nov'72

Modelability, (a)

Invisibility of Macro- and Micro- Resolutions, (2)

Primitive, 1y Feb'76*

Proofs, 3 Fay'77

Bubble Bursting, 20 Jan'78

PartUMla.EUX-

"Quantum implies particularity."

- For citation and context see Module .1 Jun '71

Particulate model:

"Because of indeterminism, discontinuity, the exclusive tenuous nature of integrity, means that no hard particulate models may ever be fashioned by man."

- Citation at Tenuous. 10 Feb*73

EarthGUlatfli Particulate Model;

See Quantum, 1? Feb'73

"The tetrahedron can be considered as a whole system or as a constituent of systems in particular. It is the particulate.

- Citation at Tetrahedron, 7 Mar'73

See Grass: Putting Aside the Grasses Swimmer: I Am a Swimmer

See Self-experience. 193S

Part:

"The Ancient Greeks initiated problem solving By recourse to cosmology and cosmogony. By proceeding from the whole to the part Lest they miss

The exquisite relevance

Of each little part or event,"

- Citation at Wholes & Parts May'72

- atwmffmnrrii/hr MW

Part;

"And in fact

No property of one part

Considered only by itself

Predicts the existence of another part—”

- Cite INDTION, p.27, May *72

Parts:

”Functions occur only as parts of systems.”

- Citation and context at Functions 26 May*72

Parts;

”... The more symmetrical, the less the number of parts types

- Citation and context at Siapllicity. 1954-59

Parts:

”It is a derivative corollary of synergy that there are no parts. for parts always turn out to be subsystems of pattern. There is only pattern, there is only wholeness to begin and cease: the environment and content of all experience or experiment.

”It is a corollary of synergy that behaviors of subdivisions are of plural and alternate sets permitted and required of the larger pattern; and that there are always sets of complementary consequence M1 in respect to any of the selectable alternate permissible sets. Plurality of permitted freedoms within the whole is manifold.

”Effectiveness of synergetics is relative to comprehensiveness of initiation, its sub-behaviors being determinable to degrees of refinement permitting event prognostication within circumscribed limits of high fidelity attunement.”

- Cite RbF draft Ltr. to Jim (Fitzgibbon ?), Raleigh, NC, 1954-59, p.4a.

Parts: ”So-called fabricated parts of synergetic general assemblies, it should be remembered, are in themselves a complex of systems of overall morphation classification and function integrations; in turn comprised of multibillions of molecules, combining in themselves a plurality of unique atomic nuclear systems and their respective subsystem activities, each of which responds to its cues in the ever present larger synergetic patterns of local alloys or within the far larger synergetics of isotopal decay by transformation cycles.”

- Cite RBF draft Ltr. to Jim (Fitzgibbon?) Raleigh, NC, 1954-59 p. 14

bee Self«*consideration

fam I Bach Part In View *of* the Others:

See Design, y Dec¹73

£S£W SaU-mrta-r«nl» cl ng:

See Industrial Complex, 13 Mar¹⁷³

See Between

No Building Blocks

Energetics

No Absolute Division into Parts

Partiality

Particle

Particularity

Modules

Starting with Parts

Toenail

Wave vs. Particle

Prediction

Nonsystem Parts

Key-keyhole

Wholes & Parts

Highway is Part of the Automobile

**Mine is Part of the Mole Nest is Part of the Bird Tools are Part of Human
Beings Teleology - Reuniting of Parts**

See Couponent

Increment

Cosmic Parts: Coanlc Partiality Human Parts Replacement

See Child, 16 Jun'72 Conditioning, 14 Feb'72 Design, 9 Dec'73; 13 Dec'73; 4 Aug'74 Education (2) Energetics & Synergetics, 10 Jan'74 Epistemology of Quantum Mechanics, 16 Dec'73 Functions. 26 May*72* Gestalt, 1960 Instant Universe (1) Local Change, May'49 Mechanical Mind, 22 Jul'71 Simplicity, 1954* Spaceship Earth (c) Science (2) Specialization 28 Apr'71 rfhole System, 28 May*72; 16 Jun*72 Synergetics vs. Model, 28 Apr'74; (A) Dome: Rationale For (I)(II) Conceptuality, 16 Aug'70 Thinkability, 16 Aug'70 Time-size, 30 Oct'72

See Definable. 1959

Plumbing, (1J(2)

Weapons Technology, (2)

Boeing 747 Sequence 22 ,Jun»75

Understanding, 30 Sep'76

Generalization i Special Case, 23 Jan'77

Event, 23 Jan'77

Finite Event Scenario, (2)

PftrUUgng-

See Privacy, 22 Apr*61

Pass: "And It Came to Pass":

"I used 'pass-age' all the time in Shelter Magazine. It means the same thing as 'and it came to pass,' which means it came to pass, but not to stay."

- Cite RBF to EJA & Bob Kahn in Phila. office, 22 Jun'75

"... 'And it came to pass' la aooething like an event. It haa a 'before'¹ and an 'after'.,.*

- Cite RBF to Hugh Kenner, NY City, 29 Jun'72

Pa"And It Came to Pass":

"Bill Whitehead had never realised that 'And it came to pass means 'It came to go by,' that is something we could use as a chart or guidepost."

- Cite RBF to EJA by telephone from Phila., 1 Apr'73

Pass: "And It Came To Pass":

Synergetics text at Sec. 464.08

See Frame of Reference, 4 Oct*72

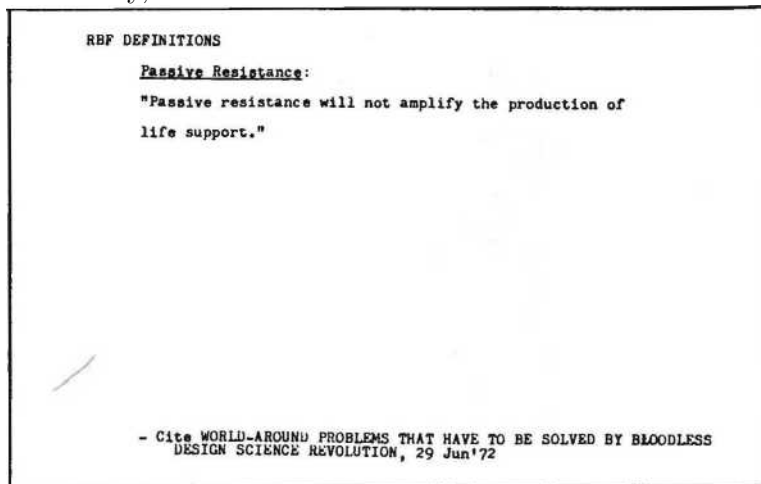
Paso;

See Twist-pass

Paaolgn?

See Intellection, Oct'66

Technocracy, 1938



passive:

See Active t Passive

See World Passports

See World Pattern vs. Local Pattern, 29 Jan'75 Desovereignisation Sequence, (3)

Pact;

"Life ia the Now event with its reaction Paat and resultant Future."

- Citation at Life, 1 Jun'71

Pftftt. °thflraaaa'

See No-tiae-and-away-ago, 28 May` 75 Tetratuning, 30 May»75 En-
vironment, (A)

See Historical Event Cognition

History

Yesterday

Swivel-moored the the Tonnage of our Past

Past:

Sea Death, 1970 Life, 1 Jun'71* Now, 25 Apr»71

KBF DEFINITIONS

Patent:

*A basic patent mist be statable In one line. That's the nark of an
original invention.**

- Cite HBF to 8JA, 3200 Idaho, WaA.DC, 16 Dec>73

KBF DEFINITIONS

Patent:

"Patent law and precedence requires specific choices of technical
way* and mean* for each patent claim. A number of claims can be
filed covering alternate realization* of the same invention. Overall
legal costs per patent are so high that usually but few of the alternate
realizations are covered, the most economical under the contempo-
rary economical conditions being hopefully selected by the inventor.
..."

- Citation and context at Inventability Sequence (2), 9 Jul'73

Patent:

"It is interesting that the Russians go along with the old patent idea. You can't apply for one; the government simply awards it at the point when it comes into use. And if the invention is so good that it gets adopted within 12 months, they award a patent and a patent in Russia gives the individual the right to go into any establishment and look things over and see what he might do; it gives him the right to ride wherever he wants on the transportation system; it is really a more effective thing than what we have here. He gets a fundamental advantage and an actual payment.

"It's interesting that the idea of giving Inventors some advantage persisted from the old feudal monarchies through democracy and into communism.

"A patent in the United States is just a license to sue. There have been over 300 licenses of geodesic domes and over 50 have been to big, major corporations. Every time their patent attorneys would come to mine, saying of course we'd like to get around your patent but it's too well written, so we have to come to you.... You absolutely have to have a world patent; a U.S. patent is useless."

- Cite RBF to Barry Farrell; Bear Island; Tape #8, Side A, transcript p.5; 22 Aug '70

Patent:

"In general, it can be said that patents are never granted for covering fundamental principles of nature. You cannot patent any unique geometry. I have a great many patents and none of them are granted in the terms

of the specific mechanical, structural, and chemical technology employed to realize an interaction of a plurality of principles,

"It is also necessary that there be a fundamental surprise quality in an invention. Though patents can be secured from the patent office, they hold up in court when this fundamentally unique and illusive quality of surprise is undeniably present..□

"I am saying these many things to you not with the idea of discouraging you as an inventor but to save you money in your patent work. I have always found it a great help to have powerful patent searches made. They often disclose earlier invention in areas where I had thought myself to be the inventor. I never let an earlier invention discourage me, but I do not want to kid myself into thinking I am an inventor when I am not."

- Cite RBF Ltr. to Steve Baer, 19 Apr'66

Patent

"The patent examiner's actions of one-third of a century call for subdivision because there is no comprehensive dynamic class of functioning environment valve.

"This is the case for simplicity in legal action where the simplest rather than the most complicated documents are most effective and most costly. The criterion for a basic

patent is one of approximately one sentence, or one line in length--- ergo, most far-reaching and of highest value, and resultant to the largest experience, and greatest breadth and penetration of thought and therefore resultant to greatest experience--- which is basic cost, ergo, most costly; but because of its end result being mistaken by the many for the just naturally obvious simplicity and therefore of negligible cost." °

{Slightly edited)

- Cite RBF holograph in cardboard file folder of Synergetic Notes, circa 1955

See Inventability Sequence Invention

See Einstein, 23 May'72; (A)

Philosophers, 22 Aug'70

Cosmic vs. Terrestrial Accounting, (2)

Large Patterns, (1)

Dymaxion Airocean World Map, (5)(6) ; (i)

See Critical Path

Parting the Strands Trail

Trajectory

Pathology: Preventive vs. Curative: (1)

"Nobody seemed to know where the housing traditions and the diseases they bred came from and why they were going on. I could not seem to be able to maintain health conditions as I wanted them in the kind of rentals I could afford, and I blamed it very much on housing. The more I saw of the housing world the more it seemed to me that about this great ignorance much could be done if we could think of our whole economics in the terms of preventive pathology instead of curative pathology. In our curative pathology we wait until somebody is very sick, and if they are lucky they might be able to get the right drugs from the research institute. I am talking of the picture of 1927.

"This present war has, however, seen an enormous advance in these curative matters. One of our boys here today had an infection in his nose which started in his eye the day before yesterday. They rushed him to the hospital and they gave him penicillin. He is all right now.

It might have been a fatal case a few years ago, since the infection would have gone right up into his brain. It is just wonderful; but that has happened now in 1946. War releases an enormous amount of technology, and that is at least one benefit showing up."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, pp.153.15U 1946
Pathology; Preventive vs. CuratITO;
(2)

"But that came as a remedial form of pathology.

"If we were really to attempt preventive pathology, we would question how these things got started and, it seemed to me in 1927, we would learn to measure and to adopt the enormous amount of data being sent down by technologists everywhere relative to measurements of man's Universe and man himself and the forces seeking to destroy him and we would try to build in advance a form of environment control for man that would be both occupationally, in the manufacture of this environment control, and equally, in its end use, prevent much of the present inroads of physical and mental and moral diseases into good health and well-being and general happiness."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p. 154), 1946
See Mend ve. Cure

froYantlYO yb. QuraUva:

(2)
See Economics, 1946
Patron: Patronage:

See Artist-scientist, May*60 Invisible Architecture, (A)(B)(DJ

Pattern:

"...And what would be necessary was really to

find out what were the great comprehensive patterns operating in Universe."

- Cite RBF quoted by Cam Smith in RBF to CHILDREN OF EARTH, Dec*72

Pattern:

"It is a tendency for patterns either to repeat themselves locally or for their parts to separate out to join singly or severally with other patterns to form new constellations. All the forces operative in Universe result in a complex progression of most comfortable---i.e., least effort, rearrangings in which the macro-medio-micro star events stand dynamically together here and there as locally regenerative patterns. Spontaneously regenerative local constellations are cosmic, since they appear to be interoriented with angular constancy."

- Cite SYNERGETICS text at Sec. 601.01; 3 Oct'72

Pattern:

"The Euler formula should be revised in arrangement of expression. You must have lines; you have to have two lines to have a crossing, which is a point (fixed). And you have to have three lines in order to have an area--- these being the basic constituents of a pattern."

- Cite RBF to BU'R, J200 Idaho, DC, 20 Feb »?2

Pattern:

'•Relationships are local to pattern. Patterns are comprehensive to relationships."

(Incorporated in SYNERGETICS text at Sec. 505.0?)

- Cite R0F to EJA, 3200 Idaho, Washington DC., 20 Dec. '71.

RBF DEFINITIONS

Pattern:

"One of the things we have to make clear for society is the dilemma of the Max-Planck-descended scientists, the way they do their problems, you can have either a wave or a particle, but not both simultaneously.

Heisenberg has the same fault. They make the error of having a wave as a continuity, as a picture--- not as a pulsating frequency. A planar reflex causes them to think of a continuous wave."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

Pattern:

"When we speak of patterns we speak of generalized patterns of conceptuality gleaned from a plurality of special case pattern experiences which have been experimentally proven to be without exception, always existent in every special case within the required class of

experiences."

- Cite NASA Speech, p. 100, Jun'66

Patterns;

. All patterna, for instance, numbers or phonetic letters, consist of physical ingredients and physical experience recalls. The physical ingredients consist inherently of event-paired quanta and the latter's six-vectored, positive and negative, actions, reactions and resultants.
 . . •

- Citation and context at Number. Jun'66

csMerrrvAZJTT

IMtu- 3f_C. 5»5.u

Patterns:

"Euler showed that all conceptual experiences which we can pattern, or form, are composed exclusively of the three patterning elements: lines, vertices, and areas. They are all that are necessary to analyze and inventory all parts of, as well as all whole, patterns. And Euler disclosed the three algebraic formulae characterising the constant relative abundance relationships of these three fundamental topological elements in all patterns."

- Cite CARBONDALE-DRAFT IV,41

, - NASA Speech, pp. 58~59. Jun'66

C«wetprufitrf SGC

Pattern:

"Kepes at M.I.T. made a beautiful demonstration that the scientist's and artist's need to articulate. He took hundreds of eight by ten black and white photographs of modern paintings and shuffled them thoroughly with photographs taken by scientists through microscopes or telescopes of all manner of natural phenomena: sound waves, chromosomes, and such. The only way you can classify photographs with nothing recognizable in them is by your own spontaneous pattern classifications. Group the mealy, the blotchy, the striped, and so forth. The pattern groups of photographs were put on display. The artists' work and the scientists' were indistinguishable. Checking the data, it was found that the artist frequently conceived of a pattern in his imagination before the scientist found it in nature. Science began to take a new view of artists."

- Cite RBF to AAUW panel; AAUW Journal, p.174, May'65

P/rTe*- Sec s-os.eri

Pattern:

"I see things sometimes in terms of vectors, sometimes in terms of the faces, and sometimes in terms of the vertexes which would be spheres. These are the three main aspects of all pattern as known by Euler. Euler found these incontrovertible minimum aspects of pattern."

- Gite-Carbondale Jraft Nature»_c Coordination, p.

- Cite Oregon Lecture #7, o. 245. g n Jul'62

CoKterrueux- p»rrF<« SEC. So 5. III

Patterns:

"It is very interesting to consider . . . a total

Inventory of the relative abundance of different patterns remembering that the patterns are reciprocal.

- Cite ORGEON Lecture #5 - p. 167, 9 Jul'62

c erHMUTY- -3 fe 5©5.<>5 I

Pattern:

"Pattern has emerged first from our preoccupation with getting rid of the irrelevancies and out of it has emerged a minimum constellation, a minimum consideration and it is a four-star affair. It is tetrahedral."

Citation *t* context at Irrelevanciaa: Birolaaal Of. 2 Jul'62

"The integration of all possibilities of the complementary alternates, though confinable, Inherently defies exact identity because the minimum is pattern and not isolated integer.

"All pattern has inherent plurality of viewable aspects, which are the reciprocals of pluralities of permissible viewpoints, for instance, from within or from without, a system.

"All treatable pattern is a subdivision of Universe, and disposes, in its first generalization, of the macrocosmiaand microcosmic irrelevancies.'* '

- Citation and context at Residual Error. 1954
Pattern;

"There is only pattern, there is only wholeness to begin and cease: the environment and content of all experience or experiment."

- Citation and context at Parts f 1954-59
Pattern:
"Abstraction has no pattern."

- fittir RBF marg'* na1 •< g iri n U'i*hnnnt SUHton .1951

- Citation at Abstraction. 1955
Pattern Analvala!

See Geometry, 14 Nov'73

Pattern Cognition Feedback:

"Fundamental wisdom can readily identify any and all Special case aspects within The generalized whole When listening Sensitive to one's intuitions By which alone The generalized sub-subconscious integration Of pattern cognition feedbacks Are articulated."

Pattern Cognizance:

It is a discovery of synergetics that "the addition of angle and frequency to Euler's inventory of crossings, areas, and lines is the absolute characteristic of all pattern cognizance.¹

(Synergetics; 251,02)

- -frLCT' >tlIP I UIUIBL.FTT HF R R —! I ! 11 -
- Citation at Synergetics. 20 Dec'71

"Structures are constellar pattern conservations. These definitions hold true all the way from whole Universe to lesser and local pattern differentiations all the way into the atom and its nuclear sub-assemblies. Each of the families of chemical elements, as well as their most complex agglomerations as superstar Galaxies, are alike cosmic structures. It is clear from the results of modern scientific experiments that structures are not things. Structures are event constellations

- Cite SYNERGETICS text at Sec. 601.02; 3 Oct'72

"Regenerative means local pattern conservation of energy events.

"Structures are pattern conservations."

- Cite RBF to EJA Beverly Hotel. New York 15 March 1971

See Local Pattern Conservation

Pattern Integrity

See Energetic-synergetic Geometry, Jul*59

Nonmirror-image, 22 May*73

Regenerative, 15 Mar'7»

Synergetic Accounting Advantages: Hierarchy Of_f (2)

Structure, 15 Mar*71

Pattern Evolvment:

"Unique pattern evolvment constitutes elementality.

What is unique about each of the 92 self-regenerative chemical elements is their nonrepetitive pattern evolvment which terminates with the third layer of 92."

- Gtite"RBF-ICS?rt~\$yneEegetlca draft. Sec 416.4, Bear island

2.-5 Au-piat. 1971 .

- Citation at Elementality, 2; Aug>71

See Elementality, 25 Aug'71* Rectilinear Frame, 24 Sep'73 Scheme of Reference, 24 Sep'73 Vector Equilibrium Frame, 3 Nov'73

Patterna of. ^Experlance:

Sea Angular Sinua Takeout, Dec'61

Pftttomg gf.ExMrltnco .^Rgtara upon Th_{MaB}XTca in ^AU ^Dlrcmonn;

See Nature Always Comae Baek on Itself Returning Upon Itself: Systems Return Upon Themselves

12)

Patterns at Rrmrlimea B«tumln_f Upon Thamaalvim in All Plractlona:

See Comprehension, Dec'61

Qgpcrallsauwv (1)

"Out of multi-overlaid experience pattermings there sometimes emerges an awareness of what we may call a coincidence pattern--- a localized thickening of points. These emergent patterns of frequency congruences and concentrations display a unique configuratlon-MHHH -Integrity which has up to now been so dilute in any one experience as to be only invisibly common to many differentiated or special experiences, e.g., a pack of one hundred 4-inch by 5-inch file cards each riddled with hundreds of different sized IMMA small holes. Each card appears to be chaotically patterned with holes. However, when the cards are stacked with edges aligned three holes in each card are vertically aligned; all others are obscured by blank spaces on one card or another. A triangular pattern relationship of

the light coming through three tubes in the stack of cards is now lucidly conceptual. To such persistently emergent, uniquely mutual, coincidence-patterning relationships as the same triangle array of holes in each and every card we may apply the term * pattern generalization¹ as used in a mathematical sense, in contradistinction to the word 'generalization' as used in the literary sense. The latter often means a too-ambitious subject range which consequently permits only superficial considerations of any specific case □Idata."

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, pp.118-119, 1959
Pattern freralization: (2)

"When the uniquely emergent generalised patternings become describable by us in mentally regenerative conceptual terms, as completely divorced from any one of the specific sensorial conditions of any of the special experiences out of which they emerged, yet apparently, as seen in retrospect, to have been persistent in every special case, then we may tentatively assume such unique mutual pattern content to be a generalized conceptual principle, as for instance the conception of tension as opposed to compression, independent of textures, smells, colors, sound, or size, or any one tension-dominated experience,"

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p.119, 1959

Pattern Generalization:

See Conceptuality, 24 Apr*71

Pattern w. Integer:

See Minimum, 1954

Pattern Integrity:

"A pattern Integrity operatea independently of the local environment in which we find it. Take a piece of rope. A wave. Its presence ia communicated by its interference, apprehended by our tuning capability."

"We have step-up, step-down transformations. The wave you can tune tells you of the wave you cannot tune by apprehension lags."

- Cie RBFat^{Penn BeL1} videotaping session, Philadelphia, "Pattern Integrity is a conceptual relationship independent of sense,"
- Citation and context at Structure_T Io Dec¹??

Pattern Integrity

"When we speak of pattern integrities, we refer to generalised patterns of conceptuality gleaned from a

plurality of special-case pattern experiences that have been proven experimentally to be existent always, without exception in every special case within the required class of experiences

- Cite SYNERGETICS text at Sec. 505.01; RBF galley rewrite of

6. Nov'73

Pattern Integrity.tv:

"We have topology as a pattern integrity."

Pattern Integrity:

"Each of the chemical elements are pattern integrities formed by their self-knotting, inwardly precessing, periodically synchronised self-interferences."

- Cite RBF insert Synergetics draft at Sec. 416.4. Bear Island.

25 August 1971.

TtS - IVMITY *ferret* Sic. SoS.'io*}

Pattern Integrity:

"Comprehensive universe is amorphous and only locally finite as it transformingly differentiates into serially conceptual pattern integrities, some such larger than humanly apprehensible, some such smaller than humanly apprehensible, ever occurring in nonsimultaneous sets

of human observings, time-cancelling, harmonically Integrative synchronizations are supra or sub human sensibility and longevity experiencability whose periodicities are therefore so preponderantly unexpected as to induce human reactions of overwhelming disorder, so that . . . suddenly around comes the comet again for the first known time in humanly recorded experience, periodically closing the gap and periodically pulsing through eternally normal zero."

- Cite RBF amplification to EJA on citation re Comet in Oregon Lecture #5, p. 158. Now in SYNERGETICS draft Sec. 614, 'Tension and Compression.' 1971

"ton is a complex of patterns or processes. We speak of our circulatory system, our respiratory system, our digestive system, and so it goes. Man is not weight. He isn't the vegetables he eats, for example, becase he'll eat seven tons of vegetables in his life. He is the result of his own pattern integrity."

TO UK-fr-VfeHBT-Ban tarn t 1970

- Citation at Maa aa Pattern Integrity, 1970

"... Man is not alone the physical machine he appears to be. He is not merely the food he consumes, the water he drinks, or the air he breathes. His physical processing is only an automated aspect of a total human experience which transcends the physical. As a knot in a series of spliced ropes of manila cotton, nylon, etc., may be progressively slipped through all the material changes of thickness and texture along the length yet remain in identifiable pattern configuration, so man is an abstract pattern integrity which is sustained through all the physical changes and processing."

Citation and context at Population Sequence (4), r.b'67

"Triangular structuring is pattern integrity itself.

- Cite NASA Speech, p. 54. Jun*66

fa.tWn hftggUi: (1)

"No sharp cleavage is found

That identifies the boundary between life and nonlife. Between the heretofore so-called 'animate*' and 'inanimate.'

"Viruses,

The smallest organised structures

Exhibiting 'life,'

May be classified either

As inanimate or animate,

As crystalline or 'cellular' forms.

This is the level also at which

The DNA/RNA genetic code is essentially A structural pattern integrity. Such pattern integrities Are strictly accountable Only as mathematical principles. Pattern integrities are found At all levels of structural organisation in Universe. The DNA/RNA is a specialized case Of the generalized principle of pattern integrity Found throughout life and nonlife."

- Cite HOW LITTLE I KNOW, pp. 71-72, Oct'66

Pattern Integrity: |₂)

"All pattern integrity design

Is controlled by

Angle and frequency modulation.

The biological corpus

Is not stictly 'animate' at any point.

Given that the 'ordering*

Of the corpus design

Is accomplished through such codings as DNA/HNA, Which are essentially angle and frequency modulation.

Then we may go on to suggest

That 'life,' as we customarily define it. Could be effected at a distance.

Precession is the effect
Of one moving system
Upon another.
Precession always produces
Angular changes of movements
Of the affected bodies,
And at angles other than 180 degrees;

**That is, the results are never Continuance in a straight line. Ergo, all
bodies of Universe"**

- Cite HOW LITTLE I KNOW, pp. 72-73, Get'66

"Are affecting the other bodies In varying degrees,

And all the intergravitational effects

**Are processional angular modulations And all the interradiation ef-
fects are frequency modulations***

"The gravitational and radiation effects
Could modulate the DNA/RNA

**Angle and frequency instructions At astronomical remoteness-- Life
could be 'sent on.***

"Within the order of evolution as usually drawn
Life'occurred' as a series
Of fortuitous probabilities in the primeval sea.
It could have been sent or 'radiated' there.

That is, the prime code
Or angle and frequency modulated signal
Could have been transmitted
From a remote stellar location.
It seems more likely
(In view of the continuous rediscovery of man*
- Cite HOW LITTLE I KNOW, pp. 73-74, Oct*66
Pattern (4)
"As a fully organized being
Back to ever more remote periodo)
That the inanimate structural pattern integrity,
Which we call human being,

**Waa a frequency modulation code message Beamed at Earth from re-
mote location.**

Man as prime organizing
• Principle¹ construct
Was radiated here from the stars--
Not as primal cell
But as a fully articulated high order being.
Possibly as the synergetic totality
Of all the gravitation
And radiation effects
Of all the stars
In our galaxy,
And from all the adjacent galaxies
With some weak effects
And some strong effects,
And from all time.
And pattern itself being weightless,
The life integrities are apparently

Inherently insnortal."

- Cite HOW LITTLE I KNOW, pp.74-75, Oct'66

RBF DEFINITIONS

Pattern Interritr: (5)

I "You and I

! Are essentially functions

Of Universe. We are exquisite antientropy.

"1*11 be seeing you! Forever."

- Cite HOW LITTLE I KNOW, p.75, Oct>66

"Into the molecular rope A complex slip knot has been 'tied' Which complex knot

Is both internally and externally

In the exact pattern

Of the complex pattern integrity---

Me---

Which has been slipped Alongfc the rope By time,

"And as the knot passed, The rope behind it Disintegrated and Its atoms dispersed And deployed into

Other biosphere function patterning.

- Cite HOW LITTLE, p. 21. Oct'66

"When I gave you the slip knot on the rope and we Moved it along--- now it was nylon, now it was manila and now it was cotton--- we agreed that it really wasn't any of these. They were just agiin colors and tactile experiences which reported something to us as a pattern. They were what I call a pattern integrity. I am saying to you that each of the chemical elements are pattern integrities the forms of local self-interferences."

- Cite d)HEGON Lecture #5 - P» 164 , 9 Jul'62

Pattern Integrity:

"My working theory is that man is an a priori pattern integrity of really very great importance.' "

- Cite Oregon Lecture #5 - p. 173* 9 Jul'62

MHA Pattern

"A pattern has an integrity independent of the medium

by virtue of which you have received the information that it exists---
the step-up, step-down transformation

medium.**

~~Oregon Lecture #5 - p. 171 » 9 Jul'62~~ - Citation and context at Tunability. 9 Jul'62

FATrFA-5FC 5d\$

"Every individual is a pattern integrity and it is an evolutionary pattern integrity; it is not a static pattern integrity."

- Cite Oregon Lecture #5, p. 171. 9 Jul'62

flmorn Xatwltr (A)

"No longer do I want to talk about the chemical elements as things but as pattern integrities. Each one of them is a unique pattern integrity... in a sense a form of knots. So we get where there are chemical compounds and the knots tend to be Interlinkable and they will catch on one another. This one is holding together, all right, but this ball of twine and this ball of twine, suddenly one weaves into the other every so often and associates...

"One of the interesting things I have found to consider about humanity, whereas each one of us weighs in at an average of seven pounds--- there is a pattern integrity that is very extraordinary, because no sooner is a child born than people say, •That is Aunt

Mary,' and so forth. There are certain strange pattern characteristics that suddenly reappear. And it is not just that there are species, that they are human--- I don't think people tend to do this too much, but they do, even in hybrids of plants--- to bring out the red and the white, split petal, or whatever it may be. At any rate, we say 'Tmhere is Aunt Mary,' and probably when it only weighed one ounce it still had Aunt Mary in there."

* Cite Oregon Lecture *H5*, P.16\$, 9 Jul'62

ptsplr — ' coMcFfTuaury — - *Arc*.

pattern integrity.: (B)

"There is some pattern integrity that came in in a family--- absolutely discontinuous, because Aunt Mary had absolutely nothing to do with this wedding. She was just Aunt Mary, and there is some Aunt Mary in this child, all right. I call that pattern integrity quite independent of the relative size--- whether it is the one ounce size, or the seven pound size, or the 70 pound size--- because later on it gets to be 70 pounds--- then it gets to be 170, and then it had better watch its Me-tracal. There is a pattern integrity which is something independent of weight; and each human being is an extraordinary complex of these pattern integrities."

- Cite Oregon Lecture #5, p.166, 9 Jul»62

Pattern Integrity:

. Waves are essences neither of milk nor water nor gasoline; the waves are distinct and measurable pattern integrities in their own right. The invariant relationships which govern pattern integrities in nature " are "'pure principle.' "

- Cite MARKS, p. 20 1960

- *tnTTiKf sec oS3z*

Pattern InUKritYi AXgmic Knots:

"Each of the chemical elements is a unique complex pattern of energy event interrelatednesses which interact inter-inter-feringly to continually relocalize the involved quantity of energy. These self-interference patterns of atomic element components are in many ways similar to the family of knots that are tied with rope by sailors to produce various local behaviors, all of which, however, result in further contraction of the knot as the two ends of the rope immediately outside the knot are pulled away from one another by forces external to the knot--- and thus all the attractive forces of Universe operating upon the atoms may result precessionally in keeping the atomic knots pulled together."

__ Cite RBF rewrite of SYNERGETICS galley at Sec. 505.21,

6 Nov*73

Pattern Integrity: Atomic Knots:

See Tensegrity Model of Self-interference of Energy

"... All the biologicals are continually multiplying

Their orderly, cellular, molecular, and atomic, structurings 'high metabolic conservation functioning completes the comprehensive pattern integrity equation

Governing orderly cosmic energy export-import balancing."

- Citation and context at Manifest: Three, 1973

Eajlfrn. Integrity --Phenomenon Without Name:

See Conversation Sequence, (1)

See Eternal Pattern Integrity

Intellectual Pattern Integrity
Knot
Man as Pattern Integrity
Metabolic Flow
Pattern Conservation
Topological Aspects: Inventory Of
Viral Steerability
Pattern Integrity - Phenomenon Without Name
You 4 I as Pattern Integritys

Wave Pattern of a Stone Dropped in Liquid Scan-transmission of Pattern Integritys

See Conversation Sequence. (1)*
Heres 1 Theres, 4 Jun'72
Man: Interstellar Transmission of Man. May'72
Medium, 9 Jul'62
Necklace, (2)
Population Sequence, (4)*
Regenerative Design: Law Of (2)
Structure, 25 Feb'69; 16 Dec'73*; Nov'71; 9 Nov'73
System 4 Jun'72
Triangle, (2)
Tunability. 9 Jul'62
Topology, 17 Feb'72*
Twenty Questions, (4)
Domain « Quantum, (1)
Omnitriangulation, 3 Oct'72
Vector Equilibrium Involvement Domain, 10 Dec'75
Geodesic Domes, 24 Jan*58
Stock Market, 1964
Mrcnromajmetlc Transmission of Human O_{rra}nlsm

i. Jun'77 '

Human Beings, 22 Jun'77

RBF DEFINITIONS

B Pat Wnlng-of. PAUSED Asia:

"/Tn §7 comprehensive view of nature the physical world 2~iB seen as__7 a patterning of patternings . . . , whose constituent functions are fields of force, each of which compenetrates and influences other localised fields of force.

"/"A pattern__7 is & macro-micro-oscillocosm.^w

MMKKS

- Cite MMMEK, P. 8. 1?60

rrrenu - STCS--fOf-bM +

Pattern Processing Machines:

"The computers, both large and small, are pattern processing machines of which the human brain is the prototype. As with the human brain all pattern processing consists of two main classes: differentiation and integration, i.e., specialization vs. generalization."

- Citation and context at Computer. 10 Oct *63

Htttarn-wkliut Function:

See Metaphysical, Jun'66

fASWP Sfflgg:

"I resolved to apply the rest of my life to converting my pattern sense, through teleological principle into design and prototyping developments governing the pertinent, but as yet unattended, essential industrial network functions.."

- Citation and context at Fuller. R.B.: Crisis of 1927. 14 Apr*70

Pau ora Sflngtr

See Blind Date with Principle, Jan*55

event8.”

- Cite rtdF in Corcoran Gallery Address, Washington DC, 2J Feb '72

Pattern Stability:

”A necklace has no pattern stability.”

- Cits RBF to H.U.D. Engineers, 2b Jan '72 at Washington

Pattern Stability: Pattern Stabliltatlon:

See Structure, 16 Dec'73; 27 Dec'74

Object, 9 Nov'73

Restraints, 8 Aug¹77

Pattern Strip Aggrwto Yrmbilif^{de}r

"Thus we learn sum-t@tally how a ribbon (band) wave, a waveband, can self-interfere periodically to produce in-shuntingly all the three prime structures of Universe and a complex isotropic vector matrix of successively shuttle-woven tetrahedra and octahedra. It also illustrates how energy may be wave-shuntingly self-knotted or self-inter-fered with (see Sec. 506), and their energies impounded in local, high-frequency systems which we misidentify as only-seemingly-static matter."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 910.26, 19 Dec'73

See Tetrahelix: Continuous Pattern Strip Waveband Tetrascroll

"Ler said, *We are dealing in pattern. Mathematic* ia pattern and there are irreducible aspects of pattern. That is the patterns do represent boss kind of events, There are the lines: a line is a unique kind of a pattern. If I have two lines, where the two lines cross is distinctly different from where the lines don't cross.' He called

this the vertex, the convergence. He said this is absolute pattern uniqueness.^{1*}

- Cite Oregon Lecture #7, p. 245. j_u n62

PerrtAx - sec SoS.iel TFMFCS — JT23. OJ)

See Unique Pattern

See Synergetics. 1959 Synergist, 1954 Vertex, Jun'66

See Awareness Patterns Circumference Patterns Complementary Pattern Continuous Pattern Strip Cumulative Patterning Overlays Ecological Pattern Evolutionary Pattern Evolvment: Pattern of Evolvment Flux Pattern Fountain Pattern Happening Patterns Hierarchy of Patterns Holding Pattern Interpatterning Interrelationship Patterns Largest Pattern Local Pattern Local Holding Pattern

See Local Patterning Aspects

Memory Album of Pattemlngs

Metaphysical Wave Pattern

Mini man Pattern Minimum - Pattern

Minimum Characteristics of All Patterns in Universe

Minimum Set of Patterns

Number Pattern

Omnidirectional Pattern

Pattern Strip Aggregate Wrapabilities Precessionally Shunted Pattern
 Relay Pulse Pattern Set of Patterns
 Shunting: Relative Motion Patterns
 Structural Pattern
 Subpattern
 Strip: Continuous Pattern Strip
 Tetrahelix: Continuous Pattern Strip Process Relationships
 See Tools as Part of the Pattern Man Triangulation Pattern Strip
 Unique Pattern Equations `` Pattern Mathematics • Pattern •/orld
 Pattern vs. Local Pattern Nuclear Pattern
 See Abstraction, Oct*59; 1955*
 Alphabet, Jun*66
 Brain's TV Studio, 1960
 Comprehensive, Feb*72
 Discovery, 11 Jul*62
 Energy, 1y60
 Hair. 9 Jul*62
 Intellections, 1960
 Irrelevancies: Dismissal Of, 2 Jul*62*
 Metaphysical & Physical, 2 Jun*74
 Monkey Wrench. 9 Ju1'62
 Mathematics, 1965
 Nature, Dec'72
 Number, 1954; Jun*66»
 Parts. 1954*

Principle, 12 Jun*56

Intertransformability Systems, 28 *pr*77

See Rafts; Early World Drifting on Rafts, 11 Jul'62 Recognize. 22
Jul'71 Residual firror, 1954* Scientific Generalization, 28 Jan'69
Solid State. 13 Jan'73 Structure, Si Dec'71 Structure Sequence (1)(2)
Synergist, 1954 Triangle, 25 Feb'69 Weather, Feb'73 Wave, 6 Nov'73

See Pattern Analysis

Pattern Cognition Feedback

Pattern Cognizance

Pattern Conservation

Pattern Evolvment

Patterns of Experience

Patterns of Experiencing Returning Upon Thenselves Pattern-seeking
Function Pattern Generalization Pattern Integrity

Pattern Integrity: Equation Of

Pattern Processing Machines

Pattern Sense

Pattern Stabilizing: Pattern Stability Patterning of Pattemings Pattern
Strip Pattern Uniqueness Pattern vs. Integer

RBF DEF Di IT IONS

Pauli¹ a Exclusion Principle-

"Pauli's exclusion principle verifies that each of the stirred points in
Brouwer's theorem and the point which did not move have their in-
herently separate counterpart points, which discloses bot the neutral
axis formed by the two points that do not move, and the obverse and
reverse set of moving points."

- Citation in context at Brouwer's Theorem, 1960

Pauli. Wolfgang;

8201.22

Pauli: Pauli's Exclusion Principle:

See Brouwer's Theorem, 1960*

Coincidental Articulation Sequence, (1)~(4)

Synergetic Hierarchy, (1)

Pauline f

"Since all vectors are divisible by two Linus Pauling was right that you can close pack spheres with two spheres tangent connected."

- Cite RBF to EJA, 3200 Idaho, Wash., DC, 7 Oct*71

Linus Pauling:

"Dr. Linus Pauling has found and twice published his synergetic clusters designed to accommodate this magic number series in a logical system. Without powerful synergetic tools we find him in the vicinity of the answer; but we now identify these numbers in an absolute synergetic hierarchy which must transcend any derogatory suggestion of pure coincidence, alone, for the coincidence reoccurs with mathematical regularity, symmetry and structural logic which identifies it elegantly as the model for the magic numbers."

- Cite NASA Speech, pages 104-105. Jun'66

Pauline. Linus;

"After X-ray diffraction in 1932, Linus Pauling who received the Nobel Prize for his pioneering exploration of chemical structuring, began to discover that metals were also / see Janet Hoff, 1965.7 tetrahedrally coordinated and interlinked, not point-to-point but through one another as chains are linked with dynamically coordinate or coincident gravitational centers. If we think of six-edged chain links (Tempering

that the tetrahedron is a six-edged pyramidal frame we can envision the manner in which we may link tetrahedra in six different directions. That multidirectional connectivity explains the way in which metals are linked together."

a Cite Conceptuality of Fundamental Structures (Kepes), p.72-76, 1965

"When you get to the reconstructs from x-ray diffraction, Linus Pauling began to discover that all the metals were tetrahedrally organized, but instead of being vertex to vertex they were center of gravity to center of gravity. ... An alloy could be stranger where you had congruent centers of gravity--- that was a characteristic of metals, In fact, because the tetrahedron has six edges you could chain or link it in six ways to six others and they would not be vertex to vertex but edge to edge as linkage. So the metals were tetrahedrally organized too and Linus Pauling went on examining metal after metal. He has never found a metal yet which is not tetrahedrally organized.** - Cite Oregon Lecture #2, pp.74-75, 2 Jul*62

RBF DEFINITIONS

Linus Pauling:

"... Pauling's x ray diffraction analyses show omnitetrahedral configuration interlinkages of gravitational centers of compounded atoms in all metals analyzed. . . "

- Cite Omnidirectional Halo, p. 161. 1960

See NASA Speech, p. 57. + p. 104.

Oregon Lecture #2, pp.73-74 - 2 Jul^f62

Omnidirectional Halo, pp.151,161» 1960

931.62

0201.22

995.34

See Magic Number Van't Hoff: Combining van't Hoff A Pauling

Pauline: Linus: (2)

See Chemical Bonds, Jun'66

Closest Packing of Spheres. 7 Oct'71

Inorganic Chemistry, 10 Jul*62

Synergetic Hierarchy, (1)

Teaching, 2 Apr'71

Tetrahedral Coordination of Nature, 1965

Viral Steerability: Tetrahelix, 1960

Peace:

"When you use the word peace too many people think of political reforms, where there's a political struggle and you try to persuade and that doesn't do any good because people can't live on persuasion. They've got to eat. And so I'm interested in how you actually employ those principles. So I began playing my World Peace Game, in which I then said I won't use the word peace any more, because man has no meaning for the word. There never has been anything peace. 'That has been called peace is what pleased the last victor."

- Cite RBF in Watts Tape, p.64, 19 Oct*71

Peace:

"...The prolonged and far more sanguinary private and nonspectacular chapters of strife under the guise of

- Citation and context at War, 1947

See Model of Toothpicks & Semi-dried Peas

See Hawthorne, 6 Jul'62

Pebble:

dust and sand."

- Cite RBF in tape for Wildlife Magazine, 3200 Idaho Wash DC, 30 flay'72

See Rock

Roundness

Stone

Wave Pattern of a Stone Dropped in Liquid

^see Aggregate, 20 Dec*71

Peel: Peeling:

See Processional Peel-off Skinning Unpeel

Pellet:

"Pellet. That must mean it's been impelled. I'd never thought about that."

- Cite RBF to EJA, 3 Mar*73

Penance: Penitent:

"The Brahmins are pure contemplation... They keep going through ablutions and penance when there's nothing to be penitent about."

- Citation &. context at Hesse. Herman. 28 Apr'71

Pencil:

"Rationalisation alone, however, ia not sufficient, it is not an end in itaelf. it must be carried through to an objective state and materialize into a completely depersonalized instrument--- a pencil. (Who knows who made the first pencil? Certainly not 'Eberhard Faber' or 'Venus'.)

The pencil not only facilitates communication between men, by making thought specific and objective, but also enables men cooperatively to plan and realize the building of a house, oxygen tent, flatiron or an x-ray cabinet by virtue of the pencil's availability. The inventor--- alive or dead--- is extraneous and unimportant;

it is the pencil that carries over. Abstract thought dies with the thinker, but the mechanism was building for a long time before the moment of recognized invention."

- Citation and context at iiationalization Sequence (4), 1938
Pencil?

See Deesign, 193S

Rationalization Sequence, (4)

Teleology, (2)

(1)

See Expendable Indispensable

See Twoneee, ip.143) 1960

Pendulum Model vs. Scenario Model:

"The Pendulum Model of Newton's Universe in which the swings decrease and the pendulum ultimately comes to 'Up and Down Rest'

vs.

the inherently endless Scenario Model of Einstein's Universe

in which truth is ever approaching evolutionary and constantly intertransforming. precessionally behaving, process of a complex of omniaccommodative, intercomplementary, transactional events involving in its inward-outward, three-way aroundness, catalogue

of alternate transformative options of ever more inclusive and refining degrees--- in ever closer proximity to perfect equilibrium of all transformative forces, but never attaining such equilibrium of 'absolute' truth in which the avoidance of such omnizerophase condition involves not only a constant metaphysical apprehending, comprehending, sorting, contracting, and compacting (by universal mind) pf physical entropy's everywhere and every- while increasing disorder and expansiveness (a disorder which attains and passes through maximum asymmetry as the metaphysical passes through, but fails to remain at, the zero of equilibrious truth), wherefore metaphysical might continually improve the scenario by conceptual discoveries of new generalized principles.

- Cite PENDULUM MODEL vs. SCENARIO MODEL, (typescript), 23 Dec'68

See Coinpenetration: Compenetrate

See Building, 28 Jan'75

Paulnaula:

See Male & Female, 12 Jan'74

See Male Ac Female, 12 Jan'74; 1 Feb'75

See Hesse: Hernan, 28 Apr*71

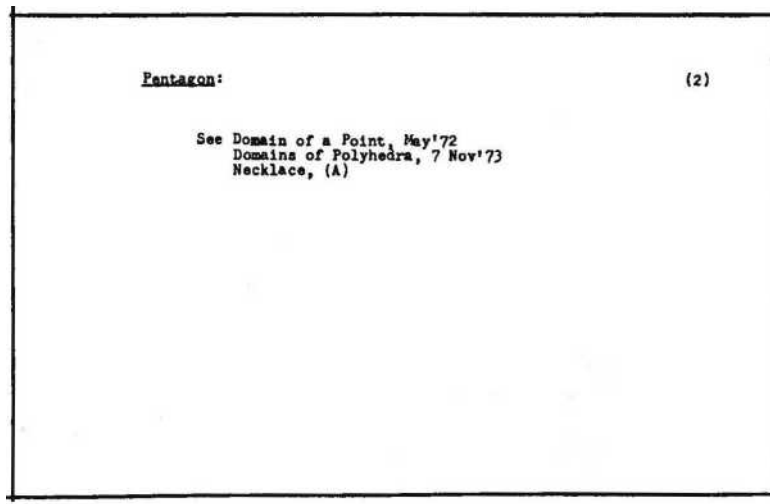
Penaive:

See Expenaive • Nonthinking, 24 Jan'76

Pentagonal Polarity:

See Tensegrity Masts: Pentagonal Polarity

See Hex-pent Tensegrity: Twelve Pentagons Twelve Pentagons



People's Language:

See English, 28 Jan*75

PftT£flBfckQn:

"The physical aberration is always in our perceptioning but it is not the reality."

- Citation 4. context at Principle, 6 Apr*75

pgrcppUon-

"Our vision is limited to the tiny red, orange, yellow, green, blue, violet bands of frequency tunabilities representing far less than one-thousandth of one percent of the great electromagnetic spectrum of the thus far discovered vast range of the Physical Universe realities. Our afterimage overlapping which results in our sense of motion, is even more limited in its perceptual range.

"We cannot see the hands of the clock move. We cannot see life growing. We cannot see either the stars or the atomic components move, though they move at fantastic speeds. We can only see the ultra-slow motions of the clouds, locally running waters, human beings and other creatures, and their parts.

"No wonder that little man, who within his average lifetime has seen only about one-millionth of the surface of his planet, and has lived but a split-second of the astronomical ages, does not see and cope simultaneously with the larger evolutionary patternings and life aboard the planet Earth. Only through memory plus thought--- greatly aided by instruments--- does man discover the ultra- and infra-motion effects."

- Cite WHAT QUALITY ENVIRONMENT?, 24 Apr'67

RBF DEFINITIONS

Perception:

"It is the nature of all our experiences that they begin and end. They are packaged. For instance, we see in 60 separate picture frames per second as in a moving picture continuity. Each frame is a finite increment. Our brain's after image lag is so powerful that (it) gives a sense of absolute eccentricity' to our only subconsciously packaged seeing. We wake up and go to sleep.

---ciCT iixja apCTuii,+-31

- Citation and context at Finite, Jun'66

Perceptual Peephole as Fraction of Reality:

RbF DEFINITIONS

"How did the Universe come into being with its complete integrity, its comprehensively interaccommodative, omnidifferentiated rates and methods of transforming? Such questions remain ever more importantly unanswered and seemingly unanswerable. Yet, all of our present customs, ways of thinking, and means of communication have been developed under the misapprehension that only the minuscule, millionth part of the Physical Universe, which the peepholes of our perceptual senses reveal, comprises the whole of

reality. Because humanity has deliberately fractionated the formal study of residual reality into ever more minute specializations, which continually know more and more about less and less, the residual preoccupations have lost sight completely of any of the comprehensive and infinitely inspirational mystery of totality. First pragmatism, then utter despiritization, have resulted. It is not God who died. It was sophisticated man who died, choked to death by the ever-tightening noose of specialization--- 'enlightened selfishness.'"

- Cite AKChllcCTUhL AS ULTRA INVISIBLE REALITY, p. 151, Dec. '69
Perceptual Peephole:

See Common Sense: Perceptual Peephole

fargflBtjLQp.' Perceptivity:

(1)

See Apprehension

Invisible Motion

Convergent vs. Parallel Perception Frequency Islands of Perception

See Principle. 6 Apr '75*

Invisibility of Macro- and Micro- Resolutions, (1){2}

Children as Only Pure Scientists, (1)(2)

Perfect:

"Nature abhors an equilibrium as much as she abhors a perfect vacuum or a perfect anything."

- For citation and context see Equilibrium. Jun '66

PfflCISSi:

"Perfect, though impossible of demonstration, is nonetheless the criterion of selection. Perfect is not only a direction but a time direction, perfection being never in 'reality' attainable. There is herein to be discerned the meaning of "never, have land;," Children dream truly."

- Cite nu«E UHAIhb IV THE fiucN, p.19, 1938

RBF DEFINITIONS

Perfection:

of the gamut of relative recall time-lags, is always the imperfect experience, but
tantalix- ratio-equated with the innate eternal sense of

"As a result the physical ingly always perfection."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 443.04, 4 Nov'73

Pprfmiwv

"Intellect,,, is an infinite refinement in proximation to perfection.
which perfection is the sero-inflection., phase through which... the
transformations oscillatingly pass..."

- Citation and context at Intellect. 16 Aug '50

Perfect - Direction:

See Perfect, 1938

Parfaet t Ignarfect:

See Inoaculate Conception, 25 Jan'72

-Perfect Man:

See Immaculate Conception, 25 Jan¹72

RBF DEFINITIONS

Perfect Prototype:

"The vector equillibrlua... an invisibly perfect prototype in pure principle."

- Citation & context at Understanding. 4 Oct'72

Perfect - Zero:

pgrfwv £sE£asUav

ItJ

See Exact: Exactitude

Ideal

Perfect & laperfect

Potential

Perfect - Zero

See Equilibrium, Jun'66

(2)

Eternal Principles, 22 Nov'73 Frame of Reference, 4 Oct*72 God,
Fay'72

Immaculate Conception, 25 Jan'72 Intellect, 16 Aug'50*

"When finally solving from the inside out the teleologic perspective
will be universal and the equation of performance will be:

Degree of satisfaction encompassment •

Degree of factor inclusion."

- Citation & context at Talaol_{Qr.y} 1938

Performance: Equation Of:

See Equation: Philosophical Equations

Performance Per Pound:

"Inasmuch as nature's omni-inexorable transformings consist of a plurality of equieconomical, alternatively employable, disassociating and associating, principles--- these, together with the complex of electromagnetic and mechanical principles can be electively employed by humans to greatly advantage humanity by producing ever higher performance with ever less Investment of resources as pounds of material, ergs of energy and hours of time, per each function designedly satisfied."

- Citation & context at Artifacts (1) (2), 30 Apr'74

Per-formancs Pgr Pound;

(i)

See Copper

Design Science

Displacement of Ships & Buildings E ph erne ra 11 za 11 on

Metals: Recirculation of Metals

More '.Vith Less

Weapons Technology

faxfsmnea Par fpuntf-
12)

Acceleration of Change (2) See Aesthetics. Dec'67 Artifacts (1)(2)*
Automobile, Feb'72 Curvature: Compound, 12 Mar'74 Design Science
(B) Dome, 9 Jul*73 Dymaxion, 1967 Industrialization (1) Prestressed
Concrete Sequence (3) Sovereignty: Elimination Of, 29 Jun'72 World
Game {II} Transnationalism vs. Colonialism, (1) Bauhaus School: Re-
moteness Of, 24 Jan'58 Dymaxion Artifacts, (2) Club of Rome: Limits
to Growth, (B)(C) Form Cannot Follow Function, 20 Sep'76

Parfgrrencg:

See Invisible Performance

Perfume:

See Communications Hierarchy, (2)

Perimetera:

Synergetics : Fig. 412.01, note.

Sec. 465.42 (2nd. Ed.)

Perimeter:

See Macro-micro, 12 Nov'75 Out-lining, 22 Mar'76

Periodic-continuity:

See Continuity-finiteneoB Scenario

See Thought, May'49

Mathematical concepts of group phenomena may be acquired in principle by the willingness (subjectively initiated) of the individual to be governed by the integrity of progressive conceptioning principle— the objective synchronisations are implicit and unavoidable competence and comprehensive, realizable design will result. Let us MB pursue further the conceptioning in specifics of group principle.

"It is not difficult to understand that the trends to synchronization by harmonic interval of one collection of events can seemingly and sum-totally create an aspect of such superficial incongruity in respect to the sumtotal collected harmonic events of other phases of functional disposition, of the differentiable Universe, as to predispose us to assume that there might never be synchronization of one major collection with another, rfe obviously incline to this predisposition by virtue of the persistence of the familiar in our own environmental close-up--thought, which causes the dynamic inter- penetrations to appear as a static, rather than as a periodic- continuity environment reality.

- Cite TOTAL THINKING, I t I, pp.237-238, May'49

"Misapprehension of our own dynamic significance becomes in environmental close-ups a bundle of persistent periodicities developing into a spontaneous anticipation of repetition of harmonic intervals and their familiar synchronization.

"So marked is our proclivity for such anticipation that we set ourselves as though we were alarm clocks to waken at specific blocks of intervals of familiar periodicities of experience. We relate our own heartbeat to minutes of hours of days, and our meals--- or chemical fueling--- to the days of the postman's coming and going, and even to periodicities such as invented Father's Days and other soon-familiar invented conventions , of the persistent, complex periodic continuities of our days into years. The invented periodicities may become only monotonous.

"Life in retrospect, however, may be informatively discovered to have been comprised of a progressive series of interruptions and penetrations of the successively latest a priori environment continuities--- by unfamiliar frequencies or biodynamic groups of frequencies, always occurring as unfamiliar to the ignorantly accepted trend to mono-tony.

- Cite TOTAL THINKING, licl, p.238, Kay*49

'The new event always comes as an harmonic interruption of frequencies, or an interference with the increasing inventory of already assimilated synchronizations (up to the latest instant), which have only become obvious by virtue of the spontaneous synchronization of the sum total of acquired experiences and progressively integrated interruptions.

"It is necessary that the comprehensive realizer ascertain in principle how the mathematical proportioning of experience is persuasive to the erroneous concept that the sum total bundle of already-experienced frequencies constitutes so unified, or well synchronized an experience i4iole as to have seemingly always been 'known.* The comprehensive realizer will discover that his adequacy as rearranger of local Universe, in principle, will, if competently effected, be acquired by men as an obvious accretion, and that the more competent his realizing-rearrangements of design, the less grateful the beneficiaries, which will be precisely the objective of the comprehensive realizer.

"A Jdttown personality, that is, a life--- with which the_ncomprehensive realizer is concerned--- is a unique bundle of

- Cite TOTAL THINKING, !«.!, pp.238-239, ('ayUV

"accumulated experience to which the ` new experience must always be dissynchronous, but only at the moment of original interference, else the new interaction of the greater complex of truth would not have been recognisable and acquirable as new experience and tactical advantage.

"The greatest overall misapprehension regarding the complex- continuities is that which assigns a static or 'at rest' analysis to the sum total sensation of individual experience and consequently to the sum total of all individuals' experience. Against the inertia of a seemingly static whole, each new harmonic incorporation of life therefore seemingly impinges as a dynamic perversity. This is why we frequently remark, 'Kan tends to back up into his future.'

"In addition to the simple arithmetical, algebraic, and geometrical progressions of the first, second, and third degrees of acceleration, mathematics discloses other series, and superseries, of superficially unpredictable mathematical frequencies because they are composed of complementary and reciprocal numbers whose products alone, though never occurring

- Cite TOTAL THINKING, I&I, p.2J9, blay'49

"simultaneously or in whole, are compositely congruent with complex progressions. But these complex components occur in discontinuous series, and are inherently self-inexplicable. The complementary functions must therefore Impinge upon consciousness only as meaningless. As immediately contemplated upon first experience, they of necessity, alone, constitute seemingly absolute perversity of interference. Synergy--- wholistic behavior unpredicted by parts.

"It is, therefore, the unpredictable degree of the super- and the supersuper-¹ n' degrees of complex association of energy frequencies which seem most preposterous. Je cannot view the great confluences of separately and remotely significant events forwardly resultant to now. Synergy is inherently surprising.

"When, however, these complexities are viewed in reverse, from the advantage of even the most mathematically supersuper- interference, the whole regains the acceptable sublimity of aspect, such as a fleet of little ocean racers 100 miles off Bermuda struggling with the waves of interference of the Atlantic turning the perversely interfering winds to advantage by virtue"

- Cite TOTAL THINKING, I&I, pp.239-240, May*49

"of the relative inertia of the relative waves of water, eventually to pass Bermuda, as the whole picture is observed from the airplane and its infinitude of subcomplexities.

"Though both are designed with the same family of principles called 'factors of ships,* the comprehensive r>alizer can see that the superficial difference between the collections of frequencies which makes the Bermuda cruising boat seemingly different from the airplane--- or indeed, man from elephant--- may be in principle the same difference as understandably exists between an early Wright airplane and the latest supersonic alrplabe, or, yet, between an early Chinese hot air balloon and a late helicopter,

"The only difference between the Wright and the supersonic planes is the sum total of recurrent synchronised cyclic events known as the 'succession of design models' --- evolved in complex out of the physical experience with each trial balance of the designed

complex effected by VCHB man, and as let loose after static-load-test-within-limited-controlled- conditlons of variables, into the dynamic-load-tests within the unknown, uncontrolled, comprehensive and a priori design"

- Cite TOTAL THiH KING, (lie I), p.240, Kay*49

"complex of the residual uncharted variables of Universe. The uncharted residual function of Universe balances the special-set function of derived functions--- called from out of the total principles of energetic Universe by the designer as a newly realized mutation of species evolution accomplished by synergetic extension.

"Though having no one common component part identification, the difference between the 1904 Wright Brothers' biplane and the 1963 superJet, supersonic, stratosphere monoplane is only a group difference of a minor complex of almost 60 packed years of experience with the same body of experience called airship; which, in turn, only specialized in a few of the greater body of principles called ship; which specialized in a few of the greater body of principles called Garth; which specialized in a few of the greater body of principles called motion; which specialized in a few of the greater body of principles called energy, which specialized as an original function for the comprehensive Universe. The first derived coordinates of Universe would seem to be functions of energy variant® in respect to intellect.

- Cite TOTAL THIL KING, Ifcl, pp,240-241 , llay'49 **"We can see that the concept of original separation of Universe into two inherent functions— and the further subdivision and expansion of one function into a unique plurality of subsets of functions— and subsequent acceleration of specialized experience with new design events of any one unique subset's evolution, as contrasted against another, can only accelerate superficial differences between any degrees of subsets.**

"It is obvious that if the frequency of cyclic events differs in one geographical environment from another, the life within one environment may be accelerated to increasing degrees of experience over the life within another and, therefore, to sets of superficial difference of existence and trend. It can then be seen that what we might designate as natural education--- by induced self-discipline advantage--- represents an accelerated testing of objective-subjective experience, and that acceleration is natural and that natural education may potentially evaporate the inadequacy predilections of original vanity and superstitions and that the original springs of action may become obsolete as the realizations of intellect and the hitherto preoccupations with seeming frustration and self-destruction may be supplanted, through the self-disciplining

- Cite TOTAL THINKING, (I&I), p.21»1, HayU9

"of the comprehensive designer to orderings of integrity of Universe.

"Where, geographically speaking, of a priori unique environment continuities, the inherent periodicity of the occurrence of interference is at a relatively low frequency, then the rate of dissipation of ignorance is proportionally low, and vice versa.

"The relatively lowest inherent periodicity of interference of forceful variables--- of experience in the dynamic environment (geography)--- occurs in the dry land near sea level in the region of the equator. The periodic frequency of Interference by physical variables increases outwardly from the Earth's center into the colder climates of mountain and toward the Earth poles. The periodicity and magnitude of forceful interferences increase even more upon the seas, and yet more as man penetrates outwardly from the unique energy fixations of Earth into the cosmos of major categories of general dynamic principles.

"Sum totally on Earth the residual vanities and superstitions of the ego bulk up most obviously in the warm and mild climates - Cite TOTAL THINKIS, (I&I), pp.24-242, Kay*49

(10)

"originally most ftivorable to the naked, ignorant man, and are most rapidly dispersed and replaced with intellectual ordering in the environments of highest frequency of unprecedented Intensities of interference, penetrated now by man at will by virtue of his contriving of realizations in complex princ- ciples.

"r-ach of the sumtotal variety of biological forms represents in simple principle the complex bundling of unique internal experience continuities, and the latter's individual accumulations of external periodic experience, within the greater bundle of persistently uniaue environmental sequences--- of variable geographic frequency bundle limitations. Humans have abstract 'tree rings' of experience.

` ` The circling bands of cross-sectioned tree or the scalloped terraces of the shellfish are convergently secreted structures (interference of higher order) of cyclic bundling of experiences. Wave embodiments of cyclic experience appear everywhere in the accredited morphology of nature's omnidirectional, convergent- divergent, synchronous- dlssynchronous, infinite plurality of pulsating controls of interactive events in principle."

- Cite TOTAL TrtINKL.G, (I&I), p.242, i-ay'49
Periodic HxcgrXence.» (11)

The cyclic wave accretions--- unique to parents and parent's parent--- make overlapping internal impressions of the periodic and cyclic interferences-3tructuring-by-accretion, prearranging thereby internal angles of the original turbinig tendency of unfoldment,

upon the gestating seed of periodic secretion of outside-in then inside-out pulsation-inversion which we call regenerative birth. This is, of course, a union of the infinite inwardness with the infinite outwardness to fulfill the comprehensive duality principle of uni-verse. Hunan egos are multiconcentric frequency 'halo⁵⁰ systems.

"As with the complex of synchronized convergent principles called airplane, compounded of the succession of flight experiences with a succession of 'improved* designs in-corpor-ating all previous experience in action-reaction juxtapositions (called structure and mechanics), a trend to further Inclusion and refinement of accelerating acceleration of improvement is inherent, but always improvement is relative to the whole of already-secreted true experiences, whether as yet detected or not by the redesign-cycle mutators.

""A new design's 'sport' or subspecies may long be latent, a helicopter development postponed by preoccupation with the"

"initial concept of 'airship.* The relative, realized-complex trend accelerates Itself in compounding degrees, whereby, eventually, the probability of numbers of immediately detected forward mutations to be refiningly anticipated exceeds in number the sum total of the previously secreted, or experienced, impressions, innately preoccupying the species division.

"A historical shift is now occurring in the scientific viewpoint, induced by this shift in balance of MB preponderant numbers of effective impressions, pre-and-post-natal, upon behavior probabilities of the various species to be affected preponderantly by the relative number of post-natal, periodic, and cyclic accelerations.

50 Cite TOTAL TH 11.K1LG, (Ikl), pp.242-243, May'49

"Hazy awareness of the significance of this historically pivotal event is at the core of hastily taken political positions seeking to establish monopolistic validity of comprehensive viewpoint (where mono-logical explanation of the biologically functioning derivatives of Universe may never be tolerable). Both sides are right about their specially selected cases; neither may increase their understanding by arbitrary limitations of experience and conception regarding the next

- Cite TOTAL THINKING, (Ltl), p.243, May*49
Periodic Expansion: (13)

"appropriate trial balance of potentials of the apprehended, and therefore anticipated, periodic inclusions of the subjective-objective 'beating to windward' of the periodically shifting advantages of Universe, The comprehensive real tiers of all time have always realised the implicit truth of these relationships of Universe. Bias precludes synergetic advantage."

- Cite TOTAL THINKING, (lil), p.U3, May*49

"Because people thought the nucleus was one, they missed for so long the significance of the atomic weights in the Periodic Table."

- Citation and context at Zero Frequency. 29 May*72

Periodic Table and Closest Packing:

In closest packing of spheres "the third layer of 92 spheres contain eight new potential nuclei which however do not become active nuclei until each has three Bore layers surrounding it--- three layers being unique to each nucleus. This tells us that the nuclear group with 92 spheres in its outer or third layer is the limit of unique, closest-packed assemblage of unit wavelength and frequency, nuclear symmetry systems. This is impressive for the system's three layers of 12, 42, y2

add to 146 which is the number of neutrons in uranium, which has the highest nucleon population of all the self-regenerative chemical elements--- and whose 14b neutrons plus the y2, unengaged mass attracting protons of the outer layer adds y2 to 146 giving the predominant uranium 23« from whose outer layer the excess two of each layer--- which functions as a neutral axis of spin--- can be disengaged, which leaves the chain reacting, uranium 23b."

- Cite NtHKu bPEtCH, p. 2\$ 13 Nov'69

Periodic Table «k Closest Packing:

See Mite as Model for Ouark, 3 May'77

Pgrjcydj, Tftfale : Harmonica of 18:

The prime number 17 accomodates all the positive-negative, quanta-waveprimes up to * and including the number 18, which in turn accomodates the two nines of the invisible twoness of all systems. It is to be noted that the harmonics of the periodic table of the el orients add up to 92:

* 18

36

There are five sets of 18, though the 36 is not always so recognized. Conventional analysis of the periodic table omits from its quanta accounting the always occurring invisible additive twoness of the poles of axial rotation of all systems

- Cite SYNERGETICS, 2nd. td. at Sec. 1238.43, 22 May*75

See Elghtnees: Begetod Elghtnese Eleraentiality Ninety-two Element®

PfiEifdlc. Tahlfl-

(2)

See Number: 64. 22 Jan'73 Pythagoras. (2) Rhombic Dodecahedron,
25 Feb*72

RBF DEFINITIONS

"Because the physical is time, the relative endurances of all special-
case physical experiences are
proportional to the synchronous periodicity of associability of the
complex principles involved.

- Citation and context at Metaphysical Experience, 13 Mar'73

Periodicity' 0)

See Comet

Harmonica: Harmonic Intervals

Ninety-two Elements: Periodic Regularities Of

Relative Abundance

Tidal

Invented Periodicities

Input Periodicities

Decimal & Duodecimal

Octave

Local Periodicity

(2)

See Antientropy (1)

Design Covariables: Principle Of, 1959

Ignorance (2)

Intellect, 16 Aug*50

Metaphysical Experience, 13 Mar*73*

Personality. May'49

Physical, 1J Mar'73

Individuality &. Degrees of Freedom, (1)(2)

Boeing 747 Sequence, 22 Jun'75

Regenerativity, 17 Jan'75

Peripheral;

*••• Identifications of physical reality have been and as yet are only awkwardly characterised because of the inherent rationality of the peripheral hypotenuse aspects of systems in respect to their radial XY2 interrelationships."

(»h

825.»Sep«72

- Citation and context at XYZ Coordinate System Sec.

See Embrace

Surround

See Projective Transformation, {4)

Perishable:

See Mind, 24 Feb'72

Permanence 4 Nomal:

See New York, 1970; 13 Mar'75

Permanent Symbolic Communication Devices:

"Architects designed temples, cathedrals, and other .

buildings as permanent symbolic communication deviacs."

- Citation and context at (B), Aug'72

Invisible Architecture

Permanent Symbolic Coamunclatlona Deylcee:

See Religious Edifices

Permanent Wave Architecture:

See Hew York City, 11)

P»nwnanc«:

See Change is Normal

SaasaWt ***Twain****

See Dyoxion Airocean World, undated

**See Omniembracing vb. Permeating Omnipermeative Permeative
Topology**

Sea Carrier Wave, 9 Mar'73

**Octave Wave, 5 Mar'73 Synergetic Hierarchy, 5 May*74 Tetrahedral
Dynamics, (3) Time, 2 Jul'62**

Truth, (1005.52) 29 Dec'73 Universe, 4 Kay'57

Vector Equilibrium, 16 Oct*72

See Degrees of Freedom

Bannering Sheet Metal

Nature Permits it Sequence

Realisation

Womb of Permitted Ignorance

Event Freedoms

Reciprocals of Permissible Viewpoints

Copermitting

See Artificial, Jan*59= 22 Apr'61

Awareness, 10 Feb*73

Free Will, 20 Dec'73

Invisible, 16 Dec*73

Rules of universe, 9 Dec*73

Tetrahedron: Coordinate Symmetry, Nov'71

Twone ss, 1960

Happening, 22 Apr'71

Isotropic Vector Matrix, Oct*71

Conceptuality, 28 Feb*7*

Restraints, Dec*71

p£n°pt.atlgnfi:

See Interpennutationa

See Limit, Oct*71

Octahedron: Nuclear Asymmetric Octa, 1 Apr'73 Prime Number,
Oct'71 Resonance, 18 Jun'71

Perpendicularity;

"Perpendicularity (90-degreeness) uniquely characterizes the limit of
three dimensionality."

- Citation and context at Sixtyv-degreeneeee. 17 Nov'72

RDF DiLFhlTlubb

Perpendicular;

"The minute yoq know you are on a sphere or spheroid, you know that
none of the perpendiculars are parallel to one another,"

- Cite RBF to SIMS Seminar, U. Mass, Amherst, 22 July 1971.

Perpendicular: Perpendicularity:

See Interperpendicular Internuclear Vector Modulus Line Between
Two Sphere Centers Unique Perpendicularity XYZ Coordinate System
Nonperpendicular

See Calculus, (1) Omnidirectional Typewriter, 11)(2) Projective
Tranaformation, (6) Sixty Degreenesa, 17 Nov'72 Dimensionality,
30 Mar'75 Nature in a Corner, 6 Nov'75 Module: A Quanta Module:
Introduction Of.

22 Feb'77

Precession of Two Sets of 10 Closest-packed Spheres, (1H2)

rtBF DxiFNITIUhS

Perpetual hot ion i-achine:

"tur universe is the only and the minimum perpetual motion
matone. it is self-regenerative."

- C1t7ft~gWrT<Igreaa'ta*li||| Hill n f~T I , ≥ ≪ , " ' *3T1
- Citation &, Context at Self-regenerative, 2 Jun*71

"The Universe is a perpetual motion machine because its energy is never lost. So the minimum number of transformations is Universe. It is the minimum and only perpetual motion machine, and perpetual conservation requires this metaphysical functioning of order and collection inherent to man."

* Ci“) (o“ a?9₇o^{0nt,xt} “ IOMUlfits Equation of Int.ll.ct

"The physical Universe is a machine-- in Tact, Universe is the minimum and only perpetual motion machine*"

- rii • iirna or nr nu ir rTPE. TT_R ,
- Citation 4 context at Universe. 10 Dec'64

See Closed System: Conservation of Energy Eternal vs. Finite Self-regenerative

Absolute Velocity, 30 Oct*73 See Intellect: Equation Of, (2)(3)* Reciprocal, 9 Jul'62 Regenerative, i960; 28 Apr' Self-regenerative, 2 Jun'71* Sphere, 26 Jan'73. (1)(2) Unlveree, I960; 10 Dec'64*; 9 Jul'62 Minimum Sphere, Aug'71

Paraiatant:

See Matter, 19 Jun'71

Hierarchy of Constellar Configurations. 1959

&^b_B^{1,11}iM'75^{y'57}

Personality •

"The interaction of the unique patterns of... inherited genes and experiences...make personalities..."

- Citation in context at Individuality, 9 Jan'75

Personality:

"A known personality, that is, a life--- with which the comprehensive realizer is concerned--- is a unique bundle of accumulated experience to which the new experience must always be diasynchronous, but only at the moment of original interference, else the new interaction of the greater complex of truth would not have been recognizable and acquirable as new experience and tactical advantage.*

- Citation & context at Periodic Experience, (3)(4), May'49

?erg guilty:

"Continuity of conscious life becomes personality and is a product of complex periodic interactions known as cycles, or periodic recurrences of a higher frequency order."

- Citation in context at Charting Alternating Experiences of Man & Nature (1), May'49

Personality?

(1)

See Dual Personality

Identity Individuality

Multiple Personality

Self

Split Personality

BHE-UAFllfTrAUNh

(2)

Personality;

See Charting Alternating Experiences in Nan 4 Nature, (4)15)*

Individuality, 9 Jan'75* Periodic Experience, (3)(4)*

PorapccUv

See Central Perspective Intellectual Perspective Teleologic Perspec-
tive Time Perspective Universal Perspective

PpraPAflXQn;

*People can't live on pereuaeion. They've got to eat.

- Citation and context at Peace. 19 Oct'71

Persuasion:

(1)

See Education; Knowing Where the Bridges Are Fuller, R.B: Decision
to Be a Doer, Not a Persuader

Pcraufraioiu

(2)

See Peace, 19 Oct*71* Religion, May'65

famcfe: Perturbation:

See Interperturbation

Perversity:

See Future: Man Back a into Hia Future, ?4ay*49 Progreaaions,
May'49

PgqqXinlM:

See River: You Might as Well Jump in the River

PfiUl: Tetrahedron as Three-Petaled Flower Bud;

"Convergence is involuting; divergence is evoluting.

"Each vertex of the tetrahedron preceases its opposite face. Like the flower petal. The action is pear-shaped as the pattern of the vertexes opening up. Like the plus-four and the minus-four of the Indigs, which really should not be illustrated in a plane: the model is tetrahedral as in the tetrahelix.

"The tetrahedron is regenerative--- quite different from two hemispheres."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb¹73

See Leaf: Unfolding Leaves

See Comprehension, 16 Feb'73; 10 Jan'74 Geometrical Function of Nine, (3)-(6)

RdF DEFINITIONS

Pete;

"In Florida one of the porpoises at Marineland picked me as a pet. People pick dogs as pets. Porpoises pick people as pets."

- RBF to videotaping audience (between takes), Penn Bell Studios, Philadelphia, PA., 11 Jan*75

PetrocQlpnlaUpn:

See Transnationalism vs. Colonialism, (5)

aaxaiai®" It-C.ai8.ta a Billion Dollars to Make a gallon of Petroleum:

See Cosmic Accounting Sequence, (2)(3) Cosmic vs. Terrestrial Accounting, (2) Energy Capital Sequence, (2)(3)

Petro-pap-pipelineg:

See World Pattern vs. Local Pattern, 29 Jan*75

See Fossil Fuels Petrocolonialism

fMrglaw:

(2)

See Energy Slave, (3)

No Energy C_ri₉i_s> (A)---(C)

captain*

Q« Do you foresee the day when the phantom captains inhabit vessels of their own design?

A. "The phantom captains can and do* inhabit only vessels of their own design--- there are no other designs than that of the great cosmic intellect's designing,"

- Cite RBF Ltr. to James Coley, Sep'73

Phantom Captain:

"An illuminating rationalization indicates that captains--- being phantom, abstract, infinite, and bound to other captains by a bond of understanding as proven by their recognition of each other's signals and the meaning thereof by reference to a common direction (toward 'perfect')--- are not only all related, but are one and the same captain, i-it hematic ally, since characteristics of unity exist, they cannot be non-identical."

- Cite Hlib UHaNS TO THE MiUH, p.22, 1938

KBF UEFIMThN

"Common to all such 'human* mechanisms- and without which they are imbecile contraptions--- is their guidance by a phantom captain.

"This phantom captain has neither weight nor sensorial tangibility, as has often been scientifically proven by careful weighing operations at the moment of the abandonment of the ship by the phantom captain, i.e., at the instant of 'death.'

He may be likened to the variant of polarity dominance in our bipolar electric world which, when balanced and unit, vanishes as abstract unity 1 or U. 'With the phantom captain's departure, the mechanism becomes inoperative and very quickly disintegrates into basic chemical elements. ..."

- Cited in «E. CHALHUBIT) THE r.UuK, p.1y, 1y38

Phantom Captain:

See Beautiful, 1938

False Property Illusion,

Industrial Man, 1938

Reflection Sequence: Applew, 12)(3)

Teleology, (2)(3)

Pharaoh:

See Ecology Sequence, [H)

Pink Stuff, Play'70

Pyramid Technology, Dec'71

Buddha: Christ: Mohamed, (1)

See Continuous Kan, 1971

Individual Economic Initiative, 19 Feb'73

Phase & Interphase:

"Phase and Interphase of Cosmic System Transformations: Phases are symmetric and interphases are asymmetric. The interphases are only locally asymmetric but always omnitransfer natively symmetric."

- Cite HBF rewrite of 8 Feb'76 citation: 9 Feb'76

Phase & Interphase:

'Phases are symmetric and interphases are asymmetric. The phases are locally and physically asymmetric but sumtotally symmetric."

- Cite RBF to EJA, 3200 Idaho, Wash. DC.; 8 Feb'76

See Behavioral Phases Coming Apart Phase Coming Towardness:
Coming Together Phase Conservation Phase Contracted Phase
Convex Individualizable Phase Contracting Metaphysical Universe
Denucleated Phase Equilibrinous-balance Phase Equimagnitude
Phases Expanding Physical Universe Gestational Phase Gibbs; Phase
Rule Holding Together Phase Inside-out Phase Inventory of Procliv-
ities, Phases A, Disciplines Limit Phase Neutral Phase Nothingness
Phase

See Omni-phase-bond Integration Omnipotential-energy Phase
Orbital Phase Proclivity Push-pull: Push Phase vs. Pull Phase Spher-
ical Quadrant Phase Symmetric Phase Tetrahedral Octave Phase
Model Three-phase Vectors Vector-equilibrium Phase Zerophase
Split-phase Interphase Liquid-crystal-vapor-incandescent-phases

See Atomic Triangulated Substructuring: Hierarchy Of,

19 Dec'73

Congruence, 2\$ Jan*72

Inflection, 1950

Synergetics, 26 May' '72

Time, 1970

Transformation, undated

Universe as Energy k Information, 11 Nov'74

Metaphysical k Physical Tetrahedral Quanta,

25 Mar'71

Dwelling Service Industry, (2)

Pt).D^ts as Deluxe Qualify Technicians or MechanicQ;

See Specialists, May»65

Ph?n9BignalQgy • •

See Vector Equilibriua, Summer'71

Phenomena: Phenomenon:

See "Named" Phenomena

Pattern Integrity " Phenomenon Without Kame

"Some of the best thinkers I know are patent attorneys, many of them quite impressive philosophers, really trying to think about what Universe is trying to do: What are the true equities, difficult questions; and there's a great deal of study going on now in the patent world about enormous changes and reforms. I wouldn't be surprised if that would be an area where world man forms his own new rules."

- Cite RBF to Barry Farrell; Bear Island; Tape #8, Side B; transcript p.7; 22 Aug'70

Philosophy;

*1 don't want any credit for having such wisdom as the ancient philosophers. I was just lucky enough to have been so busy as a mechanic, never to have learned about them.

"When I entered Harvard I had all A's in mathematics and I took some more advanced math, and so I was able to catch on to the whole idea of geometric proofs. But I had the good luck to be insulated from all philosophy and such formal knowledge. They didn't tell you anything about Plato at Milton Academy. The nearest we got was the Platonic solids in solid geometry.

"I knew Shakespeare, and the Fairie Queen, and Thackeray, and all about the kings in history: who beheaded who and who put someone in a tower. I had the battle stuff okay.And all I knew about the greeks

was what my mother had taught me about the Spartan boy who brought the fox in to eat all his guts.*¹

- Cite RBF to BJA, 3200 Idaho, Wash, DC: 11 Aug'76 Incorporated in COSMIC FISHING; MS p. 11-2.

Philosophy:

"Philosophy gains validity by the practical application of its general principles."

- Cite RBF quoted by Alden Hatch in "RBF: At Home in the Universe," p. 184. Tape transcript probably. 6 Jun'74

£hUsift2BhX:

"The artists are philosophers in cry."

- Citation in context at Artist_f 6 Jul*62

Philosophy:

"Technology represents philosophy resolved to the most cogent argument,"

- Citation in context at Technology. 1947

Philosophy;

"You can't better the world by simply talking to it. Philosophy to be effective must be mechanically applied.

- Cite RBF to EJA, Wichita, Kana} 1946

Philosophy:

"But. you can't better the world by simply talking of or to it. Philosophy, to be effective, must be mechanically applied."

- Cite 4-D, Timelock, Chapter 5, 21 Kay'28

See Boolean Algebra

Christian Legend t Philosophy Containing &. Contained Epistemology
Ethical Physics

Fuller, R.B: His Neo-Platonisa Geometry of Thinking Logic No Thing-
in-Itself Psychological Geometry Reductio ad Absurdum Teleology
Thinkability

Thinking Determinism Causality Equation: Philosophical Equations

See Civilization, May*70 Force, 1946 Inhibit, 9 Apr`40 Marx, Karl:
Epitaph, undated Self-discipline, May'72 Synergetics, Oct'71 Tech-
nology, 1947* Tension, 4 Oct'72 Theory, 22 Jul'71 Author, Dec*72
Epistemology, 28 Kay*75 Fear & Longing, 1936 Communications Hi-
erarchy, (2)

Phobia of Imprisonment:

See Immobility, 4 Hay*57

Phoenician:

"Phoenician - phonetic. The Phoenicians invented the alphabet for trade."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

ftioanleian Phonetic Sequence:

"Poon -- red — pundit -- thinker — Phoenician — Venetian —
Punic "are — punt — boat..."

- Cite RBF videotaping Penn Bell Studios, Phlla. PA 2J Jan*75

See Letters of the Alphabet

Nary Phonetic Sequence

Phoenician Phonetic Sequence

See Phoenician, 28 Jan'75

Connnmicatiofla Hierarchy, (2)

Photoelectric:

See Light Celle

Saa Camera

Macrophotography Microphotography Model va. Photograph

See Bye-beaded Thoughte, (II)(III)

Photon;

Max Planck's photons of light are separately packaged at the radiation source and travel in a group-coordinated flight formation spherical surface pattern which is ever expanding outwardly as they gradually separate from one another. Every photon always travels radially away from the common origin. This group-developed pattern produces a sum-totally expanding spherical wave-surface determined by the plurality of outwardly traveling photons, although any single photon travels linearly outwardly in only one radial direction. This total

energy effort is exactly expressed in terms of the exponential second-power, or areal 'squaring,' rate of surface growth of the overall spherical wave; i.e., as the second power of the energy effort expended in lifting one gram in each second of time a distance of one 'vertical' centimeter radially outward from the origin center."

- Cite SYNERGETICS draft at Sec. 223.72, 26 Sep'73

Photon:

"The minimum increment of all radiation, the photon . .

"... Max Planck's photon of light. . • expands outwardly as a spherical wave surface in all directions--- Instead of travelling linearly outwardly in only one radial

direction..."

- Citation and context at Planck's Constant (C)_t 15 May'73

See Spherical Field, 9 Jan'74

Photon: Tetrahedron Edge.as__Unit Radius:

"...We identify the minimum tetrahedron photon as that with radius - ϵ , which is the speed of light: the tetrahedron edge of the photon becomes unit radius \square frequency limit."

- Cite RBF clarification of garble at galley marginalia,

SYNERGETICS Sec. 1106.2J, by telephone from la Jolla, to Wash, DC, 17 Jan*74.

- Citation *k* context at Unit Radius, 17 Jan*74

See Constant Volume of A 4 B Quanta Modules

Radial Line as Tetra Edge

Tetra Edge

Unit Radius

Photon? Tetrahedron Edge aa Unit Radius*

See T Quanta Module, (1)

(2)

See Photon-quantum

See Finite Furniture, 7 Nov'73

Gravity, (2)

Planck's Constant, (A)-(C)*

Nonsimultaneity, 7 Nov*73

Phnt.o-aatelliteJ

**S«e Satellite: Telescopes Mounted on Around-Earth, Fixedly-
hovering, Photo-satellites**

Photosynthesis:

**"Photosynthesis is meaningful coimunication whereby metaphysical
rules the physical (like the Federal Reserve Bank) by issuing or with-
drawing complex coding-identified 'ouanta* currency from the over-
all, cosmic, transforming and transaction system's accounting."**

- Citation & context at Radiation as Information-carrier.

9 Jun»75

Photosynthesis;

"The Sun's radiant energy

(1)

Is the prime regenerating source

For all biological life on our planet.

Even while sunburning their skins

Humans and all other mammals

Are unable to take in enough radiant energy

Through their skins

To keep themselves alive.

To circumvent mammals attempting futilely so to do Nature has invented

The green vegetation on the dry lands,
And the algae in the waters around the Earth's surface.
The vegetation and the algae
Impound the Sun's radiation by photosynthesis
Converting the radiation
Into orderly molecules.
'./high provide celestial life's prime energy intake.
The vegetation and algae
Provide metabolic sustenance

Of all manner of creatures, Some of which can in turn, Nourish humans.

- Cite DHAIN & MINi), Pp. 109-110 I-lay '72

Photosynthesis:

'Urged by subconsciously initiated desire,

(2)

Or genetically programmed

To experience thirst, appetite and breathing, Biological species are motivated

To 'feed' in the solid, liquid and gaseous Chemical constituents necessary

To produce the ongoing biological molecules Whose energies are convertible Into action and growth."

- Cite BRAIN & MIND, p.110 toy '72

Photosynthesis:

'•Thus Sun energy as heat is impounded into the atmosphere to produce weather changes. Thus also are the waters refract- ionally heated by t he Sun* s radiation. Thus by a series of relay stages is energy impounded aboard our spaceship Earth to regenerate life by t he photosynthesis of the vegetation, which is a beautiful process whereby the random energy receipts are transformed chemically into beautiful orderly molecules, which are beautiful structures. Here you see the turnaround from disorder to order--- from entropy to antientropy.

All the biologicals are converting chaos to beatiful order.

All biology is antientropic.”

- Cite Antientropy (2), Oct'69

Photoaynthesis:

See Biosphere

Ecology Sequence

Metabolic Flow

Radiation Sequence

Electromagnetic-photosynthetic Programming

Octahedron as Photosynthesis Model

See Antientropy, (A)(B)• (2)*

Boltwsann Sequence, lj)

Cosmic vs. Terrestrial Accounting, (2)

Cosmic Accounting Sequence, 12)

Design, (2)

Isotropic Vector Matrix Held, 15 Feb'73

Manifest: Six; 1973

Precession. (a Jib); (II)

Roots, May'72

Syntropy & Entropy, 31 May'74

Wind Power Sequence, (2)(3); (A)

Radiation as Information-carrier, 9 Jun'75

Physical:

"The physical is always special case; that's why we spell Universe with a capital U."

- Cite RBF to EJA *k* Roger Stoller, 3200 Idaho, Wash, DC; 12 Nov*75
C&tfHtZATtMi CAST sec l.G'Z.

Physical:

"The physicist's first definition of physical is that it is an experience which is extracorporeally, remotely, instrument ally apprehensible."

- Citation context at Metaphysical & Physical, 27 Dec'74

Physical;

**Tha physical is always experiencSable and special case,

Citation and context at Limit-Limitless. 4 Nov'73

RBF DEFINITIONS

"P • Physical: All the physical ia energy."

- Cite SYNERGETICS draft at Sec. 1056.20 (item #32), 13 Kay*73

Physical;

Because the physical is time, the relative endurances of all special-case physical experiences are proportional to the synchronous periodicity of associability of the complex principles involved."

- **Citation 4. content at Hetaphysical Experience. 13 Mar'73**

Physical;

"... The physical energy Universe's inexorably expanding momentary disorders

_ Cite INTUITION, p.60 May '72

Physical:

"Waves are not metaphysical. Waves are physical.

- Bitation at Wave. 19 Dec'71

Physical:

"Definition of Intellect: The metaphysical measures the physical, but not the reverse, i.e., local irreversibility."

- Citation at Intellect: Equation of Intellect. 22 Apr*71

Physical:

'•Without weight you do not exist physically--, nor without a specific temperature, . , "

- Citation & context at Temperature of the Human Body. 21 Dec'71
- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. '71.

Physical:

"Th® physical alone accelerate® and i® fast. It ia really only the destructive things or negative things that accelerate.

- Citation 1 context at Eternal Slowdown, circa 1970

Physical:

"Th® physical 1® subdivisible Into two dl/i'erent phenomena Energy associative as natter--- substance And energy disassociative as radiation, Both of which behavioral phenomena May be transformed into one another."

- Cite RBF Draft BRAIN A. MIND, pencil, 1970

Physical:

"The physical is inherently entropic; it gives off energy in ever more disorderly ways."

- Cite NEHRU, p. 39

13 Nov*69

Physical:

"The physical is always special case."

- Citation and context at Generalization Sequence (1), Jun-Jul*69

Physical;

"The concept of life is unique to the mind.

Brain apprehends

Only the physical.

Brain does not differentiate life and death."

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan'69

Physical:

. All patterns, for instance, numbers or phonetic letters, consist of physical ingredients or physical experience recalls. The physical ingredients consist inherently of event-paired quanta, and the latter's six-vectored, positive and negative, actions, reactions and resultants.
• • "

- Citation at Pattern. Jun*66

RBF DEFINITIONS

Physical:

"The proton group and the neutron group account rationally for all physical structures.**

- Citation at Proton & Neutron. Jun*66

Physical:

****My definition of Universe inherently includes all the ponderable, i.e., weighable, instrumentally detectable associative and disassociative, material and radiational energy behaviors of the physical subdivision of Universe."**

- Cite DOXIADIS, p. 310, 20 Jun»66

RBF DEFINITIONS

Physical:

"Electromagnetic frequencies of systems are sometimes complex but always constitute the prime rational integer characteristic of physical systems.' "

- Citation at Frequency, (p.91) Jun'66

Physical:

5T*

"All physical phenomena are accounted in the terms of tetrahedron, octahedron, vector equilibrium and icosahedron."

(RBF noted 30 May'72 that "Avilinear is physical but not structural, since it is not accounted for by tetrahedron, octahedron, vector equilibrium, and icosahedron." --- note.)

- Cite Oregon Lecture #5, p. 179, 9 Jul '62

Physical:

"It is the nature of physical universe always to operate in the most economical ways. Sometimes there are a plurality of equally economicals and nature might operate in any one of these equally economicals. This does not put nature into a groove. There is not just a one most economical way but there are an alternate number of equally economicals--- and nature will always take one of that set.

- Cite OREGON LiCTURa ;/2 - p. 70, 2 Jul '62

Physical:

"The physical portion of Universe is energetic

and finite."

- Cite INTRO, to OMNIDIRECTIONAL HALO,p. 124, 1959

See Vector Equilibrium, Oct*75

Vector Equilibrium Involvement Domain, 10 Dec'75

See Interference: Ton Really Can't Set There Fron Here 19 Dec'73

PhVPlcal Education;

Hyper, World Mag., 10 Apr'73

See Cosmogony

Scenario Universe: Physical Evolution Scenario

Physical Experience Hecalle:

See Pattern, Jun*66

Phials*! la AliSia the *BPgrfgg.t:

"Th® whole of Universe ie a consequence of our not seeing instantly.

As a result of the recall lags the physical is always imperfect."

- Citation at Recall Lags, 26 May¹72

RBF DEFINITIONS

Physical Is Always The Imperfect:

"We discover . . . that the physical is always the imperfect, special-case, after-imaged lagging realization of the ideal generalization, which can be realized, or momentized, or experimentally identified, time-ized and measured, only by such limited, ergo imperfect approximation, all of which latter is implicit in Heisenberg's operationally imposed indeterminism."

For citation and context see Metaphysical. 14 Feb *72

See Recall Lags. 26 May'72*

Metaphysical, 14 Feb*72* Perfection, 4 Nov'73

Physical Ingredient;

See Pattern, Jun'66

See Laws of Nature vs. Laws of Man

(2)

PhYgiCAI

See Navy: Theory Of, 22 Dec`74

Physical Life:

"Physical Life is always a special case."

- Citation and context at Generalised Principle* (A), 22 May¹73

Phyaleal to Metaphysical - Brain to

See Triangle, <1)

flaatlwl te H<n,Bshvelc»l:

(D

See Cosmic Discontinuity & Local Continuity Idea Trending Progressions

See Cosmic Accounting, 2 Jun*74
Process Relationships, 28 Jan'69

Etolgal KpaUtY:

"Very clearly, vector equilibrium is a zero-axis tetrahedron.

We have already had tetrahedron as an indestructible phenomenon Independent of size. And then we have it getting into its own true zero vector equilibrium. It is a condition that apparently nature does not permit in our life, but what we call physical reality is always a positive and negative pulsating aberration of the whole--- a multifrequency-accommodating, vector equilibrium aberrability whole."

- Cite SYNERGETICS text at Sec. 441.23 as rewritten by RBF on galley, 4 Nov'73

Phrasal Reality;

"It is a condition that nature apparently does not permit in our life, but what we call physical reality is always a positive and negative pulsating aberration of the whole--- a multifrequency-accommodating, vector equilibrium aberrability whole."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 441.23, 4 Nov'73

Physical Reality:

"The vector equilibrium and the isotropic vector matrix are the equilibrium or the central set of conditions through which physical reality palpitates. It never stops at the center. .

- For citation and context see Vector Equilibrium. 1 May *71

"It is a condition that nature apparently does not permit in our life, but what we call reality is always a positive and negative set of the whole."

- citation i context at Vector Equilibrium; Zero LetraheirajQ, (3)

11 JUL'O<c

See Potential vs. Physically Realised

See Awareness, 10 Feb'73

Mathematics, undated

No Generalised Boat, 22 Jan¹75

Vector, 27 May'72

Vector Equilibrium, 1 May*71*

Vector Equilibrium: Zero Tetrahedron, (3)*

Universe, 11 Dec'75

Regular “ Uniangular, 11 Dec'75

Physical Ingredient Recalla;

See Alphabet, Jun*66

PhYBlgfil gffXCfACM-

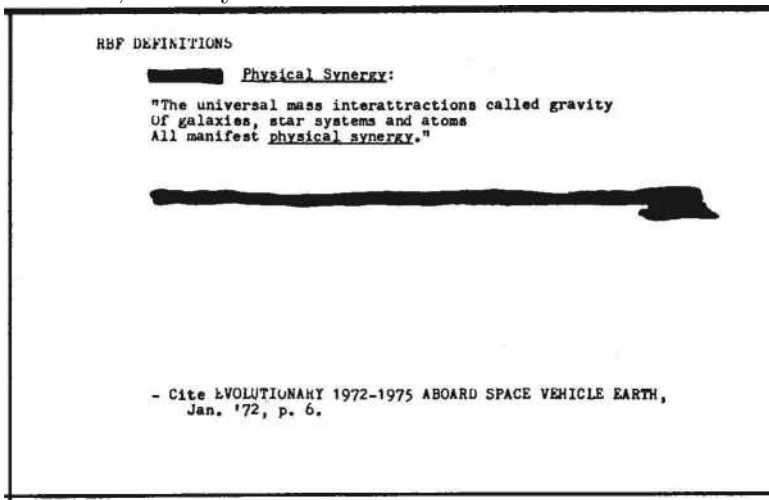
"But physical science lacked the experience which might have persuaded it to hypothesize what all Universe it. Physical science therefore restricted its comprehensive accounting strategy to the special case of definitive isolations within the physical pdrtzlon of Universe, This left the remainder of all experiences, no matter how earnestly and meticulously reconsidered, outside the definitive portion of comprehended experiences of Universe,i.e., the physicist said that all that is not physically encompassed as $E = Mc^2$ is metaphysical.

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p.124, 1959

Phveical vb. Structural:

See Physical 9 Jul'62

Wavilinear, 30 May'72



Physical Tetrahedron yg. Conceptual Tetrahedron:

See Instantanelty Eternity

Physical UnXy.gr,gfi:

"The whole of physical Universe experience is a consequence of our not seeing instantly, which introduces time. As a result of the recall lags the physical is always imperfect."

& context

- Citation at Time. 26 May'72

"Minimum Effort is one of the chief characteristics of our physical Universe."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. '71.

RBF DtFlMTIUhS

Physical Universe:

'Physics has found the whole physical Universe to be uniquely differentiated and locally defined as 'waves.'"

- Cite RBF Margonalis, at SYNERGETICS, Sec. 522.W-, Nov. '71.

"The physical universe as we have seen it is entirely characterized by entropy--an ever increasing randomness, an ever increasing diffusion as all the different and nonipimultaneous transformations and reorientations occur."

- <hi>66

- Citation and context at Comprehensive Universe (1), Jun'6b

Physical Universe: "Synergetics originates/ in the assumption that dimension must be physical. It follows that, inasmuch as physical Universe is entirely energetic, all dimension must be energetic. Vectors and tensors constitute all elementary dimension,"

- Citation at Dimension. 1 Apr'4y

See Equanimity Model

Eternal Universe & Physical Universe Intellect in Physical Universe Expanding Physical Universe Perpetual Motion Machine Energy: Energetic

See Comprehensive Universe, (1)*

Dimension, 1 Apr'49*

Energy, Jun'66

Frequency, 1970

Radiation, 18 Mar'65

Relativity, May'72; Jun'66

Time, 26 May'?2*

Wave, Nov'71

Zero. 13 Nov'69

A Priori Four-dimensional Reality, (1) Conservation of Energy, 18 Mar'65 Poetry, 13 Nov'69

Left 1 Right, 7 Nov'75

Infinite, 15 Oct'72

Multiplication by Division. 20 Jan'77

See Powering: Sixth Powering, 26 Nov¹72

See Body: Bodies

Field: IVM Field of Thought or Phyaical Articulation Life Celia

**Life ia Not Phyaical Metaphysical k Physical Mortal Omnidirectional:
Physical Existence Environment**

Surrounds Phyaical vs. Structural Real Realization

Scenario Universe: Physical Evolution Scenario Sense Phrases

Energy &. Information Metabolic Flow

Atoms vs. Radiation Matter

Matter vs. Radiation

**Know-how Accounting vs. Phyaical Accounting Human Mind &
Phyaical Evolution**

**See Frequency `` Experienced Physical Energy Constant vs. Physical
Ninety-two Elements**

Adan & Eve, 2 Jun*74

See Awareness, 10 Feb*73

Angular Topology: Principle Of, 14 Dec*66

Communication. 13 Mar*73

Electromagnetic Spectrum, Aug'64

Eternal Slowdown, 1970*

Generalization, 13 Mar'73

Generalization Sequence (1)*

Intellect: Equation of Intellect, 2 Apr'71*

Imperfect, 26 May'72

Limit-limitless. 4 Nov'73*

Organism, 3 Jun'72

Metaphysical Experience, 13 Mar'73*
Frequency, Ip.yl) Jun'66*
Life. 7 Apr'75
Modelability, 12 May'75
Energy Event, Mar'71
Multiplication by Division, 20 Jan'77
See Pattern, Jun'66*
Proton 4 Neutron, Jun*66*
Periodicity, 13 Mar'73
Principle, Jun'69
Real 20 Apr'72
Reality, 22 Apr'71
Size, 21 Mar'73
Specialization, 28 Apr'71
Structure, 29 Dec'5fl> 1965
War, 1971
Wave, 19 Dec'71*

Temperature of t|»e Human Body, 21 Dec*71* Seven Minimum Topo-
logical Aaspekte, 12 Feb'76 Womb of Permitted Ignorance, (1)(2)

Physical Case

See Physical Discontinuity Physical Education Physical Experience
Recalls Physical Is Always the Imperfect Physical Ingredients Physi-
cal Life Physical to Metaphysical Physical Reality Physical Ingredient
Recalls Physical Sciences Physical vs. Structural Physical Synergy
Physical Universe Physical Vectors Physical Law

Physical Tetrahedron vs. Conceptual Tetrahedron Physical Evolution

Physics:

"That's what physics is: the energy investment of Universe on a wave-quantum basis."

- Cite RBF remarks at Design Science Institute press conference, N.I. 28 Jun'72
kbF DxflHITlvKS

Physics:

"Thysics is concerned only with the most economical.**

~~12 March 1971~~

- Citation at Most Economical, 12 Mar¹71

PhvsicB:

"All the time phenomena of physicists are linear.

- Citation & context at Time. 8 Mar*71

Physics:

"Ernest Mach . . said that * Physics is experience arranged in the most economical order.' To define the special case of settee known as physics Mach added only the two words 'most economical' to Ed-dington's definition of generalized science. Mach made this qualification because physicists have found that nature always behaves most economically.*¹

~~12 March 1971~~

66

- Citation 4. context at Environmental Events Hierarchy. (5)(6), Jun'66

RBF DEFINITIONS

"The vector equilibrium is the... zero-inflection, nonmoment of intertransformabilities where anything can happen and must happen single-atomically within and multiatomically without.*

- Citation in context at Vector Equilibrium as Starting Point.

8 Apr'75

RBF DEFINITIONS

to Chemistry:

Physics : Difference Between

"In the atoms we are always dealing in equiradius spheres. Chemical compounds may, and MMBHI often do, consist of atomic spheres with a variety of radial dimensions. Since each chemical element's atoms are characterized by unique frequencies, and unique frequencies impose unique radial symmetries, this variety of radial dimensionality constitutes one prime difference between nuclear physics and chemistry."

- Cite RBF rewrite of SYNERGETICS, Sec. 415.23 (5 July'72) per marginalis, Beverly Hotel, NY, 22 Jun'72.

HBF DEFINITIONS

— Phv., i.e., YW». Between

"In the atoms we are always dealing in equiradius spheres.

Chemical compounds may, and often do, consist of atomic spheres in a variety of radial dimensions. This is the difference between nuclear physics and chemistry."

. Cite SYNERGETICS draft at Sec. 415.23, 8 Jun'72

Physics & Chemistry: Differences Between:

"In the atoms we are always dealing with equiradius spheres. Chemical compounds have multiradius spheres. This is the difference between nuclear physics and chemistry.¹

- Cite RBF to EJA, 3200 Idaho, Wash DC, 2d May*72

All the internal or nuclear affairs of the atom occur internally to the vector equilibrium and all the external or chemical associations occur externally to the vector equilibrium.'*

apaeuh, pin flj nr,j Tiling

- Citation and context at Vector Equilibrium (I), Jun'66

fc Chemistry:

Physics: Difference Between <

"The cube relates to chemistry, the external affairs of the atom. Organic chemistry begins with the cube: carbon. The tetrahedron, octahedron and icosahedron relate to physics, the affairs of the atom.¹¹

Internal

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May'71

KBF DEFINITIONS

& Chemistry:

Physics: Difference Between

"All the phenomena larger and more complex than vector equilibria do relate to the chemical compounds and anything smaller than vector equilibrium relates to the single atoms and the single atoms do get into the symmetries whereas the chemical compounds get into a polarized system."

- Citation and context at Vector Equilibrium, ii Jul*62

Physics: Jiffi/rence Between

"The physicist deals with the internal affairs * and the chemist with the external affairs of the atom."

- Cite NO MORE SECOND H₂NL) GOD, p.J2, 9 Apr'40

104

See Atoms <x Compounds: Difference Between Ninety-two Elements

See Organic « Inorganic, Nov*71 Vector Equilibrium, (I)*; 11 Jul*62*

PhYslca ^aa internal AX_Tmra tf the A taw?

"The tetrahedron, octahedron, and icosahedron relate to phyaics, the internal affairs of the atom."

- Citation and context at Physics: Difference Between Physics and Chemistry, 31 May'71

~~FtoJles as~~ Internal Affairs of the Ar.or

See Atom as Solar System

Phyalcei

(1)

See Ethical Physics

Flelda

Quantum Mechanics

Relativity

Strange Particlea Conceptual Phyaica

Quarks

See Energetic Words, 1 Jul*62 Environmental Events Hierarchy, Jun*66* Invention, 27 Dec'73 MIT Sequence, (2) Most Economical, 9 Jul'62; 12 Mar'7* Time 8 Mar'71 Topology, 11 Dec'75 Structure, 23 Jan'76 Experiential Mathematics, 15 Oct'76

£U

"The neat five value of the nuclear sphere eliminates the necessity of employing ϵ_i in synergetics coordinate systems, though it discloses where and why π coexists, but only as a terminal vestige."

- Citation and context at

PU1 Sfl_C, 30 Dec'73

Pl: ($\pm L$):

"Circle - polygon "Sphere `` polyhedron

"That's what makes calculus and trigonometry seem so difficult. And π doesn't come in because the arc is Just not there. The radian is beyond the limits of experienciability demonstrability."

- Cite RBF to EJA, 3200 Idaho Nw, (Cf. Sec. 4005,63- draft),8 Feb*73

Pi: (at):

"The irrational radian and π (If) are not used by nature because angular accelerations are in finite package impellents which are chordal (not arcs) and produce hexagons because the average of all angular stabilizations from all triangular interactions average at 60 degrees--- ergo radii and 60-degree chords are equal and identical; ergo six 60-degree chords equal one frequency cycle; ergo one unit of quantum."

in ebiibJy in Tii w Fli'TITiB. TheTT'a

Tmrjnn-Atri in _S IN ERG ET ICS at See. 4*3 UP, 11 Oct'72

- Citation at Hexagon. Nov*71

Pl: (A):

"The transcendently irrational 'constant' ϵ_1 is

irrelevant to spherical geodesic polyhedral array calculations because minimum sphere is a tetrahedron.'*

- Citation Jc context at Minimum Sphere. Aug'71

ϵ_1 : (ϵ_h

"Pl (TY) is irrelevant in Synergetics because the sphere is not experimentally demonstrable and tetrahedron is the minimum sphere. Compound curvature starts with the Betetrahedron. Pi drops out because chords are more economical than arcs. ..."

-<~Clte RRF tn KJA, Blackstone Hotel_T -Chicago, j! Mereh-497V-

- Citation and context at Sphere. 31 Nay*71

See Bubblee in the Wake of a Ship Sequence

Circle: Synergetice Formula for Triangular Area of a Circle

Irrational Constants

Sphere: Synergetice Formula for Area & Volume of a Sphere

See Chorda, 22 Jul'71; 31 May*71

Cui de Sac, 30 Dec»73*

Disparity, 1960

Hexagon, Nov'71*

Spherical Interstices, 18 Nov'72

Starting with Parts: The Nonradial Line, 29 Dec'73 Universal Integrity:

Principle Of, 21 Dec'71 Vector Equilibrium: Spheres & Spaces (1)

Vector Equilibrium: Zerophase, 1 May'71 Geodesic Sphere, (1)

HBF QUOTATION

» iltaa* Child»s Spontaneous Geometry: (1)

' • Study of the child's discovery of spatial relationships— what may be called the child' s spontaneous geometry— is no less rewarding than the investigation of his number concepts* A child's order of development in geometry seems to reverse the order of historical discovery. Scientific geometry began with the Euclidean system (concerned with figures, angles, and so on), developed in the 17th century to the

so-called projective geometry (dealing with problems of perspective), and finally came in the 19th century to topology (describing spatial relationships in a general qualitative way— for instance, the distinction between open and closed structures, interiority and exteriority, proximity and separation).

A child begins with the last: his first geometrical discoveries are topological. At the age of three he readily distinguishes between open and closed figures: if you ask him to copy a square or a triangle, he draws a closed circle; he draws a cross with two separate lines. If you show him a drawing of a large circle with a small circle inside, he is quite capable of reproducing this relationship, and he can also draw a small circle outside or attached to the edge of the large one. All this he can do before he can draw a”

- Cite Jean Piaget: HOW CHILDREN FORM MATHEMATICAL CONCEPTS, 'Scientific American,' p, 75, Nov*53* Above quote marked by RBF.

Piaget: Jean; Child's Spontaneous Geometry;

(2)

”rectangle or express the Euclidean characteristics (number of sides, angles, etc.) of a figure. Not until a considerable time after he has mastered topological relationships does he begin to develop his notions of Euclidean and projective geometry. Then he builds these simultaneously.”

- Cite HOW CHILDREN FORM MATHEMATICAL CONCEPTS, by Jean Piaget, "Scientific American," p.75, Nov*53. Above passage marked by RBF.

Plang T_{gB}:

"I am enthusiastic over humanity's extraordinary and sometimes very timely ingenuities. If you are in a shipwreck and all the boats are gone, a piano top buoyant enough to keep you afloat that comes along makes a fortuitous life preserver. But this is not to say that the best way to design a life preserver is in the form of a piano top. I think that we are clinging to a great many piano tops in accepting yesterday's fortuitous contrivings as constituting the only means for solving a given problem. Our brains deal exclusively with special-case experi-

ences. Only our minds are able to discover the generalized principles operating without exception in each and every special-case experience case which if detected and mastered will give knowledgeable advantage in all instances."

- Cite opening paragraph. Chapter One of OPERATING MANUAL FOR SPACESHIP EARTH, 1969

Piano:

See Neutral, 1 Feb'75

Standardization, 13 May'30

"This 2\$ positive superimposed upon the 2J negative, 120-LCD picture is somewhat like a Picasso duo-face painting with half a front view superimposed upon half a side view..."

an<* context at B«»lc Triangle: Baelc Equilibrium

48 LCD Triangle. 17 Dec'73

Pi<;aa»o Duo-iaee Painting;

(1)

see sain PerssiFlitit

ftalils: There is Ho Half-Profile

a»sas®«Ha»

(2)

Picasso Dno-face Paintint:

Sea Basic Triantle: Basic Equilibrium 48 LCD Triansle. 17 Dec'73

Picture:

"...Light absorption and reflection are mechanical considerations because neither life nor mind activity is involved until the essence of the picture has been articulated in the 'brain*' and has been automatically referred to the memory filing department (the system of which is even more complicated than the worldwide Bertillon system of finger-print identification) for comparison with all of the apple experiences of the 'see-er."

- Citation and context at Reflection Sequence: Apple (2), 1938
See Puzzle

**See Children's Picture of the Sun & the Moon Conceptual Geometry
Picasso Duo-face Painting Time Entered the Picture through Poetry**

Picture:

(2)

See Brain, 30 Nov*72

Frame, 15 Dec¹73

Reflection Sequence; Apple (2)*

**Topology: Synergetic & Eulerian (2) Polyhedron, 1 Jan'75 Simplest
Knot, 1 Jan'75**

Invisibility of Macro- and Micro- Resolutions, (1)

Pieceo- : Piato-crvatala:

See Quantum Mechanics: Minimum Geometrical FoumeaoJI)

PiCTieni' PifinentaUon-

See Skin Pigmentation

See Invisible Circuitry, (1)

Pina Tree & Palm Tree Balta:

See Ecology Sequence, (E)

Piqe T_{rM}:

See Hierarchies, 16 Jun*72

Pink Stuff:

"The Pharaoh said to the doctor, •Doctor, give me that pink stuff.¹ The doctor said, 'Pharaoh, I think The pink stuff is the wrong stuff.' The Pharaoh said, 'Give me the Pink stuff!*' The doctor did.

They put the living doctor Into the tomb with the dead Pharaoh."

- Cite I Seth TO Bt A VERB, Queen, May *70 (Not in Bantam edition)

Pipe:

See Closest Packing of Rods Monopolizable over Pipe Petro-pap-pipelines

(1)

Wire

See New York City (fi)

Pirates* GT-pat Pirateff*

Q. "Are there still great pirates?... 'an I become one?"

RBF: "The top ones were called sovereigns and the lesser

ones were called pirates, and the even lesser ones hi-jackers. The British Empire began as a subterfuge for Queen Elisabeth I to go into private enterprise with the East, India Comnany... The American flag was actually derived from that of the East India Company,... 'The German cartels were owned partly by the allies and they nlayed both sides. The East India people swithhed over and backed th? new American colonies.

"There are no great pirates left. It's all lawyers now, and lawyer-capitalism. It's all now corporate: the safest and surest way to make the most money."

- Cite RGF to '»orld Game Workshop'77; Phila., PA: 22 Jun'77

` ` Penobscot, Blue Hill, and Frenchman's Bay were up to '.7orld War I the summer residence country of what Ducky Fuller speaks of as history's 'Great Pirates.' These were the men who ran the world as a consequence of their commanding the oceans of the Earth--- for the

oceans of the Earth governed three-quarters of our planet. Because the laws invented and adopted by dryland-dwelling people cannot be enforced either logically or practically over the ever moving ocean waters beyond their political entity's shores, the ocean seas are inherently outside the man-made laws. Only the physical laws of raw nature govern the seas.

"The high seas sailormen were inherently 'outlaws'--- therefore pirates. When one high seas crew seized another ship, she was called a prize into which they entered--- ergo, enterprise.

Because the greatest purates were, literally speaking, 'privately enterprising outlaws,' Bucky used the contracted form of this term, which is simply 'pirate', to identify them. The great pirates were inherently world people because they were masters of the World Ocean. Land people are local people and think locally. Ocean people are world people and think world."

- Cite BEAR ISLAND STORY, galley pp.25-26, 1968

"The headquarters of the 'Greatest Pirates' were the British isles because the British Isles represented the unsinkable flagships commanding the majority of the best harbors of Europe where lived the richest customers for their world trade. The greatest pirates manned their ships with men from their shipyard's country. Because the most conveniently recruited or 'Shanghaied' their sailors from the British Isles waterfront saloons, their operation came to be called the 'British Empire' though such an empire was never the democratic ambition of the British Isles people. World-around sea battling narrowed the field of contenders for world supremacy. Finally there was established amongst the greatest pirates the top or IL pirates. The IN pirates called themselves 'sovereign' and collect all the OUT pirates 'outlaws.'

"When the North American colonists broke away from the

greatest IN pirates in 1775, those British Isles-based great pirates came to America where, finding it impossible to dominate or conquer the colonists politically, they conquered their business world through financing acumen and control of the corporation shares."

- Cite BEAR ISLAND STORMY, galley p.2t>, 1968

"When World War I was declared in August 19H» the British Ambassador to the United States, Sir Arthur Spring-Rice was in residence at Isleboro in Penobscot Bay. That's where the great IN pirates were making their war defense plans. World War I was waged by the greatest OUT pirates against the great IN pirates. With its mighty new armored steel ships replete with modern mechanics, World War I was the first comprehensive world-around industrial technology and science war in history. It was waged around the /hole planet Earth between the great IN and great OUT world pirates.

"World War I and its post-war decade saw the end of the world ruled by either the top IN or OUT great pirates. In 'World War I the great pirates lost their world mastery forever because the fundamental controls of the new world of industry, technology, and science went from wire to wireless communication, from tracked to trackless transport, and from visible to the invisible structural strengths of atomic element alloying. Concomitantly the controlling factors of science and technology founded Industry went entirely out of human sight into the vast ranges of the nonsensorially tunable m electromagnetic spectrum.

The great pirates who ruled with their senses were helplessly and"

- Cite BEAR ISLAND STURY, galley p.2\$, 1968

"hopelessly blind. Also in 1929 a one-ton airplane in flight launched a torpedo which sank a 20-ton battle cruiser and this shifted mastery of the economic and social affairs of Spaceship Earth from a sea to an air dominance strategy.

"Kot long before the stock market crash of 1929 when the great pirates lost their world power by silent default, J.P. Morgan's great steam yacht, the 'Corsair' went on a reef entering Gilkey's harbor on Isleboro. No Morgan yacht had ever before touched a rock. The captain claimed the reef was uncharted. The 'Corsair' was floated safely off on the next tide. No one ever knew what happened to that captain. This event however was full of mystical foreboding of the great stock market crash that took place two months later. The great pirates went on the rocks forever.

"The great pirates were great! They did run the world and they ran it with magnificent selfishness and brilliant foresight--- that is within the limits of their comprehension of the supreme scheme of physical laws of Universe. Their thinking was however too limited. It was based on the seemingly scientific 1810 finding of Thomas Malthus, Professor of Political Economics of"

- Cite BEAR xSIAND STUKY, galley p.2?, 1968

Pjmw Cgfiat Pirates: (5)

"their East India Company. Kaithus discovered that the world people were multiplying themselves much more rapidly than they could produce goods with which to support themselves. His calculations showed an arithmetical progression in the rate of gin Of the vital supplies and a geometrical progression in human reproduction, Darwin's 'Evolution' and his explanation of it as being caused by 'survival only

of the fittest' was formulated 25 years after Malthus and successful survival of only a minor fraction of humanity--- by the shrewdest, toughest, swiftest, most foresighted, and hardest hitting--- seemed to be as scientific fact. To their thinking, any altruism was fatal.

"This was the basic conception upon which the great pirates and all the sovereignties which they established were operated. Neither they nor the rest of the world society ever foresaw an era of technology which would continually do much more with ever less resource investments per each function until, as today, suddenly, all unexpected by the world's economists, businessmen, and politicians of all ideological persuasions, a 1/4-ton communications satellite outperforms the transoceanic messagecarrying capability of 150,000tons of copper cables."

- Cite BEAR ISLAND STORY, galley p.27, 1968

See Meek Have Inherited the Earth, 10 Oct'63

Pirates: Great Pirates, 22 Jun'77

TEXT CITATIONS

Pirates: Great Pirates:

Mexico '63, p.7, 10 Oct '63

See Divide & Conquer Sequence Eggs: You Just Lay Eggs Enterprise
King's Sign Leaders: Leader ship Invisible Masters

Money Outlaw Realm Rule

See Artist. Jun*66

Education (B); Jun*66 Lever (b)

Country, 12 Aug*70

Plagiarism;

•What is often mislabeled as plagiarism is more precisely 'talent.' Plagiarism is an ethical offshoot label of the false property illusion..."

- Citation and context at Talent (2, 1938

Sea Coincidental Articulation Idea Stealing Intellectual Kleptomaniac

See Grid: Crisscross, Right-angle Grid Local Squareness, 9 Jul*62 Air Space, Kay*65

Planar Keflex:

"One of the things we have to make clear for society is the dilemma of the Max-Planck-descended scientists, the way they do their problems, you can have either a wave or a particle, but not both simultaneously.

Heisenberg has the same fault. They make the error of having a wave as a continuity, as a picture--- not as a pulsating frequency. A planar reflex causes them to think of continuous waves.'*

- Citation at Wave vs. Particle. 22 Apr*71

- ^rup HOF _t CIM¹", R¹¹TgT7Sn7~ April 'y.

Planar:

See Plane: Planar

Whereas: All the volumea of all the equi-edged regular poly- hedra are irrational numbers when expressed in the terms of the volume of a cube • 1;

Whereas: The volume of the cube and the volumes of the other regular polyhedra, taken singly or in simple groups, are entirely rational;

Whereas: Planck's constant was evaluated in terms of the cube as volumetric unity;

Whereas: Synergetics finds the tetrahedron, whose volume is one-third that of the cube, to be the prime structural system of Universe;

Whereas: Structuring stability is accomplished by triangularly balanced energy investments;

Whereas: Cubes are structurally unstable;

Whereas: The radial arrangement of unit tetrahedral volumes”

- Cite SYNERGETICS draft at Sec. 223.71, 15 May’73

Planck's Constant:

"around an absolute radiation center (the vector equilibrium) constitutes a prime radiational-gravitational proclivity model with a volume of 20 where the cube is 3 and the tetrahedron 1;

<B)

"It becomes evident that: In order to convert the value of the photon, which occurs as a whole rational energy entity, to conformity with the ill-chosen cube, Planck's constant emerged empirically, and to reconvert it to conformity with synergetics the 6.6-ness is cancelled out:

volume of

6.6 - 20 - vector equilibrium

“3 volume of

cube •

"Planck's constant: Symbol h . $h = 6.6 \times 10^{-27}$ grams by square centimeters~per each second of time, h is the invariable number found empirically by Planck by which each of the experimentally discovered minimum increment of all radiation, the photon, must be multiplied to equate the photon's energy value as rated by human's energy-rating technique, which is predicated on the effort expended in lifting*

- Cite SYNERGETICS draft at Secs. 223.71 +.72, 15 May’73

Planck's Constant:

(C)

"weightb vertically against gravity given distances in given tines. Thus automotive horsepower or electromagnetic kilowatts per hour are rated.

"In the case of Max Planck's photon of light, which expands outwardly as a spherical wave surface in all directions--- instead of travelling linearly outwardly in only one radial direction--- the energy effort involved is expressed in terms of the exponential second power, or areal 'squaring' rate of surface growth of the spherical wave; i.e., as the second power of the energy effort expended in order to lift, in each second of time, a distance of one 'vertical' centimeter radially away from the Earth's center, one gram of weight, i.e., the weight of one cubic centimeter of water whose temperature is 4° centigrade. The invariable number which accomplishes this rating is $h = 6.6$ multiplied by 10^{-27} ; whereas the gravitational constant -6.6×10^{-8} grams per second squared."*

- Cite SYNERGETICS draft at Secs 223.72 + .73, 15 May»73

"Planck's constant corrects for the error of science's predicating its comprehensive coordinate mensurating system upon the cubic centimeter of water at a specific temperature as the volume-weight geometrical coordinating factor, v/hose centimeter of edge-length-height on the XY2 three-dimensional system became the distance of anti- gravitational work to be accomplished in one second of time as constituting the most logical system for integrating the energy information science was acquiring instrumentally from the vast invisible ranges of physical reality."

- Cite RBF entry of 22 July 1971 as re-written by him in Washington, 7 October 1971.

Planck's Constant:

"Planck's constant corrects the cubic centimeter. It accommodates a number which relates what man is doing to electromagnetic theory."

- Cite RBF to SIMS Seminar, U.Mass, Amherst, 22 Jul'71

Planck's Constant:

"Now Planck's Constant was simply how you forced what you find out about energy into calculatability and manipulatability mathematically in respect to rectilinear analytic geometry. That's plotting things only on the XYZ coordinates. Always having to go round corners. . . **

- Cite' RBF tape transcript to BO'R, Carbondale Dome, 1 May 1971. Page 43.

"Planck's constant is purely an accommodative number. Put together. The central angles of the octahedron are the 90- degree coordinate system; the coordinates are there, but that's not what nature uses. There's no denying man's way of accounting for things--- which is absolutely awkward. With the synergetics conversion constant I'm discovering how you can take the same fundamental data and really make it come out right."

- Tape #6A, Side A. transcript p.3; RBF to Barry FarreJ, Bear Island, 10 Aug'70

"In synergetic geometry the vector equilibrium's mass value of 20 shows why nature requires that the cube's volumetric value of three be multiplied by Planck's empirically discovered , but heretofore scientifically inexplicable, constant 6.665---? to correct for the mistaken assumption by both mathematics and physics that the cube's volume was nature's logical volume of one--- instead of its actual volume of three, in nature's most economical system of both physical and metaphysical accounting. The physicist finds that nature is always most economical. Planck's empirical constant of correction was also required to remedy the mistaken assumption by physics that the cube of one centimeter to the edge, filled with water at four degrees centigrade (as the unity of the XYZ, 90-degree-coordinate, gram" temperature "second system) was also suitable as the basic unit of energy for

computing radiational propagation. The 6.6 radiational constant correction, of the mistakenly assumed suitability of the cube and its conversion thereby to the value of the vector equilibrium's base 20 also required the further 10" reduction in size to reduce the gram of water's reference size to a photon's energy magnitude."

- Cite NEHHU SPEECH, pp. 27-28. 13 Nov'69

"The closest packed sphere layers of the vector equilibrium account for the non-solid proton-quantation of the wave's outer layer value of frequency (or velocity) to the second power as required by Einstein's c^2 of his equation $E = Me^*$ and eliminates the necessity to consider the second power as characterizing continuous surfaces of systems.

"The vector equilibrium's surface sphere growth rate of the second power also accommodates Newton's discovery of gravitation mass attraction as being governed by the second power of the relative proximities of the masses, expressed in terms of their respective radii (or modular frequency.) The gravitational constant also requires the 6.66+1 correction of its gram-cube base to conform to the vector equilibrium and requires a 10" reduction of size to conform to the electron volt magnitude of energy."

- Cite NEHRU SPEECH, p. 28. 13 Nov'69

"The many mildly differing values arrived at empirically for both Planck's constant and for the gravitational constant seem to indicate that the radiational constant is just a little less than 6.666 and that the gravitational constant is complementarily just a little bit greater than 6,666

- Cite NEHRU SPEECH, p. 28, 13 Nov'69

Planck:

"If one wishes to obtain a definite answer from nature one must attack the question from a more general and less self-ish point of view.'*

- Cite RBF undated holograph quoting Max Planck: SURVEY OF PHYSICS, PUL. London k N.Y.

- Barry Farrell k RBF Tapes; Tape 6A, Side B, pp.13-1\$;

Bear Island, 16 Aug'70

- Synergetics: Sec. 223.70ff, 26 Sep*73

511.04

204.01

223.71-223.91

240.65

511.04

1024.25

**See Whole System: Synergetics Principle Of (1) Photon, 26 Sep*73
Attic Window, 20 Jan*75 Quantum: Event-paired Quanta, 1971 Syn-
ergetics Constant, 10 Dec*75**

See Light: Speed Of, 1 Kay'71

Conceptual Mathematics, (2)

Plane:

"A plane is a tetrahedron of macro base and micro altitude.. Planes...
are real, conceptual, experienceable visually and mentally..."

- Citation 1 context at Point. 20 Dec*73

Plane:

"A planar system is the first stage of comprehension..

- Citation and context at Comprehension. 16 Feb*73

KBF DEFINITIONS

Plane;

"All lines are curvilinear and ultimately close back on themselves, ergo short line increments are always segments of weak geodesic loopings. In the same way a plane is always just a local facet aspect of a system. Planes do not exist independent of systems. The nonsynergetic consideration and articulated employment of points, lines, and planes exclusive of system identities induces unconsidered, inexorably complex developments of covariant functions of always integrated generalized system laws. The unconsidered complex of omnidirectional event developments of an almost exclusively 'specializing,' self-considerate society occasions the continuous generation of unwanted problems at ever greater scale in twentieth century world affairs. A linear preoccupied strategical play scenario in which Monte Carlo and Wall Street may win money while vitiating the wealth accounting system and deferring the realization and general distribution of synergetically augmented commonwealth."

- Cite RBF re-write of Plane. 17 Feb '72 : 19 Feb '72

KBF DtFIMTIUNb

Plane:

"A plane is just a facet of a system."

- Cite RBF to LJA + BU'K, >200 Idaho, DC, 17 Feb '72

"Theoretically, a flat surface is infinitely extensible laterally, i.e. in all diametric planar

directions. As a laterally unbounded, or infinitely open, extensibility the theoretical flat plane is only partially definable. That which is definable of the plane forbids its returning upon itself."

Cite NEHRU SPEECH, P. 12, 13 Nov '69

Plane:

"Planes described supposedly by three points have, in experimental fact, four points, with two very close together, ergo, all planes are warped."

- Cite RBF marginalia at old Chap. 2, "Synergy," 1.5, 18 Mar'69

Plane:

"If there are six equilateral triangles around a vertex we cannot define ft three-dimensional structural system, only a plane."

- Cite SYNERGETICS ILLUSTRATIONS - # 7 1967

Plane;

"I can't get six triangles around a vertex because their corners would add up to 360°. A 360° Intersection of triangles is 'flat.* They form a theoretically and experimentally nonexistent, non-experimentally demonstrable plane which would go to 'infinity,' and could not therefore subdivide the universe, by a local conceptual system,"

- Cite NASA Speech, p. 61 , Jul'66

Planes:

"There are, of course, no planes. It is experisantly demonstrable that an apparent plane is a 'surface' area

of some structural system.

"There are no experimentally demonstrable continuums.

"All that has been found is discontinuity as in star constellations or atomic nuclear arrays. Areas are discontinuous, by constructional definition. Areas, as system 'faces' are inherently empty of actions or events, and therefore are not 'surfaces.'"

Cite NASA Speech, p. 60 , Jun'66

SEC **SZ'L-loi**

Plane:

Since "lines cannot go through the same point,
then there cannot be a plane; so planes are eliminated

- Cite Lodgement, p. 13, 15 Oct*64

Plane:

"A 'plane' ie a tetraSron of negligible altitude and significant base dimensionality. • •

"There are no impervious surface continuums.

- Cite COLLIER'S, p. 115, Oct'59

Plane a» Facet:

See Polyhedron, 1 Jan'75

Plane, Feb'72

Plane:

See Area

Geometry: Plane Geometry

Planar: Planarity

Surface

Tools of Geometry

Facet

Eternal Plane No Planes Tuck in a Plane

Sphere Tangent with a Plane

See Comprehension. 16 Feb'73* Fourth Dimension. 29 Nov'72 Meaningless, Oct'66

Probability (1)

Point, 20 Dec*73* Systematic Realization, 20 Dec'74 Systems <t Non-systems, 26 May*72 Bubbles, 7 Nov*73 Threeness, 2? May*72 No Opposites. 12 Nov'75 Polygon, 14 Oct'76 Four-dimensional Reality, 30 Apr'77

See Children as Planetarium Audiences

Q: (Sen. Clark): "Do you feel any form of world government is in order or that we are moving toward that? Or that there is any possibility that the American people, after years of plowing the field, are ready to accept any concept like that?"

A: (RBF): "I have been asking myself the question you ask me for a very long time. I am a student of large patterns and am trying to see what evolution does to some of these things. I think that human beings do not

often realise how powerful, knowledgeable, and competent is universal evolution.

"X-ray cinema makes visible organisation of a chicken--- the gradual assembly from its embryo, all taking place inside the egg, much of which process seems chaotic and discretely uncontrolled. Humans do not see the logical interrelatedness of big evolutionary development. All the technical happenings which were unpredicted in my youth seem only in retrospect to have been obviously sequitur to their immediate predecessor"

- Cite RBF in committee transcript, US Senate, 15 May '75

"developments. Humans tend to think that Universe is waiting upon them to make the evolutionary decisions. I do not. That is why I have tried to stress the fact with you today that--- when considered before they occurred--- all the technological events in my life were thought to be absolutely impossible.

Therefore, they were not the consequence of society deliberately undertaking to bring them about. Individual inventors, often called 'crackpots,* brought them into realisation. It was completely unexpected.

"When I was five years of age no one realised that we would develop any of the 20th Century technology. Anyone who even suggested humans reaching safely to and returning from the Moon were called lunatics and in jeopardy of being incarcerated in a lunatic asylum.

"As an infinitely small detail in designing terrestrial ecology Nature designed the honey bees with their chromosomal drive to go after honey in order to have them inadvertently crosspollinate the vegetation; so too, by a million other chromosomally programmed behaviors, nature arranged to grow and"

- Cite RBF in committee transcript, US Senate, 15 May '75

"sustain humans on our planet. Also, 99-percent-programmed humans usually have been doing a lot of the right things for the wrong reasons, What we think of as side effects are usually evolution's main events. The time has come when we must participate directly in the mainstream of Universe, instead of only accidentally, while playing lethally-biased, exclusivesurvival games instead of the all-inclusive main show.

"When our forebears evolved the system of democratic representation of the United States all the first representatives were well and favorably known to their neighbors. Everybody knew them. Their term of office was predicated on the realization that they would have to go to the central meeting place in Philadelphia by foot or by horse over footpaths, Indian trails, or very small highways, stopping overnight at inns and talking with everybody along the way. And while in Philadelphia--- or later in Washington--- three or four important letters might come from Europe during the whole year you were there. Everybody at the capital knew what the letters said. They all* talked about the letters with one another. Then all of the representatives started back homeward talking to the people"

- Cite RBF in committee transcript, US Senate, 15 May '75

"along the way. at the inns and homes. They would tell everybody at home about the four letters from Europe this year and what everybody in Philadelphia (or later in Washington) thought about the situation, and what the people along the way think, and would then say to their home people, 'How do you feel about it and what do you want me to do about it?' They were told; and then they walked or rode on these, often many-days travel to the capitol. We had what scientists call a one-to-one correspondence between stimulation and response.

"With the unexpected development of the telegraph 30 years later news short-circuited the representatives' direct communications system and reached people in minutes instead of in months; and the people had no way to respond to the stimulation. Since that time radio and television broadcasting have added to the telegraph-fed newspapers in producing a constant barrage adding to hundreds of thousands of stimulations before any political response could be manifest by the citizenry.

"Democracy worked well with the initial one-to-one correspondence. Today, democracy is not working. It is not the fault"

- Cite RBF in committee transcript, US Senate, 15 May '75

"of the concept of democracy» Democracy is unable to express itself. That is why samplings of political viewpoints have developed. The Congress conducts as many Inquiries as Possible to discover in advance of elections what their constituents are thinking. Particularly amongst the young there is a feeling of absolute futility. The system is not working.

"Over a great many years I have been following the technology of electromagnetic communications to find out if it did not contain its own answer to how one-to-one correspondence might be regained. In 1940 I was science and technology consultant to 'Fortune' magazine. After checking with the telephone system engineers and finding it technically feasible, and not disruptive of all other regular services.. I proposed daily voting by telephone on all prominent questions before Congress. That was back in 1940 and I published my proposal in my book, 'No More Secondhand God.'

"Since World War II studies have been scientifically conducted disclosing the electromagnetic energy output of human brains. The work has been scientifically conducted in veterans' hospitals with electrodes fastened to the heads of volunteers. Then, "

- Cite RSF in committee transcript, US Senate, 15 May '75

"using recording oscillographs, unique patterns were discovered to be identified with certain dreams* Most recently experiments have disclosed an electromagnetic field surrounding the whole body of a human, which field discloses a positive or a negative attitude of response to various stimuli--- very much as does the polygraph or lie detector through direct contact.

"With the sensors now mounted in satellites orbiting our planet, broadcasting to us, there is present in this room right now one electromagnetic program amongst several million, which, if tuned in by the right radio set, can tell us where every beef cattle on Earth is located. As a consequence, we may soon have the capability to directly sense how each and every human feels about each and every common human problem of the moment as each such problem and its alternative solutions are separately broadcast. This might well develop within the critical 10 years of which I have been speaking.

"Senator Percy, you have asked me what kind of world government may develop. It may well be akin to the city management concept, where the management has to do whatever the satellite-sensor-" harvested and computer analysis says that the world majority"

- Cite RBF in committee transcript, US Senate, 15 May*75

"thinks ought to be done. Undoubtedly the world majority would make many mistakes, but as the mistake becomes evident the majority of humans will think that this alternative will work better; and because they think so, it will be satellite sensed and the computer will instruct management to immediately alter the course.

"This is the way all mechanical steering mechanisms of airplanes or ships of the sea work. The servomechanisms responding to sensed error in first one direction and then the other, successively correcting the steering--- first this way, then that way--- averaging an accomplished course halfway between. The variations get finer and finer, trending toward but never attaining, 'absolute straightness.' This is the essence of cybernetics. This way humans reached the Moon. It is the essence of all life growth. Development of such satellite- harvested, electromagnetic-field sensing of how world democracy feels about any proposed solution of any given problem is close at hand or has already been technically prototyped. An incorruptible, true, direct planetary demdcracy with all of humanity franchised and always voting, may well render all of humanity sustainable, successful. So those are my thoughts, sir."

- Cite RBF in committee transcript, US Senate, 15 May'75

Planetary Democracy;

See Electronic Referendum

World-around Communication Transcends Politics

World Democracy

(Allegheny Airlines lost baggage agent tracing lost RBF suitcases sent to Pittsburgh by mistake.)

Qi

"What is your permanent address?"

A: (RBF) "Address! That isn't the right question. Young man I live on Planet Earth!... Man was born with legs, not roots!"

- Cite RBF, red-faced and banging the counter with his fists, Washington National Airport, with EJA, 12 Feb'72

Planet Earth:

"This planet is a low pressure area for gathering the Universe together again. And I can see man arriving here as part of that function. So we're a gathering point; and every time a gathering point gets to the place where it needs the mental capability of man on board, man arrives...."

- Citation *Id.* context at Man: Interstellar Transmission of Man.
14 Aug'70

Planet Earth:

See Earth

Spaceship Earth

See Time-energy Economic#. 15 Jun*74

Interrelatedness vs. Names, (1)

TEXT CITATION

Plancta: Prediction of Unknown Planetat

Synergetics, Sec. 115, Sept'71

Planeta' Prediction of Unknown Planeta;

See Whole System: Principle Of, (1)

Plansut: Probable Myriads of Consciously Operated Planets:

fl.

See Extraterrestrial Humane

Plafitfi: Probably Myriads of Consciously Operated Planets: (2)

See Metaphysical: Supremacy Of, May'72

See Coherence, 10 Feb'73

Curvature: Compound. 22 Sep'71

Economic Accounting System: Human Life-hour

Production, (1)

Sphere, 1971

Synergetic Strategy of Commencing with Totality,

28 May'72

Earth, 17 May*77

Planilinear:

"The statisticians think almost exclusively in lines or planes; they are what I call planilinear."

"context at Probability Modal of Three Cases"

26 Sep'73

KbF DEFliilThunb

Planilinear:

'Probability is purely mathematics: Just points on curves.

But they are thought of as linear. Or planar. What I call planilinear."

- Cite RBF to EJA, 3200 Idaho, DC, 1/ Feb '72

Planilinear:

See Compound, 13 Mar*73

Plagtic:

"There is an unfortunate tendency to abhorrence of the plastic. Our fingernails are plastic. Our eyes are plastic...,"

- Citation 4 context at Reproducible, 30 May'72

Plastics:

"There's really a whole new generation of chemistry coming through again. We're getting new skins and tubes that go three and four times as far. The first skins only lasted two years; now they last six. So with all these inventive kids, and the new chemistries, and the aerospace industry which has been depending on the war and is going to have to find new capabilities after they stop the nonsense... these things are really going to come along. There's a whole new era coming through— with new skins and new foldabilities. You'll be able to fold your dome up in a little package and just explode it into something really big."

- Cite transcript of REF tape to Barry Farrell, Tape #1, p.3; Bear Island, 10 Aug'70

Plastic Call-girl Angela;

See Dwelling Service Industry, (6)

Pjagtlg Ffo>werq:

See Dwelling Service Industry, (6)

Plastic Replica of a Cotswold Cottage;

See Dwelling Service Industry, (1)

Uagtjg Tube of Unlv«r«g»

See Metaphysical Gae, 27 Dec*73

Plaatic:

See Artificial

See Reproducible, 30 May*72

Alcohol, 1946

Wood Technology, (4)

New York City, {4}

Hex-pent Sphere: Transformation into Geodesic Spiral Tube, (1)(2)

Platonic Solids:

"The Platonic solids do not stand in a vacuum of Universe They are in Universe and if you change that thing you change the rest of Universe. Nothing can change locally without changing everything else."

IFagen Lecture~~fl p. 285 • 12 Jul *62

- Citation &, context at Restrains. 12 Jul'62

PUta.'a Solldg; Platonic Gooaetrloa:

See Size (A)

Transformation, 12 Jul'62 Prime Structural Systems (2)

Restrains, 12 Jul*62*

Vectors t Tensors, 19 Oct'72

Dodecahedron, 1 Feb'75

Subvisible Discontinuity, 19 Oct'72

Philosophy, 11 Aug'76

See Philosophy, 11 Aug*76

Flay ^Acting«

See Population Sequence, (6)

Pretending, fl Apr'75

Sea Feedback

Recall Playbacke

| | |
|-------------------------------|-----------------------------------|
| <u>Pleaaed or Diapleaaad:</u> | <u>We Are Not Here to Be; (2)</u> |
| See Humane City, | (10) |

Plenitudes:

See Acceleration of Change, 1938

Plumbers:

See Labor Unions

"My self-disciplining strategy of never losing the large- pattern comprehensivity doesn't mean that you have to disregard the particulars. For instance, when I was designing my stamped-out bathroom, doing the research for it. I discovered that there was one man in Toledo, Ohio, who designed all the toilet bowls in the U.S. His problem was largely one of manufacture, where the crude ceramics employed did not permit any fine tolerances.

"Scientists are simply not looking at plumbing. There is a feeling that pure scientists shouldn't stoop to that sort of nonsense. Nature spends a lot of time separating materials out into solids and liquid---as you know if you've ever done any mining or refining. We should always pay close attention when nature does this kind of thing. If we employed stainless steel instead of ceramics we could have very fine tolerances and we wouldn't have to waste seven gallons 3^{ust} to flush one pint of waste.

"The point is that you can be a generalist and still plunge into the particular. I've done such plunges for one month at a time or for six months at a time, such as the time I was dping my

- Cite RBP at Penn Bell studios, Philadelphia, Pa., 25 Jan'75 **cartography. But you always can come back from the artifact to the grand strategy."**

- RBF at Penn Bell studios videotaping, Philadelphia, PA.,

Plumbing:

R» • . Science has hooked up the everyday plumbing to the cosmic reservoir.¹

- Citation and context at Junkyard, 1971

Plumbing:

"Many scientists live in houses--- they look at the plumbing, often find that the plumbing isn't working, twiddle the knob, and send for the plumber. You know as architects that you do not design the plumbing which you buy. You design the superficial use and arrangement of fixtures which are designed by non-architects and manufactured by commerce for you. You are free only to choose the coloring of the bathroom tiles and the coloring of the fixtures. But what goes on back of the bathroom tile is not part of the architectural design. Even if you studied 'plumbing' and detailed the pipe layouts, your design would not be followed or even looked at. The layout would be as dictated by the plumbesB' scientifically illiterate craft code and frequent whimsy.

"The fact is that the plumbing system and the sewer system and the aqueduct system have not been importantly changed for 4,500 years. Only one improvement in the system was made, 100 years ago, in England. That was the development of the roof vented plumbing stack and water seal in plumbing fixtures to keep the sewer gases from entering the house."

- Cite MEXICO '6j, p. 10, 10 Oct '63

See Autonomous Living Technology Packet Bathroom as Symbolism
& Association Excrement: Excremental Functions Toilet SewEBs:
Sewage Systems Outbound Packaging of Human Food Waste

See Buildings as Machines (2)

Livingry Science, 1 Apr*49

Junkyard, 1971*

Buildings: Multiple Occupancy, 30 Apr'74

Romance, 30 Jan'75

Desovereignisation Sequence, (1)

Building Business, (4)

Doing l/hat Needs to Be Done, {1} (2)

Back Pack, 20 Sep'76

Dome House Grand Strategy: 1927-1977, (1)-(3) Invented Jobs, 20 Sep'76

Pluralistic:

"We cannot have disorder

Because Universe is not monological;

It is pluralistic and complementary..."

- Citation and context at Universe, pp.156-157 May *72

Plurality:

"Plurality of systems is a plurality of micros, but only one macro."

"Each of a plurality of systems forces all other systems into lesser proportions of totality.

"Likewise, Universe is inherently infinite and systems are inherently finite,"

- Cite RBF holograph in synergetics notes, 5 Mar'55

See Environment, (A)

Plural Unity:

"...There are only two fundamental kinds of observable transformational changes, i.e., angular, or subunity alterations, and linear or plural unity (frequency modulated) accelerations."

- Citation and context at Accleration: Angle and Linear Acceleration, 1960

See Unity ae Plural

Plural Unity:

(2)

See Cosmic Discontinuity k Local Continuity, 15 Jan'74 Interaware-
ness, 9 Jul*75 Multiplication by Division, 20 Jan'77

See Singular t Plural Understanding Must Be Plural Unity is Plural

See Awareness. 10 Feb*73

Differentiation. 27 May'72 Experience. 197' Is, 24 Apr*72 Second,
May*72 Universe, 26 May'72 A/hole System, 1o Jun *72 Geometry of
Vectors, 15 Jun'74 Isotropic Vector Matrix, (p.J2) undated Polarity,
11 Sep»75

KBF DEFINXTIUNb

fIB Pluc and Minus:

"Physics hasn't really associated radiation with (+) and gravitation
with (-), but that's what they are."

- Cite RBF to EJA, 3200 Idafco, Washington DC, 25 Jan *72.

PIMP »nd Hinue •

"The average of all plus (+) and minus (-) weighta of Universe is zero
weight. The normal ie eternal.*

- Citation at Normal. 25 Apr'71

See Zero Frequency

See Vector Equilibrium, 2? Oct'72

PUa-alnM. r&Xajity;

See Number: Even Number. 26 Sep'73 Vector Equilibrium (Z) Polari-
sation, 10 Nov ` 74

See Aii)i—fai y Fins ft Ml nun >1nni I uiles

Positive 4 Negative Split Personality

See Algebra, Oct'66

Coupler (2) ; 27 Jan*75

Death. 13 Mar'71

Normal 25 Apr'71* Polar Points. 7 Nov'73 Powering: Sixth Powering,
26 Nov'72 Twinkle Angle, 19 Dec'73 Vector Equilibrium, 21 Dec'71
Polarization. 10 Nov'74 Conception-birth, 27 Dec'74 Superstition,
May'49

14 May'75

XYZ Quadrant at Center of Octahedron,

Plus One:

"So it is really never infinite because you are not looking at one part. It
is never just Plus One; it is always plus the rest of the Universe when
you separate that One out.

You can separate unity up further and further. You can multiply the
subdivisions of unity."

Infinity Finite,

- Citation and context at MMHHL (1) (2}, 9 Jul'62

See Additive Twoness

Coring Two:Twoness Polar Points Vertexial Unities

See Euler, (2)

Theta, 11 Mar*69

Topology: Synergetic 4 Eulerian, (2) Torus, 11 Jul'62 Thinking, (II)
Ten, 22 Jun'75

Modules: A 4B Quanta Modules, 20 Dec¹73

(1)

See Poeltve Negative

See Circuitry: Thermionic 4 Political Analogy. 23 Jan*72

(2}

Pneumatics:

Synergetics has discovered ``the identification of tensegrity with
pneumatics and hydraulics--- it's load

distribution, that's the point."

- Cite RBF to EJA re SYNERGETICS, Sec. 251.19, 20 Dec. '71.

Pneumatics:

"When I use the six-strut tetra tensegrity with tensegrity octa in
triple bond I get an omnidirectional symmetry tensegrity which is
compressible and expandible as are gasses."

(N.B. Caption supplied by RBF on Holograph)

- Cite undated RBF holograph oijpaper of Onchiota Conference Center,
Sterling Forest/ Tuxedo, New York.

Pneumatic tog;

"We assume that pneumatic bags are not permitted as solutions of the
problem as they prohibit omnidirectional penetrations and provide no
local resistance against high impact."

- Cite Pennsylvania Triangle, Nov. *52, p. 11.

Pneumatic-hydraulic Structures:

"Hydraulics and aerodynamics and pneumatics--- Nature is using them in making trees and everything else, but we're Just beginning to use them in buildings. This is the reason great trees can go through hurricanes. Nature uses the crystals only for tension; all the compression she uses hydraulics for. In between the molecules of liquids of the tree are the gases, so the branches sway--- five tons, ten tons--- waving in the wind. And it's doing so because the hydraulics holds its shape under pressure in compression, with the very high tensile strength of the fibers, and the pneumatics there, taking all that shock.

"No man has built any buildings like that yet. That's the truth. That's the way nature does it. That's the way she designs you. You're a beautiful piece of design, and what a contrast you are to a stone fortress! Can you imagine architects saying I am unaesthetic because I didn't want to work with stone? Yes, Italy is beautiful: every stone laid by a prisoner. The reason you don't have stone buildings now is that a man has to earn a wage. If you pay him so he can live decently you can't afford to lay stone." / QE3BHH

- Cite KBF to Barry Farrell: Bear Island: Tape #8, Side A. transcript p.2; 22 Aug'70 *

See Intuition Sequence (2)

Spectrum, 15 Oct'?2

Tensegrity, 10 Nov¹73

Human Beings &. Hard Machinery, 20 Apr»?2

Te²erivv M°del of Self-interference of Energy,

Humans as Machines, (1)

EMuaaUc Strartwoa;

"A fleet of ships maneuvering under power needs more room than do the ships of the same fleet when docked side by side. The higher the speed of the individual ships, the greater the room required. This means that the enclosed and pressurised molecules in pneumatic structural systems are accelerated in outward-bound paths by the addition of more molecules by the pump and, without additional room, each must move faster to get out of the way of the others."

- Cite SYNERGETICS draft At Sec. 703.04, 25 Sep'72

Pneumatic Structures; p j

**I have considered a great deal about footballs and balls and pneumatics from being a little kid. And I saw that as I pumped up my basketball or football, it went from supine . . . flat, into this beautiful firm condition. But this is because the molecules of gas were trying to get out of the system. And they got hot because they were in such action. The kinetics of gas are something easy for the brain to understand and feel. . . the action of those individual molecules of gas. I saw all the molecules of gas were trying to get out of the system--- that gives it the high pressure--- and they were stretching it outwardly and so, therefore, the skin is designed to go the other way, holding it inwardly so that the skin is finite and comes back upon itself. And it represents a tensional force with the arrows bound inwardly, balancing all the molecules, bouncing, hitting it, caroming around every action having its reaction. So I began to see that it would be possible that geodesics could be similar to what could be called discontinuous compression/continuous tension, where every molecule has to have one it pushes from, like two swimmers in the middle of a tank.¹

- Cite RBF Interview by Hans Meyer, dome Book II. p. 90. Dec¹70

~\$ ALL ood 3 -J **C\$1, la** \

' 'When you are swimming you dive from one end of the tank gives you a little acceleration into the tank, when you get to the end, you can put your feet up and double your body up and so forth and shove off from the tank, and if two swimmers could meet in the middle of the tank and double their bodies up like that and put the soles of their feet together and thrust and go in opposite directions, I saw that the molecules that are in motion... and every action has its reaction... there has to be some reaction set, so each molecule which is caroming around, circularly hitting glancing blows and then making a chord, then another glancing blow, had to have one it shoved off from. Each one would have to be balanced, so a balanced pair... all the forces are caroming around... each one will represent one of the chords, the compression chords, which

the two ends pressing outwardly glancing blows against the tension skin, which are trying to pull inwardly and they are pulling outwardly. So there's a net arrow outwardly in the middle of the chord against the net of arrows pointing inwardly. So... I saw this represents what the gases are doing and you could make discontinuous compression/continuous tension geodesic structures in this way. So all this came

_Z_Si“JIBF_l£!SSI, vie*’ by Hans Keyer, Domebook, II, p. 90. Deec'70 gaU.w -
secy.]

"in as a fundamental feeling that in dealing with geodesics in contradistinction to compressional arches where men had made lesser rings of stone and bricks and so forth, like Santa Sophia, fitting them beautifully and very mathematically, one to the other, so they wouldn't fall in, and taking and putting chain around the bottom of the dome to take care of the thrust of the enormous weights of the buildings, they could build a dome that would not thrust outwardly at the base and allow it to collapse.... I saw that in tension flA there is no limit--- you can make as big a pneumatic bag as you want . . , I saw

that in the comprehensive geodesically omnitriangulated tensegrity structure I would be able to go to unlimited spans, because your only limitation is tension. I've found that there, is no inherent limit to cross section due to length. We get to where there is no cross section visible at all, as in the pull between the Earth and the Moon. . . The beautiful intuitive feelings have been there right from the beginning. Always I could really feel the apple in those terms of hydraulics and doing the same tricks."

- Cite RBF Interview by Hans Mayer, Domebook II, p. 00. Dec'70

BAULO* - SEC 1

Pneumatic Structures?

"Pneumatic structures are tensegrity structures . « . all structures are tensegrity structures from the solar system tow the atom."

Cite OREGON Lecture #6, p. 197, 10 Jul'62

see.

RBF DEFINITIONS

Pneumatic Structures:

"Tensegrlty structures are pure pneumatic structures and pneumatic structures do what they do at the subvisible range."

- Cite OREGON Lecture *if5* - p. 189, 9 Jul»62

See Balloon

Hydraulics

Human Beings & Hard Machinery Pneumatic-Hydraulic Prestressed
Concrete Sequence Tensegrity Sphere Invisible Pneumatics

, Geodesic Spinnaker

See Sphericity of Whole Systems, 26 Seh'73 Three-way great Circling:
Three-way Grid, 17 Feb*72

Pocket Calculator:

**See RBF Introduction to Schlossberg k Brockman: "Pocket Cal\$\$ster
Game Book, 2 Sep*75**

RoF DEFINITIONS

Paa, titer. Allen:

"I'm sorry to say Edgar Allen Poe drank, quite heavily....

Kof'm not sorry about anything."

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan'75

Poe,

Edgar Align:

See Artist, 24 Jan'72 Artist: Histrionics, (1)

Poetl?

"The word poet in this professorship of poetry /~l.e., the Charles Eliot Norton Professorship of Poetry at Harvard/ is a very general ter® for a person who puts things together in an era of great specialization wherein most people are differentiating or 'taking things apart.' Demonstrated capability in the integration of ideas is the general qualification for this professorship."

- Cite EDuCATAUN AUTU-ATiuN, p. M 22 Apr'61

Poetry:

Q. "Is there any type of poetry, or any poet you can't stand?"

A. "No, I have nothing negative to say about p^Cetry, except to tell you that rhyme is not poetry."

Cite RBF in tape interview with Mike Bandler for BOOK rEEK, J200 Idaho, Wash, DC, 29 May*72

Poetry;

"Ralph Waldo Emerson defined poetry as 'saying the most important things in the simplest way.'¹ By that definition Einstein became and will probably remain history's greatest poet--- for who could say so much so simply as did Einstein when he described physical universe as $E = mc^2$."

- Cite NEHRU, p. 78, 13 Nov '69 (The Leonardo Type)

RbF DhFihlTIUNb

Poetry:

"if you say it is poetry that is because engineering is poetry. Take out for yourself some engineering and science textbooks and break the words up into phrases in similar manner and prove it for yourself. Then try some non-engineering prose and it probably won't work.

I would not be surprised if some day it were proven a law that the better the science the better the poetry."

" Pth i-WR.id LAI MJI MAT. j 1962

(Incorrect attribution)

POETS

"Poets tend to say things a little earlier than the others regarding the significance of what it is that we are experiencing

- Cite RBF in Milton Eisenhower Lecture, Johns Hopkins, Baltimore, 3 Oct '73

Poets:

"Poets have been history's consistently competent anticipators of forward evolutionary transformations.

- Cite Dreyfuss Preface, "Decease of Meaning." 28 April 1971, P. U

KBF UoFINirIUNS

Poets :

"The young life realises that the older life is holding to the familiar, in opposition to evolution. This is an interesting point to identify the prescience of the poet, What man tends to call a poet is one whose sensitivity has not been so damaged, where the thoughts flow

almost subconsciously, where all the tastebuds of sound have been undamaged and the communication capability is very, very high. Their full vision is unimpaired. Time and again the poet will say what the nonpoet will not dare to say. He is afraid to hear his own voice— the poet's not. The poet's not afraid because he's not thinking in terms of his own voice. It's irrepressible; and so time and again poets have said very extraordinary things long before the rest of society recognized the significance of what they were saying."

- Cite RUF in Preface for Francis Warner, p. 5, HMHV circa 1970

Poets:

"Women and their clothes are like poets. They anticipate

All options are open."

--Cite RBF quoted in Queen, May >70

- Citation at Optton f May*70

Poets:

"... Poets are the earliest to foresee and express almost all of the important concept changes in the evolution of humanity's development around the surface of the spherical Spaceship Earth.^h

- Citation and context at Millay. Edna St. Vincent (3), 1968

Poeta Anticipate PiBCOveriea of Science:

See Artiat, May'65

Heiaenbarg-Eliot-Petlnd Sequence, 28 Jan¹69 Tine, 1938

FILL INDICATORS

See Aiken, Conrad Emerson, Ralph Waldo Kipling, Rudyard Morley,
Christopher Millay, Edna St. Vincent Fowler, Gene Eliot, T.S. Pound,
Ezra Joyce, James Tennyson, Alfred Lord Frost, Robert Poe, Edgar
Allen

Poetry: Poets:

See Artist-explorer Artist-scientist Concrete Poetry Economist-poet
Einstein as Poet Ford, Henry as Poet Time Entered the Picture through
Poetry Prose: Prosaic Verse vs. Prose

Poetry; Foote:

(2)

See Generalization Sequence. (2)

Millay, Edna St. Vincent, (3)*

Nature Permits It Sequence, (2)

Option, May'70*

Slang, 28 Apr'71

Culture, 1 Feb'75

Words, May¹44

News & Evolution, (1)

Custom: Let One Good Custom Corrupt the World, (A)

IAC

Points:

"Points are point-to-able microscale systems which at minimum consist of one
tetrahedron which is always potentially amplifiable independently of size to conceptual
inspectability."

- Cite RBF holograph for EJA; Windsor Castle, Berks; 22 Mar*76

RBF DEFINITIONS

Point:

"A point is always a microsystem or a plurality of microsystems, ergo
at minimum one tetrahedron."

- Citation 4 context at Microsystems. 22 Mar'76

Point;

"Points are subdifferentiable systems; i.e., microsystems of event points too far apart to resolve,"

- Citation &, context at Minimum Awareness Model. (1), 9 Jun'75

Point;

"Points are unresolvable, untunable somethingness occurring in the twilight zone between visible and supravisible experience."

- Citation i context at Somethingness Nothingness. 9 Jun'75

Point:

"A point is a somethingness."

- Citation & context at Somethingness *ft.* Nothingness, 9 Jun'75

Point;

"Reality is a priori Universe. What we speak of geometrically as having been vaguely identified in early experience as 'specks' or dots or points has no reality. A point in synergetics is a tetrahedron in its vector-equilibrium, zero-volume state, but too small for visible recognition of its conformation.

A line is a tetrahedron of macro altitude and micro base. A plane is a tetrahedron of macro base and micro altitude. Points are real, conceptual, experienceable visually and mentally, as are lines and planes."

- Citation i context at A

Priori Four-dimensional Reality,

(2)

20 Dec'73 "

Point:

"In omnitopology, a vertex (point) is the only-approximate, amorphous, omnidirectional region occurring mid-spatially between the most intimate proximity attained between two almost-but-never-quite, yet critically intertransformatively. interfering vectors."

Ci J?tlon and £ontex\$ " Tou» Heally Can't Get

There From Here. 19 Dec'73

Point:

"It takes four to define insideness and outsideness.

It is called a point only because you cannot resolve it....

"When concentrically and convergently resolved, the 'point' proves to be the 'center'--- the zero moment of transition from going inwardly and going outwardly....

"Physical points are energy-event aggregations.... A 'point' often means 'locus of inflection' when we go beyond the threshold of critical proximity and the inness proclivity prevails..."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 519.03 +

519.10, 6 Nov'73

Point:

"Every 'point' (event embryo) may articulate any of its four event vector sets, each consisting of six positive and six negative vectors, but only one set may be operative at any one time; its alternate sets are momentarily only potential."

- Cite RBF galley correction to SYNERGETICS at Sec. 210.28. 28 Oct'73

Point:

"What we speak of as a point is always eight tetrahedra converged to no size at all. The eight tetrahedra have been brought to zero size and are abstracted from time and special case. They are generalized. Though the empty vector equilibrium model is now sizeless, we as yet have the planes converging to intercept centrally indicating the locus of their vanishment. The locus of vanishment is the nearest to what we mean by a point. The point is the macro-micro switchabout between convergence and divergence."

- Cite SYNERGETICS draft at Sec. 1012.J4; 20 Feb'73

Point:

"Any point or locus inherently lacks insideness."

- Citation and context at Prime Enclosure. 17 Feb'73

Point:

"Any point can tune in any other point in Universe. All that is necessary is that they both employ the same frequency, the same resonance, the same system, center to center."

- Cite SYNERGETICS Draft at Sec 960.0a, 16 Nov'72

Point:

"A point is not a relationship.

- Citation and context at Un«_t 7 >12X172

Point:

Points are complex but nondifferentially resolvable by superficial inspection* A star is something you cannot resolve. We call it a point, playing Euler's game of crossings. One star does not have an insideness and an outsideness. It is a point because you cannot resolve it.

"Two remotely crossing trajectories have no insideness nor outsideness but do produce optically observable crossings or fixes which are positionally alterable in respect to a plurality of observation points."

bs]

- Cite RBF rewrite of Synergetics Sec. 519. (Jul'71) done
1 Apr*72 (At Kennedy Airport)

Point:

"A point's definitively unresolved event relationships inherently embrace potential definitions of a complex of local events. When resolved, the point is the microcosmic turning around between going inwardly and going outwardly."

- Cite RBF rewrite of SYNERGETICS Dec '71 draft Secs. jlp.TI-4 TM-gyl*, Kennedy Airport, 1 Apr '72.

'pwWT-rre.

Point:

"Without insideness there is no outsideness. and without both there is no point, ergo points are inherently nondemonstrable and the phenomena accommodated by the package-word 'point*' will always prove to be a focal center of differentiating events

"A point constitutes conceptual genesis which may be realised in time.

"Any conceptual event in Universe must have insideness and outside-ness. This is a fundamental self-organizing principle."

- Cite RBF to EJA, 3200 Idaho, DC (19 Feb*72) rewritten by RBF

Kennedy Airport, 1 Apr*72

PO'A/T SEC 5 • 02)

Point:

"Without insidenesa there is now outsicVtpss, and without both there is no point. Ergo, points are inherently nondemonstrable and the phenomena accommodated by the packaged word 'point' will always prove to be a focal center of differentiating events. A point constitutes conceptual genesis which may be realized in time."

- Cite RBF to EJA, 3200 Idaho, DC, 19 Feb »72; as rewritten by RBF, Kennedy Airport, 1 Apr '72.

POfMT. SfC 5H. 61

Point:

"What we really mean by a point is an unreaolved definitions of an activity. A point by itself does not enclose. There are no indivisible points.

"A point's definitively unresolved event relationships inherently embrace potential definition of a complex of local events.

"When resolved, the point is the microcosmic turning around between going inwardly and going outwardly."

- Cite RBF rewrite of Synergetics draft at Secs.
(Dec'71) done at Kennedy Airposrt, 1 Apr*72

Point:

"Without insideness there is no outsidensa, and without both there is no point. Any conceptual event in Universe must have insideness and outsideness. This is a fundamental self-organizing principle."

- Cite RBF to BJA, 3200 Idaho, Wash DC, 19 Feb'72

Point:

"In a vector equilibrium the points are only in equilibrium when they get to be the icosahedron. . . Points are always tetrahedra--- whether it's a neuron, or v/hatever. . . A point is a minimum tetrahedron just as a tetrahedron is a minimum sphere. Without insideness there is no outsideness', and without both there is no point. Any conceptual event in Universe must have insideness and outsideness. This is a fundamentally self-organizing principle."

(EJA NOTE: The above is superseded by RBF rewriting of 1 Apr '72.)

- Cite RBF to EJA, 3200 Idaho, DC, 19 Feb 1972

Point:

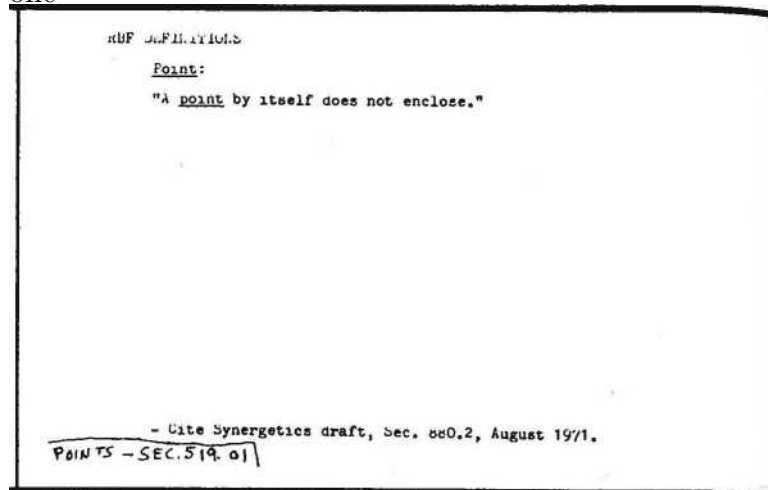
"A point is an as-yet-undifferentiated focal star embracing a complex of local events.

"The point is the microscopic turning around between going Inwardly and going outwardly.

"What we really mean by a point is an unresolved definition of an activity. A point by itself does not enclose. There are no indivisible points."

- Cite SYNERGETICS draft at Secs. 519.11+12, Dec»?1

one



Point:

"Points are complex but nondifferentially resolvable to superficial inspection, A star is something you cannot resolve. We call it a point, playing Euler's game of crossings. One star does not have an insiderness and an outsiderness. It is a point because you cannot resolve it.

t?CJ

- Cite SYNERGETICS draft at Sec. 519.tfr, Jul»71

Point:

"Points are energy event aggregations; when they converge beyond the critical fall-in proximity threshold, they orbit co-ordinatadly, as loose pebbles on our Earth orbit the Sun in unison and chips ride around on men's shoulders. A point, then, is when we go beyond the threshold of critical proximity and the inness proclivity prevails in contradistinction to the differentiable other fallen-in aggregates orbiting precessionally in only masa-attractively cohered remoteness outwardly beyond the critical proximity threshold. Points are complex but nondifferentiably resolvable to superficial inspection."

- Cite RBF to EJA, Beverly Hotel, New York, 19 June 1971.

poIP 1- *Sic.* 517.01 FOX 4 J el

Point:

"A point on a sphere is never an infinitesimal tangency with a plane.*

- Citation at Tangency. 31 May*71
- 1971.

pSitiis sx<.

Point:

"Th® domains of vertexes are spheres. This is all the symmetries around the exquisite point."

- Cite RBF tape Blackstone, Hotel, Chicago, 31 May 1971

P. 37.

PCIMTS - *sec*

Point:

"The point is the microcosm turning around between going inwardly and going outwardly."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971,

Point:

"A star is something you can't resolve.

We call it a point.

playing Euler's game of crossings.

One star doesn't have an outsideness and an insideness. It is a point because you can't resolve it."

- Cite RBF to EJA Carbondale 2 April 1971

Po; MTS *5 FC Styro

Point;

If light or any other experimental phenomenon were instantaneous it would be less than a point.

- Cite RBF SYNERGETICS Draft Mar '71

PIJM7S- \$g.< 5W.1A

Point:

"What we really mean by point then is an unresolved identification of an activity."

- Cite "region Lecture #8, p. 284. 12 Jul'62

1~FJirrs-SEc.5'l-on

Point:

"There are no Indivisible points,"

- Cite SYNERGETICS Corollaries, Sec. 240.

Oct'59

~pi/UTS~ sec. 5)<r.o7|

Point:

"For every mint in universe there are six uniquely and exclusively operative vectors."

"Each vector is reversible having its negative alternative* "Every point may export all or any of its six positive or six negative vectors by importing like numbers.

"Each point in universe could be said to have twelve unique and exclusive vectors, but one set of six is operative and its alternate reverse effect set is only potential."

- CItA-COLLIEE's, p. 113. Oct'59
- Citation *k* context at Vector. Oct'59

f>£>.— 5EC. Siq.

Point:

"A point is an as-yet undifferentiated focal star embracing a complex of local events,"

- Cite Collier'e, p. 11J, Oct'59

Point:

"A * point* is a tetrahedron of negligible altitude and base dimension."

- Cite SYNERGETICS corollaries, Sec. 240. Oct'59

Point:

"There is no pointal center of gravity."

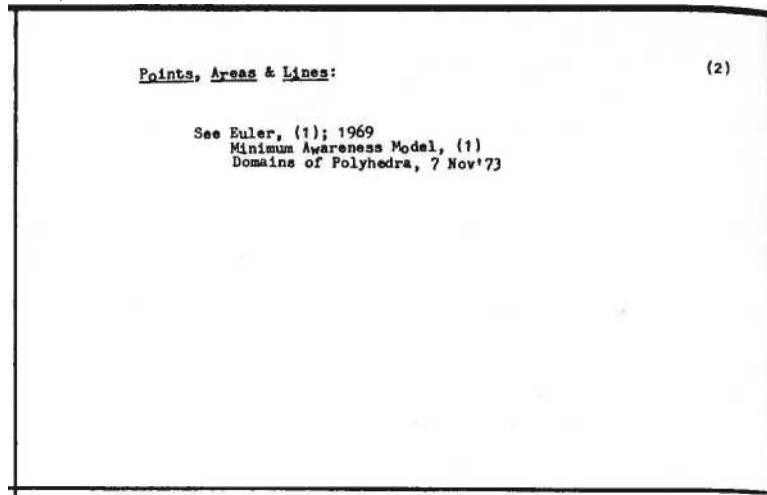
- Citation and context at Gravitational System Zone. 14 Jan'55

Point:

"A point is a tetrahedron of combined xerophase of both altitude and base,"

- Cite PENNSYLVANIA TRIANGLE, p. 10 , Nov'52

See Constant Relative Abundance
Events, Novents k Event Interrelatabilities
Fixes, Discontinuities 4 Continuities
Crossings, Opening 4 Trajectories
Vertexes. Faces 4 Edges
Joints, windows 4 Struts



Point-to-able Something:

A point-to-able something may be much too small to be optically resolved into its constituent polyhedral characteristics, yet be unitarily differentiated as a black speck against a white background. Because a speck existed yet defied their discernment of any feature, mathematicians of the premicroscope era mistakenly assumed a speck to be self-evidently unitary, indivisible, and geometrically employable as a nondimensional 'point.'"

- Cite SYNERGETICS 2 draft at §ec. 100.032; 30 Apr*77

See In k Out: Go In to Go Out, 16 Dec'73 Vector, 16 Dec'73 Primitive
Dimensionality, 1 Far'76 Tetrahedron as Microsystem, 12 May'77 In,
Out k Around, 17 May'77

fglat ..grg'rth Batt- External:

See Powering: Second Powering

Point: Humans First Conception of a Point;

Sec. 262.02 (2nd. Ed.)

264.03 *

265.03 ”

"Tha omni-inbound gravity worka collectively toward the invisibility of the central sero-aise point."

Outbound Feint?

"Th a outbound, tetrahedrally•packaged, fractional works toward and reaches the inherent visibility] of radiation."

(1)

£alni: Qttttaun? Point:

"Trigom (trimetric) ays ten of airways-- I® just like a plane (on the ground with

_Jyf three-point support.

"The four-point landing of a plane is ridiculous, as, in fact, is the automobile for which we have had to build plane (carpet) highways... Individual apring was to loose fourth wheel.

"Three dimensions invoked four-square scaffolding of civilisation, which os o.k. at diminutive scale like a needle floating on water... as relative tension supports the otherwise untenable transgression of principle. •

41

"Inbound point concentrates infinitely as '—

point and foges (sic) an infinite tensile l cohesiveness. f

"Outbound point expands to fourth dimension: therefore is point annihilations and fissions at limits.

- Cite RBF holograph, 6 May'44

(2)

falat: Qutfrgun4 Point:

"Ergo; Radiation finite: tension infinite. Therefore, Universe is infinitely cohesive and Unitedly chaotic.*

mot: Qutbpwl PpinV

"Inbound point diminishes or contracts to straight line: therefore, shortest distance B to A.

"Outbound point must expand to direction of cone or tetra: therefore, radiation tends to take angle, and therefore, longest distance A to B,

"Therefore, gravity swifter than radiation; therefore, Universe collects its masses in ever tighter concentrations." s

- Cite RBF holograph, circa 1943

See Powering: Second Powering, 28 Oct'73

Powering: Third Powering, 28 Oct'73

Point of No Return:

. Humanity

Is approaching a crisis

In which its residual ignorance, shortsightedness

And circumstance-biased viewpoints

toy dominate,

Thus carrying humanity

Beyond the ¹ point of no return*--

Enveloping his exclusively Sun-regenerated

Planetary home

In chain-reactive pollutionings

And utter disorder.”

- Cite INTUITION_t pp.60-61 toy *72

81053.810

See Point, 20 Feb'73

Nonpolar Points, 29 Nov'72

Tetrahedron: Nine Schematic Aspects, 30 Aug'75

Vector Equilibrium: Zerophase, 30 Aug'75

Hedra, 10 Apr'75

Sec. 1012.33

Point vs. Zone:

See Gravitational System Zone, 14 Jan*55

Point: points (a)

223.40 external, superficial points of a system

223.65 points defining modular subdivisions (length, area, vol.)

224.07 sphere; center & surface

240.05 tetra of negligible altitude & base

240.09 undifferentiated focal star complex

10. undivisible

11. complex unities

12. six vectors for every point

240.28 embryo articulates as six vectors

445.05 VE as domain of a point

510.01 star event: fix

510.05 star event: focus

515.011 points defining modular subdivisions (length, area, vol.)

Point: points (b)

519: (Main text)

11. geodesic array

11. six vectors for every point

541.09 tetra: points & no-points

541.10 novents embrace points

707.02 points, planes, and lines are systemic

713.06 subvisible aggregates

713.07 convergence & twist

825.27 triangulation and trigonometric fix

960.08 any point can tune in any other point

12. specks and dots are unreal; points are conceptual

20. spheric experience of three or more vectors converging

21. points define systems

Point: points (c)

1009»11 vertex between converging vectors

10. four points for prime enclosure

11. no interior point in a domain

1012.33 point - eight tetra: zerosize: generalized

**See Brouwer's Theorem Congruence with the Points Cosmic limit
Point Crossing Disturbance Initiating Point Domain of a Point Ineffa-
ble Point Intertangency Points Kissing, Point: K Localized Thickening
of Points Nonpolar Points No Points Otherness Point Polar Points
Spherical Point System Subpoint Surface Points Vector Center Fix
Zero Point Lines Cannot Go Through the Same Point at the Same Time**

See Conceptual Genesis Event Embryo Locus Fix Starting Point Limit
Point Event-points Interpointal Vertex!al Topology Vector Equilibrium
as Starting Point Interconnection of Any Two Points Interconnection
of A_n y Four Points Reachable Point

Whyte. L.L: Point System Somethingness Benday Screen

See Aggregate, 20 Dec*?!

A Priori Four-dimensional Reality, (2)*

Constant Relative Abundance, 29 Nov*72

Coupler. 5 Apr'73

Crystallography, 17 Aug'70

Domain, 22 Jun'72

Gravitational System Zone, 14 Jan¹55

Interference: You Really Can't Get There from Here, 19 Dec'73*

Line. 7 Nov'72*

Meaningless, Oct'66

Needle, 10 Feb'73

Powering: Second Powering. 5 Apr'73

Prime Enclosure, 1? Feb'73*

Start, 29 Dec'58

Surface, 17 Feb'72

Tangency, 31 May'71*

Two, (2}

Vector, Oct'59

Vector Equilibrium, (1); Feb'48

Point; (2B)

See Systematic Realization, 20 Dec*74

Minimum Limit C_{ase} , 9 Jun¹75

Somethingness k Nothingness, 9 Jun*75*

Minimum Awareness Model, (1)

Proofs, 7 Oct'75

Invisibility of Macro- and Micro- Resolutions, (2)

Primitive Dimensionality, 1 Mar'76

Microsystems, 22 Mar'76*

Six Motion Freedoms 4 Decrees of Freedom, (1)-(j)

**Sea Pointable: Point-to-able Points, Areas 4 Lines Point Growth Rate
Point: Inbound Point Point of No Return Point: Outbound Point Point
Population Point vs. Zone Point - Eight Tetrahedra Point-to-able
Something**

Polaon Effect:

"These vectorial resultants of forces articulated in planes perpendicular to the axis of the applied force vector, with concomitant right-angle transformation of compression into tension, and vice versa, are altogether known as the Poisson Effect (as named for their human discoverer and not for a fish-like behavior). We now know that this imprecisely recognized reciprocal effect is a precisely operative physical system phenomenon known as precession."

- Cite "Tensegrity," PORTFOLIO AND ART NEWS, p. 119, Dec. '61

Poisson Effect:

Oregon Lecture #3, p. 152, 6 Jul*62

Synergetics - Secs. 1005.30-32

See Electric Motor. 25 Jan*72 Tidal, 1pp.129-130) May*72

Polarity:

"All systems are polarized.... There is an inherent polarity in all observation: that is the additive twoness."

- Citation & context at Nonpolarized. 12 Nov'75

Polarity:

"Polarity is inherent in the plurality of the con of congruence

- Citation ft context at Two-dimensional Polarity. 11 Sep»75

Polarity;

"Absolutely straight lines or an absolutely flat plane would, theoretically, continue outwardly to infinity. . . The difference between infinity and finity is governed by the taking out of angular sinuses, like pieces of pie, out of surface areas around a point in an absolute plane. This is the way lampshade and skirts are cede. Joining the sinused fan-ends together makes a cone; if two cones are made and their open end, ergo infinitely trending, edges are brought together, a finite system results. It has two polar points and an equator. These are inherent and primary characteristics of all systems."

- Citation at Angular Sinus Takeout. Dec'61

wnsStriMf

7-pp. Bee¹61

Polarity:

"Because of a hemisphere's polar symmetry to its opposite polar hemisphere the total inventory of great circle grid triangles in the comprehensive world grid is always even in number. . . "

- Cite Undated Sheet: The DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

Polarization:

"The preceasional processing of plus-minus polarization is" a synergetic proclivity.

- Citation & context at Synergetic Proclivity. 10 Nov*74

Polarisation;

"There are in closest packing, we find, always alternate spaces that are not being used so that triangular groups can be rotated into one position or 60 degrees to an alternate nestable place. . . In other words you take the vector equilibrium, rotate it 60 degrees to the next nestable position and suddenly it is polarieed.

“ Oregon Lecture 47, pp. 2.U-.73S. 11 Jul'62

- Cite Sixty Degreeeness, 11 Jul'62

Polarisation:

'Here we have a positive and a negative event in opposition

to one another as a polarized system. Up to now I have been giving you symmetrical systems, not polarized.

There is nothing at all polarized about tetrahedron or icosahedron, but now when we \square oppose these two there is a north pole and a south pole in equatortai aspect."

(Comment on SLIDE 3:4 - 1)

- Cite OREGON Lecture #5 - pp. 179-180, 9 Jul • 62

Polar Coupling:

See Aeeociabillty, 21 Mar 73

Falar Focus:

See Focus - Beamable - Wirable,

1 Apr'72

hilar Atlimthal Projection:

See Projective Transformation, IIIJ

See Macro-Micro, 12 Nov*75

Polar Points:

"Polar points are two dimensional: plus and minus, oppositea."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 527.21 on 7 Nov '73

"Polar points are two dimensional; North-South."

- Cite SYNERGETICS draft at Sec. 527.21, 29 Nov '72

four Points

See Vertexial Unities Plus Two Neutral Axis

England's Precognition

"Polarized precession is special case."

- Citation and context at General Case. 16 Feb '73

Polarized Precession:

See Polarisation, 10 Nov '74 Heaven & Hell, 31 May '71

.Pater. sx. npevry?

"Poles are symmetrical to each other, but not omni symmetrical like the icosahedron and tetrahedron.

- Cite RBF to EJA, 3200 Idaho, Wash De, 17 Feb '72

See Projective Transformation, (fl)

Tetrahedron: Polarisation Of, 13 Nov '75

Polarized Syntaxis • •

See Physical Difference Between Physics & Chemistry.

11 Jul '62

Polar Torque:

See Jitterbug, 1 Dec*65

KBF UfcFlMTluNb

Polar Vertexes:

"For every point in Universe except two there are always and only six intertriangulating connective lines because every action has its reaction, every event vector line has PUSH

its diametrically always coexistent exposed and pull forces, ergo every visible line has its coexistent counterpart, ergo in addition to the * visible six, there are six invisible lines {or twelve universally unique degrees of freedom of alternately optional articulatabilities.J'

- Cite itBF re-write 19 Feb '72 at J200 Idaho, UC, of undated 19/1 holograph, same citation.

Polar Vertexes;

****For every point in Universe except two there are always and only six intertriangulating connective lines."**

- Cite RBF undated holograph (1971)

nBF UtFlUITlUhb

Polar Vertexes:

` ` Every event has its coexistent system's topological characteristics. Initially to be considered are the two polar axis points of every event observer's axis of view, i.e., the viewer's 'up and down,* eye to foot, vertical axis of right and left footprints. In our analysis of our spontaneous conceptioning controls we extract these two polar points and there remains a constant relative of two areas and three edges of every event fix. In respect to our spontaneously adopted axis of view, me or we. can describe the shape of anything in

Universe exclusively in terms of angle and frequency." - Cite RBF re-write 19 Feb *72, of same caption 17 Feb.

Polar Vertexes;

"Every event has two points. Every event has two polar points derived from the axis of reference. We need to extract these two polar points and there will be a remaining constant relative abundance of two areas and three edges. We take an axis of observation--- Me--- and we can describe anything else in Universe in terms of angle and frequency."¹

- Cite RBF to EAA + BO'R, 3200 Idaho, DC, 17 Feb '72

See Additive Twonees

See Two, 25 May'72

KBF DEFINITIONS

Poles:

"At any instant of time any two of the evenly coupled vertexes of a system function as poles of the axis of

inherent rotatability."

- Cite SYNERGETICS, "Corollaries," Sec. 240.63. 1971

See Additive Twoneas Axis entries Electromagnetic Fountain Pattern
Magnetic Field Nonpolar *_s.

Omnidirectionality •polarisation Precession: Polarised Precession
Plus-minus Polarity Tetrahedron: Polarity Of Vector Equilibrium:
Polarisation Of Minimum Polar Triangle Coring Torsion Topological
Aspects: Inventory Of Synergetic Proclivity Positive &. Negative:
Four Kinds Eternal Pole One-dimensional Polarity Two-dimensional
Polarity Pentagonal Polarity

Four Intergeared Mobility Freedoms, 2 Nqv'73 See Angular Sinus
Takeout, Dec'61*

Brouwer's Theorem, 10 Nov'73
 Colloidal Chemistry, 1938
 Compound, 3 Nov'73
 Great Circle, 10 Nov'73
 Number: Even Number, 26 Sep'73
 Sixty Degreeness, 11 Jul'62*
 System, 8 Jan'55» 1954
 Twoness, 23 May'72
 Vector Equilibrium, 11 Jul'62
 Organic Chemistry, 11 Jul'62
 Prime Numbers: Pairing Of, 17 Jan'74 Synergetic Proclivity, 10 Nov'74*
 Positive Negative: Four Kinds, 10 Nov'74 Heaven k Hell, 31 May*71
 Fear k Longinl, 1938 J*o-dimensional Polarity, 11 Sep*75*
 Nonpolarized, 12 Nov'75*
 Hex-pent Sphere Transformation into Geodesic Spiral Tube, (1)
 Tensegrity Fast: Pentagonal Polarity, 2? Dec'7o

Polar; Polarity: Pole: Polarization: (3)

See Polar Coupling Polar Focus Polar Azimuthal Projection Polarised
 Precession Polar Symmetry Polarized System Polar Torque Polar Ver-
 texes

Pple V_e ulter:

"Repetition is inherent to frequency and wave phenomena in writing and expression as in music and sports, where rhythm is fundamental and expression is the essence. Whether it is a kid jumping over a ditch or a pole-vaulter seeking a new world record, he cannot do it all in no-time-at-all nor all the first time. It is part of the grand strategy that the pole-vaulter has to run over the same cinder path hundreds and hundreds of times before comprehendingly omnicoordinating his degrees of freedom and rising to that additional quarter of an inch for a record. And no one ever gets tired watching him."

- Cite SYNERGETICS, 2nd. Ed., front matter, Author's Note on Rationale for Repetition in This Work, p.xxii: 2 Jul*75

Pole Vaulter:

Total Thinking, I&I, p.228, May*49

See Charting Alternating Experiences,(4) Jet Stilts, 2y Jan'75 Omnimedia Transport Sequence, (1) Repetition, 8 Mar'75

Politicians:

"Politicians are merchants of woe. They get elected because of what's bothering people now."

- Cite RBF to EJA at Kennedy Center in Washington after National Town Meeting of the Air, 10 Sep*75

Politicians:

(In response to newspaper account: "McGovern Wonders 'Why the Public is so Apathetic about the Watergate?")

"Society has always assumed that politics is crooked. So if you just get experts to say this is so, why nobody is surprised. They just find it a little more sophisticated crookedness. Where the McGoverns and the Humphreys--- and even Adlai to some extent--- go wrong is when

they try to appear as pure saints when they are politicians too. You couldn't be a politician and not have some important compromise in your background. You may not have done anything personally wrong. But you may have temporized. You may have put up with. You may have kept quiet. You may have looked the other way..."

- Cite *tiBy* to EJA, 3200 Idaho, '..ash DC, 20 Oct'72

Politicians:

"Politicians are going to confess the obvious--- that no human beings can keep in mind all the special interests of all people and all the whereabouts and unique behaviors of all the resources of Earth. No human beings can persuade other people to behave in unfamiliar, untried ways, but the computer can integrate and disclose the critical information and be completely convincing... As the world game is played progressively it will disclose a myriad of politically untried, unprecedented yet effective ways of solving hitherto unsurmountable problems. These will become big news items of the world's press and international wire services. As man gets into more critical proximity to a full-scale World War Three, the people of the world will begin to say in increasing numbers, 'Now that we can see a way in which this and that can be done, we must obviously adopt the policies indicated by the World Game.' Popular pressures will gradually force world politics to yield to these mutually beneficial world game programs.

"Our greatest problem is the educational problem of getting man to realize in time what his programs are, and what the most effective priorities may be for saving them,"

+ Whole Earth

- Cite RBF quoted by Gene Youngblood in LA. Free Press , Cat. Mar+70

Politicians:

"The number of scientists today who really know the world could work is something less than one percent. Society doesn't know the world could work. Politicians haven't the slightest idea it could work. They really don't. They're the most earnest people, and I think we as human being® are putting a horrible load on politicians, who can't really solve the problems. Their lives are really quite horrible lives. And we're blaming them, and it really is just that they don't have the capabilities. So we're at fault in asking them to solve the problems. I'm perfectly confident that no politician can ever yield to the other politician on the other side; he'd be a traitor and he's de immediately displaced, because the other politician is waiting to displace him that way. So I do know that every politician can yield to the computer."

- Cite RBF to World Game at NT studio School, 12 Jun-31 Jul'69 Saturn Film transcript, Sound 1, Reel, 1, pp.108-109.

Politician:

"The politician is someone who deals in man's problems of adjustment. To ask a politician to lead us is to ask the tail of a dog to lead the dog."

- Cite DESIGNERS AND THE POCT2IANS, III, p.305, 1962

RUF DEFINITIONS

Politicians *k* Defence Budgets:

"Because of the rocketing costs of TV time and other public relations organisations, politicians have become electable only by the money power either of unions or of business management; and since World War II's close, it has been left to the politicians to keep the mass-production economy going and growing---a task which politicians of all sides found could be best accomplished through \$50-100-billion-a-year 'defense' budgets, and having their

military (or their satellite governments' military) establishments continually buy ever-advancing power, range, and accuracy of their armaments' hitting-power in anticipation of the always politically logical assumption of the 'next' vastly more sophisticated war."

- Citation *k* context at Building Industry, {4}; 20 Sep'76

Politicians & Defense Budgets:

See Houses t Infrastructure, 20 Sep'76

Politics;

"All politics are not only obsolete but lethal

Politici!

"Politico is always on one side of how you deal with fundamental inadequacy."

- Cite RBF address to Tale Political Union. New Haven. 9 Dec '73 as rewritten by him at 3200 Idaho, 13 dec'73

RBF DEFINITIUWS

pQlitica:

,ld★01 ho★you d★1 wuh

- Cite fff tddrau to Talo Political Union, Now Haran, 9 Dec'73

Politico:

"My hopes then are not founded on acts of political wisdom or adoption of altruistic conventions. They are predicated exclusively on an informed and experienced competence adequate to the task of physically accomplishing fundamental cosmic success of humanity. Appropriate political actions must be sequitur to actual capability. Political actions without knowledge of how to attain universal success are inherently wishful and even specious, ergo doomed to failure, or to only momentary advantage gains of an exclusive nature."

- Citation and context at Design Science (3), 29 Jun'73

Politics:

"Unless you have the technical solution, politics can't do anything."

- Citation 1 context at Office Buildings: Conversion to Apartments, 28 Jun'73

"Playboy: Is there a single statement you can make that expresses the spirit of your philosophy?"

"RBF: I always try to point one thing out--- if we do more with less, resources are adequate to take care of everybody. All political systems are founded on the premise that the opposite is true. We've been assuming all along that failure was certain, that our Universe was running down and it was strictly you-or-me, kill-or-be-killed as long as it lasted. But now in our century we've discovered that man can be a success on his planet, and that is the greatest change that has come over our thinking."

- Cite Barry Farrell Playboy Interview, 1972 - Draft, p. 1.

KBF DEFINITIVE

Politics:

"We find that generally speaking the geographically larger the physical task to be done, the duller the conceptual brain is brought to bear upon the technically realised applications. Finally we get to international affairs and you know what is happening today. The most highly polished of the dullest class, scientifically and intellectually speaking, may wear their striped pants very beautifully and be charming fellows but they have not produced any mutually acceptable, constructive world peace generating ideas. They traffic successfully only in people's troubles and emergency

compromises

- Cite HBF quoted by Hal Aigner in HULLING STUNE, 10 June, 1971

Politics:

****I'm confident that Politics is losing its credit with the world, while people are growing continually more confident in the kind of results they can get out of computers."**

tape to Barry Farrell, Tape #2; Side A Aug* 70

- Cite Transcript of RBF p.4; Bear Island, 11

Politics:

"Politics are only appropriate to an economy of scarcity. Within the scarcity context politics play tricks short-of- war by which the successful politicians' side monopolizes the limited survival supply. Death by want--- i.e., by metabolic inadequacies is much slower than by the sword ta or gun and causes much more anguish and pain than that of the swift hero's death. Death by want imposed on many by the successful politicians' warfaring only with laws and police guns obscures the identity of their executioner from both the politicians and the slow-dying victim. Only if there is an inherent major life support inadequacy aboard our planet and even in the Universe, politics and politicians are valid functions of Universe. If there is a fundamental adequacy of life support aboard our planet which is as-yet popularly unrealized, politicians can go on playing their trincks in seemingly good conscience. But the politicians* self-deceptive scarcity game playing and the ultimately lethal consequences for many hurrans inherent in the politicians' one-sided victories tend to prolong and obscure from social consideration the now dawning scientific awareness of the technical feasibility of universal economic'success for all?

- Cite RBF Ltr. to Prime Minister Indira Gandhi, 4 Jan '70, p. 5.

Politics:

**** . . . All politicians can and will yield enthusiastically to the computers ... in bringing all of humanity in for a happy landing."**

- Citation & context at Leaders Can Yield to the Computer, 1969

- CT-Ld OperatTinrJtanuart-Tar-S

Politics: p j

"We need not be against politicians to realise that their local preoccupations are futile. They have good convictions and are individually moved as human beings by what they regard as a responsibility to 'their* side or 'our* side. But every political ideology and all extant political systems assume that there is not enough to go around: it is either you or me; there can't be enough for both. So we eventually assume war; and that is the cause of the weapons race.

"The reasoning was once correct. When there is enough available a healthy human will eat three pounds of dry food a day, drink six pounds of water, and breathe 54 pounds of air: or six pounds net of oxygen. For most of the history of man on Earth there has not been enough of that dry food and humanity has fought about this, time and again. Many times there has not been enough water; and humanity has fought over this. There has been no time when there has not been enough air. Humanity has so much air available that no one has even thought of putting meters on air and trying to make money out of it. But there are times, for example in a great theater fire, when humanity, completely unused to competing for air, finds itself suffocating and goes mad."

- Cite YEAR 2000, AD, Feb*67

Politics: (2)

**It seems perfectly clear that when there is enough to go around, man will not fight any more than he now fights for air. When man is successful in doing so much more with so much less that he can take care of everybody at a higher standard, then there will be no fundamental cause for war.

` ` In the years ahead, as man does become successful, the root cause of war will be eliminated. Scientists assure us over and over again that this is feasible. There can be enough energy and organised capability for all men to enjoy the whole Earth.

"This is the most important prediction I can make: in 10 years from now we will have changed so completely that no one will say that you have to demonstrate your right to live, that you have to earn a living. Within 10 years it will be normal for man to be successful--- just as through all history it has been the norm for more than 99 percent to be economic and physical failures.

"Politics will become obsolete.**

- Cite YEAR 2000, AD, Feb*67

££liU£s:

"Science paces technology, technology paces industry, industry paces economics, and economics paces politics. Quite clearly, then, political leaders are at the tail end of affairs. And for man to ask change of political leaders is like asking the cow's tail to redesign to cow."

- Cite KBF quoted by Michael S. Gruen, Harvard Crimson story on Charles Eliot Norton lectures, January 1962.

Politics:

"The unfamiliar complex of the new wealth accounting requirements of the evolving human experiences emerges as an aggregate of Unique and popularly discerned everyday 'news' problems. In turn the popularly discerned inventory of problems altogether provides the raw materials to be processed by the machinery of politics. - It is the purpose of politics to digest the problems and to provide adequate accounting and readjustments to the unexpected and often disconcerting changes in the patterns of technical advantage realizations. Politics must thus implement life's continually increasing sweepout and penetration of Universe with a continually changing set of operational rules and accounting conventions."

- "Cl'C l<U—Preface;—tv, g Hay*62

Politics:

"An outmoded activity. • . A naive attempt to achieve through games of words what must ultimately be derived from technology.' "

- Cite MARKS, P. 10 , 1?60

Politics:

"Politics can only redeal the inadequate cards. •

- Cite Utl, THE COMPREHENSIVE MAN, p. 81. Jan«59

Politics:

"At present all the world's industrial, or surfaced, processed and re-processed, fuional

tonnage is in the service of one-quarter of the world's population. . . All the politicians can do regarding the problem is to take a fraction of that inadequate ratio of supply from one group and apply it to another without changing the overall ratio. . . All that money can do is shower paper bills of digits on the conflagration. . . •

~ Cite RBF quoted by Elaine de Kooning in Art News, Sept. *52

Politics:

"No politician can yield to another politician but all politicians can--- and eventually will*- yield to the complex problem solutions of the computer."

- etre ^TTrt" PriTffTrr~rrnap.=10
- **Citation &. Context at Leaders Can Yield to the Computer, undated**

Politics:

. .Political force ... is one of the survivals of feudalistic patronage systems, embodying self indulgence of the few. Industry is replacing political control. Unscrupulousness in politics thrives on the unenlightenment and unindividualism of mobs. So called 'mob psychology' is only group motivation through animal instinct, selfconsciously denying itself of its individual reasoning power. . . "

- Cite 4-D, Chapter 5, May 1928

Accessory After the Fact;

"Politics are an accessory after the fact.*

- Cite RSF tocsteak crowd at LBJ Grille. Carbondale, 1 April 1971

III.

Politico: Acguagn. After thft Fag&:

"Politico exist8 and will always exist--- but it must always be an accessory after the fact... an accessory after the fact of whatever the circumstances may be. So if you change the environment, the circumstances change and politics will have to have new problems. Politics

can't really begin until you have a plow at hand, or a pick-axe at hand. They can't create that; and once you do have tools at hand, then you use them. And that becomes part of the circumstances. I'm not saying there isn't going to be political action, but it must be an accessory after the fact. So I can see that we can get the political mood the mood of man, to simply demand that their political parties on both sides merely yield in a direction that neither of them ever thought of before. The one will not be yielding to the other man's policy at all. He'll be yielding to the computer. And I find that anybody can yield to the computers. He can't lose face by yielding to a machine."

- Cite transcript of RBF tape to Barry Farrell, Tape ?3, Side A, p.10; Bear Island, 12 Aug'70

~~Political?~~ Accessory After the Fact:

"Political reform is only and always accessory after the fact."

- Citation and context at Problem: Statement of the Problem 1954-59

Political Mandates: Inventory Of:

"..•Little humane on tiny planet Earth each becoming Mr. Big with a suddenly mistaken sense of power over environmental transformations--- participation in which permitted him to feel himself as a manager of inventories of logistical multiplicities which, at the most ignorant level, manifests itself as politically assured mandates and political-world gambling «□ gambling - ideological warfare - national sovereignties - morally rationalising public `` body politic `` individual nations as United Nations."

- Citation & context at Nature's Subvisible Order (2), 27 Dec¹73

Politics &, Property:

"The young people recognize the integrity of the Queen--- in contrast to the corruptibility of all the big politicians.

"There were no radical or hostile demonstrations anywhere over the 4th of July...although, in a new phase of the psycho-guerrilla warfare, the young are developing their own antibodies to political exploitation."

"The young are frustrated by the obsolescence of our politics and our economics, but they are all now coming to realise that nothing worthwhile is for sale!"

- Cite RBF in response to direct query from Anthony Crosland, UK Foreign Secretary, re US youth's interest in the royal visit; at a small reception given by the Queen and Prince Philip aboard the Royal Yacht Britannia, Philadelphia, PA., 6 Jul'76.

"It is impossible for us under the present comprehensive design pattern of world industrialization to make the Earth's total metals serve 100 percent of humanity exclusively through political revolutions or peaceful reforms and rearrangements of the way of administering the economic accounting of the commercial and social affairs of man. All we can do politically with the fundamental resource inadequacy is to take from one group and give to another. Competitive enterprise assumes exclusive success."

- Cite MEXICO '63, p.2, 10 Oct '63

Bill Wolf: "Is there an evolutionary or gradual path from the present to the goals of world Game, or is there a sharp discontinuity?"

RBF: "I say politics is an exclusive system at this point

and World Game is an Inclusive system. Whatever it is and to the extent that the exclusive system is running itself out, and it equals out to simply the inverse of what's out. So it simply melts into one another at some point."

- Cite Tape #3, p. 13; RBF to W. Wolf, Phila., PA, 15 Jun¹74
Politicians: Politics: (1A)

See Bias on One Side of the Line

Circuitry: Thermionic and Political Analogy Conservatism

Democracy

Leaders

Leaders Can Yield to the Computer

Leaders: Take Away the Leaders

Freeways

Nation

Narcotics as Political Strategy

Peace

Revolution

Socialism

Sovereignty

Science-Technology-Industry-Economics-Politic8

Sequence

Survival Recourse: Last Chance Adoption of

Unheeded Principles

Technocracy

Social Organization

See United States: One of the Most Difficult Sovereignties To Break
Up War

War: Official War & Unofficial War

World Game: Men Landing on Moon

Nonpolitical

Politics vs. World Game

Social Economics

Apolitical

World-around Communication Transcends Politics ideology

Ideologies Become Supranational

Merchants of Woe

Global Political Revolution

See Air Delivery *k* Submarine Cities, (3)

Automobile, 5 May*72

Building Industry, (11)(12)

Communications, 1967

Culture, 2? Jan'77

Doing What Needs to be Done, (1)(2)

Design Science, (3)*

Ego, 9 Nov*75

Electrical Network, 12 Jun'69

Fuller, R.B: On Drinking Liquor, 22 Jun'77

Individual Economic Initiative, 2 Jun'71 ; 13 Jul*74

Inhibit, 9 Apr'40

Invented Jobs, 20 Sep'?6

Laissez-faire Process, 10 Oct'63

Keek Have Inherited the Earth, 10 Oct*63

No Energy Crisis, (A)-(C)

fglltits: Politicians:

(2 0-2]

See Obsolescence, Anr'72

Office Buildings, 28 Jan'72*

Population Explosion, (1) Private Enterprise, 9 May*57 Problem:
Statement Of, 1954

Soleri, Paolo, 8 Feb'76 Structure, 8 Sep'75 Sweepout, 9 May'62

Poll: Polling:

See Electronic Voting

See Bee:

Honey-seeking Bee Inadvertence: Inadvertent

See Kale ic Female, 1 Feb^r75

New York City (12)

Pollution:

"Man talks carelessly and ignorantly of such words as... (the popular, modern) pollution... where nothing but absolute order is subvisibly maintained by Universe and her transformation arrangements unfamiliar to man. Universe does not have any pollution. All the chemistries of Universe are always essential to the integrity of eternal transformation..."

__ **Citation 4 context at NatureAs Subvislble Order (1), 27 Dec*73**

PgUMUQP_i

"I'm perfectly confident that the way we are going to get around pollution and so forth is by developing much better tools for handling energy. You make /~a tooV/ and you have it available. If it does work it makes things obsolete that have been inadequate... Desperate people say ¹I'm not going to pollute.* But oil is coming out of the refinery

down there and people are using the automobile. People can't design their own automobiles. They can't design refineries as a body politic. Somebody has to take the trouble to discover how you refine and how you don't pollute. This can be done,"

- Quoted by Rasa Gustaitis. WHOLLY ROUND, p,153 (Holt, Rinehart i Winston, NY) 19/3 - Feb'73

Pollution:

' 'All the chemistries of Universe are essential to Universe. Nature has no pollution."

- Cite RBF at Catholic University Address. Washington DC
24 Feb '72

Pollution:

' 'Pollution is a natural resource that we are failing to harvest."

(Slightly adapted.)

- Cite article on RBF by Barry Farrel. LIFE, 56 Feb '71

Pollution:

"Collect it in the nozzle— not in the spray!"

- KBF to EJA, 1970

Pollution;

' 'Ignorant humans aboard Space Vehicle Earth are now screaming, "Pollution!"* There is no such phenomenon. What they call pollution is extraordinarily valuable chemistry essential to Universe and essential to man on Earth, 'What is happening is that the egocentricity of omnispecialized man makes him ignorant of the value with which his processing is confronting him. The yellow-brown content of fume and smog is mostly sulfur. The amount of sulfur going out of the smokestacks around the world each year is exactly the same as the

amount of sulfur being taken from the Earth each year to keep the world ecology going. It would be far less expensive to catch that sulfur while concentrated in the stack, and to distribute it to the original users, than to do the original mining and to get it out of human Jdngs, etcetera, when all the costs to society over a deteriorating 25 years are taken into account. But humanity insists on holding to this year's profits, crops, and elections. World society is lethally shortsighted

- Cite RBF Introduction to Geneva Youngblood's EXPANDED CINEMA, 1970. p. 21.

Pollution:

"When people use the word pollution it simply means that they have some chemistry they aren't familiar with. . . There is powerful evidence as you study the total Universe and the total relative abundances that there is an extraordinary continuous interplay of those chemistries, and so it's simply a matter of man getting much too overspecialized and not realizing that what you have here, is exactly what's needed there."

- Ci>» RBF to World Game at NT Studio School, 12 Jun-31 Jul*69 Saturn Film transcript, Sound 2, Part J, p.75.

HBT VEHHTtiMS

Pollution;

"For the strange carelessness of urban society in polluting and corrupting the beauty of the environment is an inherited precedent set by big corporation factories belching smoke into the sky and vomiting chemical residues into the waters. Finding one's self born within the ugly city streets with no fundamental outlet for the innate energies and explorational initiatives, breeds early contempt for the environment and for those who perpetuate its inadequacies. Because

humanity has been born without asking so to be, and must frequently grow within environments which disregard their developing needs, most of society tends to cast aside its refuse in unmeditated disdain for the economic masters who seem exclusively preoccupied with making quick profits out of men's desperately vital needs."

- Bite BEAR ISLAND STORY, galley p.32, 1968

"I was told by the chief engineer of Combustion Engineering that the apparatus for precipitating all of the fumes, particularly the sulfur which makes the public utilities the worst urban sky polluters, was in complete mechanical solution. I asked what the additional cost per kilowatt hour would be if the apparatus were installed. The answer was 25 percent additional.

"On speaking to the Edison Electric utility managers I pointed this out and was told by them that the chief customers were industries and that the industries only buy from them because the public utilities can provide power at only a fraction less than it would cost the companies to produce their own. Therefore, if they did add the 25 percent, the public would gladly pay but their prime customers would forsake them; ergo, they could not do so.

"The sulfur coming out of all the world's chimneys annually exactly equals what we are taking out of the Earth annually to supply industry's rubber making and other such needs. Vast amounts of energy, knowledge, and skill are expended in the progressive stages of separating out and refining metals from"

- Cite RBF Ltr. to Marshall McLuhan, 2 Sep'74

Pollution Carrol: (2)

"their original random ore matrix. This process of separating out that which the processor desires inadvertently produces a left-over concentrate of chemical substances unwanted by the producer, which are now or soon may be essential constituents of other humanity serving industries. Therefore the unwanted or so-called waste products are highly valuable concentrates--- before diffusion out of the stacks or nozzles.

"Nature has no exclusively polluting substances. All physical substances consist of complexes of some of the 92 regenerative chemical elements all of which are essentials at different frequencies of time and in different magnitudes to the success of eternally regenerative Universe. Pollution is a word invented by and manifesting human ignorance.

"Many metallic elements may be combined to produce special behavior alloys which other elements serve as catalyzers, and so forth, while altogether accommodating all of Universe's intratransformative capabilities with only a few of which humanity is as yet familiar and many of which may be essential to humanity's future survival and service functions."

- Cite RBF Ltr. to Marshall McLuhan, 2 Sep'74

"When any one of our various competitively producing industrial companies are told that they must stop polluting the atmosphere or waters, they say that the added cost would prevent them from competing in their respective industries; ergo pollution abatement would mean bankruptcy for them; ergo no compliances. The atmospheric air drifts and the waters flow interconnectedly around our planet. They and all resources are essential to all humanity and the Universe of which humans are just such a function.

'•Clearly the problem won't be solved until central governments make complete precipitation mandatory and rebate the costs thereof from the annual taxes of the industries while forcing the utilities to turn over to the central government all the valuable chemical elements recovered. The governments would find their stockpiles worth many times what they seemingly were losing in tax rebates. The saving to governments in medicare and general pollution-caused deteriorations would be profound. The computers would soon inform the government that they were saving so much money that they could almost completely eliminate taxes. They would be converting commonwealth to sorted-out metals that would continually recirculate and with each 22-year"

- Cite HBF Ltr. to Marshall McLuhan, 2 Sep*74

` `average recirculation would employ the interim harvest of improved know-how to produce the manyfold performance increase per pound of the previous recirculation. As for instance, each melted down Cadillac today can produce two superior-to-Caailac Japanese vehicles. I am not promoting automobiles, just clarifying the point.'*

- Cite RBF Ltr. to Marshall McLuhan, 2 Sep*74

RBF DEFIKITuSb

"If the Earth was flat--- out to infinMlty--- there'd be infinite room to pollute. You just get rid of it. It goes to Infinity. That's been the practical idea up to now. And if it went to InfinMity there'd be an infinite amount of resources to replace the resources we've exhausted. That's been our experience in the past. Let's be practical. Let's get down to Earth! That's the way it is. . . . And then look at the extraordinary editorial in yesterday's N.Y. Times quoting i-aurice Stans, the Secretary of Commerce, saying let's go slow on environmental controls: if it gets in the way of making money, we can't afford it. I think

it is a most ghastly demonstration of the magnitude to which humans are really entrapped by shortsightedness and selfishness. Now I don't think ill of any of my fellow men. Each one has his own evolutionary | my fellow men edness. . ."

attern, but I am intent, wherever I can, to free of the entrapment in ignorance and shortsight-

- Cite RBF at SII-E, U. Mass., Amherst, 22 July »7V Talk pp. 20-21

' • If there is an infinite system, then there are an infinite number of resources to be exploited. You can be just as careless and stupid as you want, since there are an infinite number of resources out there and we'll never run out. And there's an infinite amount of space in which you can get rid of all your filth as you waste all those resources. But in a closed system you can't do that— and that's the kind of system we're in. We have anything but an infinite number of resources! I have just enough to make the experiment."

- Cite APPROACHING THE BENIGN ENVIRONMENT, pp. 77-78 1970
RbF DEFINITIONS

"Thinking of Universe only as an infinitely extensive plane, humanity felt itself logically justified in throwing away its refuse outside the boundaries of its particular domain--- there was infinity into which all pollution would be ultimately dissipated into infinite innocuousness. It meant nothing to dump a teacup into an infinite ocean. If there is an infinitely extended world, then we may assume that when we exhaust the present familiar resources, we will, as in the past, keep on finding new and better alternate resources, ad infinitum--- so why should we worry and be fussy. Never mind about tomorrow. Never mind about the other fellow. The more ruthlessly selfish one is, the better off is one and all who dependents."

"So the difference between closed system surfaces and a closed Universe in respect to the utterly open, infinite flat slab world concept with which man has been ignorantly rationalizing all past experience, is the 'similar difference' between humanity's extinction or its continuation upon this beautifully equipped and provisioned, closed system, space vehicle Earth. It is clearly to be utopia or oblivion--- and no half measures, ./e must begin today to expose our youth and ourselves to the fundamental self-discipline conceptioning 13Nov(<S) which is the only real educational process." _ HEHRUSPEECH pp 22-23

See Pollution Control (2)

Pollution: Nwa aa Most Polluted Resource:

"Probably our most polluted resource is that of the tactical information to which humanity spontaneously reflexes,"

- Citation at Information: Tactical Information, 1J Nov'69 -"Oil* NLI-HItU JPEE'fri, p.«,37. 13 Novt69

PollutIW flawa Mpat PoUutod Rpmrcc:

See News. 2\$ Jul<72 Tactical Information, 13 Nov*69*

See Conservation

Desalinization

Excrenent: Excremental Functions Feeding Lots Junkyards

Metals: Recirculation Of

Methane Gas Engine

No Energy Crisis Resources: Fresh vs. Waste Scrap Sorting & Mongering Wind Power Ecology

Only the Whole Big Syetea Works

See Afford, (1)-(3) Corporation, 28 Apr*71; (2)(3) Nature's Subvisible
Order (1)* Point of No Return, May'72 Spherical Triangle (4) Sulfur, 12
Jun*69 Syntropy, 7 Feb*71 Young World, (1) (2); 4 Jul'72 No Energy
Crisis, (B)

Polyconle Proitctlon:

See Projective Transformation, (II)

Polygon:

"...The 'gon* atands for aidea, aa in `polygon,' a planar affair."

- Citation 4 context at Synergiam V8. Enerrlgn. U Oct'76

Polygon:

"A polygon's perimeter . . . returns upon itself
as viewed from either pole of the axis of the perimeter.'*

Cite NASA Speech, p. 42 Jun'66

(i)

See Minimum Polygon No Twogon Circle - Polygon

See Structure, Nor'71

Domaina of Polyhedra, 7 Nov*73

Object, 9 Nov*73

Triclinic, 31 Aug'76

Polygraph?

See Planetary Democracy, (6)

?QjLxhg.d.ra:

"Polyhedra consist only of polyhedra. Polyhedra are always pattern, constellations of polyhedra. Polyhedra are defined only by polyhedra---and only by a minimum of four polyhedra.

"All systems are polyhedra: all polyhedra are systems.

"The observed or tuned-in polyhedra whose plurality of corners, faces, and edges and frequency of subdivisioning are tunably discernible to the tuning-in station

(the observer) consist of corners which are infra- threshold-tunable polyhedra and whose faces or openings are ultra-threshold-tunables."

Cite RBF to EJA and RBF rewrite: 3200 Idaho. Wash. DC; 16 Jul*76 incorporated in SYNERGETICS, 2nd. Ed. at oec. 400.55-400.57. "All the interrelationships of system foci are conceptually representable by vectors. A system is a closed configuration of vectors. It is a pattern of forces constituting a geometrical integrity which returns upon itself in a plurality of directions. Polyhedr—al systems display a plurality of polygortal perimeters all of which eventually return upon themselves. Systems have an electable plurality of view- induced polarities. The polygons of polyhedra peregrinate systematically and sometimes wavilinearly around three or more noncongruent axes."

- Cite SYNERGETICS draft at Sec. 400.09, RBF rewrite, 25/2 May'72
IfilYhgdFQn:

"But operationally speaking a plane exists SHBi only as a facet of a polyhedral system. Because I am experiential I must say that a line is a consequence of energy: an event, a tracery upon what system? A polyhedron is a system separated out of Universe. Systems have an inside and an outside. A picture in a frame has also the sides and the back of the frame which is in the form of an asymmetrical polyhedron."

- Cite SYNEHGETICS, 2nd. Ed. at Sec. 1007.25, 1 Jan'75

PglyAe.drgB:

"The word polyhedron has to go because itw says 'many-sided which implies a continuum. We don't even have the faces. Faces become spaces. They become intervals. They become nothing. The EinsteinianA finite Universe is predicated on the absolute finiteness of the local energy event packages.

- Cite SYNERGETICS at Sec. 1023.12, 20 Feb'73

'...Great circles, unlike spiral lines, always return upon themselves in the most economical manner. All the system¹a paths must be topologically and circularly interrelated for conceptually definitive, locally transformable, polyhedral understanding to be attained in our spontaneous--- ergo, most economical-- geodesically structured thoughts."

- Citation & context at Geodesic, 1969

See Conceptuality as Polyhedral

Equi-edged Polyhedra

Interpolyhedral

Nuclear i Nonnuclear Polyhedra

Prime Hierarchy of Symmetric Polyhedra

Regular Polyhedra

Rollability of Polyhedra

System Enclosure

Cheese Polyhedra

Clear Space Polyhedra

Sphere - Polyhedron

String-connected Polyhedra

Domains of Polyhedra

Minimum Polyhedron

Cosmic Hierarchy

Triacontrahedron as Limit Regular Polyhedron

Euler's Uncored Polyhedral Formula

Polyhedron; Polyhedra:

(2)

See Halo Concept, 22 Feb*72

Superficial 6 Mar'73

Topology: Synergetic k Eulerian, 2 Jun'74

Centers of Energy Rebirth, 16 Nov*72

Open Triangular Spirals, Nov'71

Quantum Mechanic#: Minimum Geometrical Fournee8,(1)

Triclinic, 31 Aug'76

Hex-pent Structure of Purines, 15 Dec'76

Genralization k Special Case, 23 Jan'77

Polvneeiane:

See Binary, 1970

See Imponderable

Weighable

See Metaphysics, Jun*66

Universe* (B); Oct'66; 1J Nov'69

"I find that as industrialisation increases, the population decreases* With industrialisation, the life expectancy increases* When that happens, families don't have to be large. In the last five years the absolute number of babies has been less each year. The big bulge everyone's worried about occurred because all the people that used to die have not been dying, particularly at birth. This bulge is working up to a time when there will be a great, great many people who are very old. But the number coming in at the bottom is lessening very rapidly."

- Cite RBF to William Marlin, Architectural Forum, Feb'72

Q. - (William Raspberry): "Mr. Fuller, should we put a gate up in the city and keep the people out after it reaches a certain size, or not? Should we limit the size of our cities? Should we limit the population of our cities?"

A. - (RBF): "We shouldn't limit anything. That's what human beings are all about... to delimit their capabilities, to give them a chance to really function. We're probably here to find out how it's supposed to function. So I do not expect anything positive from negative beginnings."

- Cite RBF to "Town Meeting of the Air," Wash., DC; 10 Sep'75

Population

density;

"All the cities of the world occupy less than one percent of the Earth's surface."

- Cite I SEEM TO BE A VERB, Queen, May *70 (Not in Bantam version)

Population Density: Manhattan Cocktail Party;

"All the people in the world today could be housed in the buildings of Manhattan with each person having as much room as at a cocktail party."

- Cite I SEEM TO BE A VERB, Queen, May *70 (Not in Banatm edition)

"Here is how New York is going to solve its transportation problem. First you*11 have to do away with the automobile altogether. It is a matter of geometries. You take a point and then a line. That's what a highway is, a line between two points. Well, you have areas which are much vaster than lines, and you have all the volume above the areas, which is space. If you take all the 30 million people of the New York metropolitan area and give them little harnesses with jets and have them put on the proper clothes, and if you send them up in the air to a reasonable altitude, say 10,000 feet, where they wouldn't need any additional oxygen, all simultaneously, people would be so far apart they couldn't see each other. That would solve your traffic jams!"

- Cite RBF quoted in New York magazine, p.27, 30 Mar'70

See New York City, 1938; (8) Population Explosion, (1)(2); 1959

See Community Privacy Proxemice Proximity / Neighborlineee

"The population explosion is a myth. As we industrialize, down goes the annual birth rate. If we survive, by 1965, the whole world will be industrialized, and, as with the United States, and as with all Europe and Russia and Japan today, the birth rate will be dwindling, and the bulge in population will be recognized as accounted for exclusively by those who are living longer.

"When world realization of its unlimited wealth has been established there as yet will be room for the whole of humanity to stand indoors in greater New York City, with more room for each human than at an average cocktail party.

"We will oscillate progressively between social concentrations in cultural centers and in multideployment in greater areas of our Spaceship Earth's as yet very ample accommodations. The same humans will increasingly converge for metaphysical intercourse and deploy for physical experiences."

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, pp.131-132, 1959

Population Explosion:

'•There has been a great debate about the so-called population explosion in recent years, , , The cause of the bulge in census population is, of course, that more people are living longer. But the underlying reality of the population problem, if there is a problem, is that as we industrialize the rate of births decrease. , . Clearly, as man industrializes and improves the probability of human survival, whatever the drives or controls of nature are, she does not have to have anywhere as many birth 'starts,' This is one of the fundamental points about industrialization. . • which will be world wide by 1985.'

- Cite THE YEAR 2000, San Jose State College, 1966 Column 4.

'Desirable time investment alternatives inherently decrease overall baby-making time. That explains 'the rich getting richer and the poor getting children.' Prime designing commands the fundamental solution of the overpopulation threat. As with all the fundamental problems of man on Earth fundamental solutions are not to be had by political reforms of either the peacetime prohibitory law enforcement variety, or of the never convincing wartime annihilation variety. Fundamental solutions are not for sale. Mass subscriptions to support professional do-gooders are futile.

'Fortunately population explosion is only the momentary social hysteria's cocktail conversation game. Real population crisis is fundamentally remote. There is room enough indoors in New York City for the whole 1963 world's population to enter, with room enough inside

for all hands to dance the twist in average nightclub proximity. There is ample room in the New York streets for one-half the world's population to amble about in. leaving enough room inside buildings for the other half to lie down and sleep. This would be a ,good moment to call for all scientists, engineers, tool makers, machine fitters, mechanics, and aircraft pilots present, all of whom"

- Cite PRIME DESIGN, Ifcl, p.248, May'60/63

Population Explosion: (2)

"amount to less than one per cent of humanity, and to send them out from New York City all around the world to get total automation of world production and services going. After this the world's population could start enjoying the whole Earth as students, archaeologists, playwrights, players, poets, artists, dancers, skin divers, tourists, etc. There would be no further muscle and reflex jobs to be aone and no need to earn a living, for the living would be generated as effortlessly as apples grow on trees."

- Cite PRIME DESIGN, 1*1, pp.248-249, May'60/63

TEXT GirATlunS

Population Explosion:

"Thinking Out Loud (1): Disproving the Population Explosion, □World wag. J Jul'73

"Playboy, Ltrs, to Editor, Feb<72 pp. 50-51, (Discussion of KBF Views.)

FwuXatlQB fiaamcfi,; H)

"There are many prognostications about immediate technology... It is all Buck Rogers and it will happen. But, such speculation is a waste of time, it is more important to consider what will happen to our relationship one with another.

"In its broadest aspect this area must be considered under ¹population.¹ There has been a great debate about the so-called population explosion in recent years. This has been occasioned in part by the fact that we have only recently had accurate census in many countries. Even in Europe population figures only go back a short time.

"In the USA, though there was an increase in the post-war birth rate between 1947 and 1954. since then it has declined. This trend is also evident in all the industrialised countries, including Russia. During the last 12 years then the birth rate has been declining in the industrialized countries, yet the main problem is thought to be population increase. The cause of the bulge in census population of these countries, is of course, that more people are living longer. But the underlying reality of the population problem, if there is a problem, is that as we industrialize, the rate of births decreases. We may see this most clearly in, for example, the US, where the"

- Cite THE YoAK 2000. reprinted in AD. Feb»67

"the early settlers had an average of 13 children per family and survival rate was very poor. We may then plot the decrease in number of children per family against improvement in technological services, public health, indoor water supply, bathrooms refrigeration, general improvement in life expectancy, and so on. Clearly as man industrializes and improves the probability of human survival, whatever the drives or controls of nature are, she does not have to have anywhere as many birth 'starts'.¹ This is one of the fundamental points about industrialization.

"We should also consider the rate at which countries become industrialized. England took 200 years to get industrialization going and up to the present level. The US 'took off' from England's vantage point and did it in 100 years. Russia came in and accomplished in 50 what

had taken the USA 100 years, because it was able to start at a more advantageous point. We find the new countries come in where others left off, not where they started. Japan did not start flying with the Wright Brothers bi-planes, but with the 'Zero' and 'Spitfire' types; China has never flown anything but jets. China came into the world of industrialization after the transistors, computers, and atomic fission were available--- so she will come to Indus"

- Cite THE YEAR 2000, reprinted in AD, Feb'67

Population Sequence: (3)

"trial parity with the west in about five years. India will probably be even faster. The acceleration of capabilities coming to bear on India and Africa are of the very highest. As far as one can see, industrialisation will be worldwide by 1985.

"By this date, as the world industrial process is completing, and birth rates reducing, every individual human being will still have about ten acres of dry land and approximately 20 acres of ocean averaging half a mile deep, in terms of a family of five that would be 50 acres of land and 100 acres of ocean- 150 acres per family. The amount of food supply would be ample.

"We may glimpse in such patterning certain total behaviors in Universe that we know little about. We noted, for instance, that as survival rate and life sustaining capability increased fewer birth starts were required. This may be related to our developing capacities in interchanging our physical parts, of producing mechanical organs, of having progressively fewer human organisms to replenish. The drive in humanity to reproduce as prodigally as possible decreases considerably.

This may be reflected in social behaviors— when all the girls

- Cite THE YEAR 2000, reprinted in AD, Feb*6?

Population Sequence: (4)

"begin to look like boys and boys and girls wear the same clothes. This may be part of a discouraging process in the idea of producing more babies.

"We shall have to stop looking askance on trends in relation to sex merely as a reproductive capability, i.e., that it is normal to make babies. Society will have to change in its assessment of what the proclivities of humanity may be. Our viewpoints on homosexuality, for example, may have to be reconsidered and more wisely adjusted.

"Central to such readjustment will be the concept that man is not alone the physical machine he appears to be. He is not merely the food he consumes, the water he drinks, or the air he breathes. His physical processing is only an automated aspect of a total human experience which transcends the physical. As a knot in a series of spliced ropes of manila, cotton, nylon, etc., may be progressively slipped through all the material changes of thickness and texture along the length yet remain an identifiable pattern configuration, so man is an abstract pattern integrity which is sustained through all the physical changes and processing."

- Cite THE YEAR 2000, reprinted in AD, Feb'67

Population Sequence:

(5)

"We become more aware of this uniqueness of organising principle in the Universe, in science. The long-held myth that science wrests order out of chaos is fast disappearing in due ratio to the extent that all great scientists have found the Universe to exhibit an a priori orderliness. All the various specialties are discovering that their variously remote studies which seemingly 'ordered' local aspects of

nature are converging within progressively simpler and more comprehensive patterns. The 'ordering' is coming together. When we refer to the computer and automation's taking over we refer really to man's externalization of his internal and organic functions into a total organic system which we call industrialization. This metabolic regenerating automated organism is going to be able to support life in an Extraordinary way. The machines will increasingly assume various specialized functions. Man who was born spontaneously comprehensive but was focused by survival needs into specialization is now to be * brought back to comprehensivity.

"As enormous numbers of men are freed for more education and research and as they become more and more comprehensive in their dealings with nature, there will be engendered a total"

- Cite THE TEAR 2000, reprinted in AD, Feb'67

"philosophic awareness of the significance of the whole human experience. There will be a rediscovery of what Einstein described in 1930. in an article on the 'cosmic religious sense'¹--- the intellectual integrity of the Universe and an orderliness that was manifestly a priori to man.

"We are going to have an increasing number of human beings as scientists and philosophers thinking about the total significance of human experience and realizing that there is an intellect far greater and far more powerful than that of man--- and anticipatory of the whole trend of his development. An era of extraordinary integrity might ensue.

"This would be for me, the most important and exciting aspect of all the trend curves--- that in A.D. 2000, to a marked extent, the Integrity of humanity will be of an unbelievably high order. What one human being says to another regarding what he thinks or what he has ob-

served, will be reliable. There will be play-acting still, but it will very clearly be play-acting. In looking forward to the year 2000 it is not the 'Buck Rogers' details which are important but whether the world will be a good place for our children and grandchildren. In the past,"

- Cite THE YEAR 2000, reprinted in AD, Feb'67

Population Sequence: (7)

"man had to do many things shortsightedly and we have wasted a great deal of our natural heritage. We have squandered the fossil fuels which represented an extraordinary 'savings* or energy capability account stored up in the Earth. The great change now will be in a new type of accounting when we begin to draw more consciously on the fabulous 'income* energies of Sun, water, wind, and tidal powers-- which, if not used, will not be 'saved' or impounded on the Earth. We will adopt new accountancy standards for all wealth. To account our success in terms of gold and various traditional banking practices is irrelevant. Real wealth is organised capability. One of its major characteristics is that it is irreversible. No matter how much wealth you have, you cannot change one iota of yesterday. Wealth can only be used now and in the future. What we really mean by wealth is how many days forward we have energy available and organized for work to keep the machines running, to keep the foods growing, the refrigeration, transportation, and so on. The basis for our new accounting system will be 'How many forward days of organized capability do we have available to serve how many men'. We will be able to make the working assumption that it is normal not only for man to be successful but also normal for him to move as freely as he wishes without interfering with any other man. Our overall" - Cite THE YEAR 2000 reprinted in AD, Feb*67

"accounting assumption will be based on whatever amount of organized energy capability is required so as to make it possible for any man to travel around and enjoy the whole Earth, and be completely supported in doing so. There will be no such thing as deficit accounting. You cannot live on deficit accounting. You cannot eat deficitly or drink water deficitly. What is to eat is there--- as the water is there.

"All such negative accounting procedures went along with the need for exploiting others in the 'you or me' phase of man's past struggle for basic survival.

"Much of the most exciting and important part about tomorrow is not the technology or the automation at all, but that man is going to come into entirely new relationships with his fellow men. He will retain much more in his everyday relations of what we term the naivete and idealism of the child. This will be completely justified and not exploited or exploitable in any way. I think then that the way to see what tomorrow is going to look like is just to look at our children."

- Cite THE YEAR 2000 reprinted in AD, Feb'67

"Japan was the first country in the world to actually stabilize its population. China is going in for birth control in a major way if they industrialize, sjnd they industrialize at a very rapid rate. The only place where we're making an enormous amount of babies is in the nonindustrial countries where the probability of survival is very poor: just as clearly identified as it can be. . . "

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69 from Saturn film transcript, Sound 1, Take 1, p.flHg.

Population; Center of World Population:

See Three-way Weaving vs. Two-way Crisscross, 13 Mar*75

See Acres per Individual Human Being Homosexuality Procreation
Womb Population

Sae Artifacts, 28 Apr'74 lags (1) India, 12 Hay'75

See Population of Cities

Population Density

Population Density: Manhattan Cocktail Party

Population Density: Manhattan Jet Dispersal

Population Explosion

Population: Stabilization Of

Population: Center of World Population

See Cartography: Conventional Projections, 11) Twenty-foot Earth
Globe it 200-foot Celeetlal Sphere, (9)

See Universal Language, 26 Apr'71

See Pet, 31 Jan"75

Pure Principle, 6 Jul*62

Surfing: Surfboarding, 5 Jul*62

Porta:

See Seaporta

"Positional differentials in Universe derive only from the sixness of the
12 degrees of freedom."

- Citation t context at Twelve Universal Degrees of Freedom 1 Feb*75

See Celestial Position Integrity Interpositioning Self-positionability
Fix

See Individuality & Degrees of Freedom, (2)

See Matter & Antimatter

Negative Matter

See Antientropy, 10 Oct*63

"...What we call physical reality is always a positive and negative pulsating aberration of the whole..."

-Citation and context at Physical Reality. 11 Jul*62

Positive!

"... Everything that we know as reality has to be either a positive or negative condition."

" 011 e —

Hafcmg*~a Cuuidlnatlon p. 21.43---

O«K(M le/raae . 7 , iif, 11 Jul'62 'r

- Citation at Heallty. 11 Jul'62. (Incorporated in SYNERGETICS at Sec. 441.25)

Pgaltly? W14 NMftltTg:

"Positive and negative cancel aa the principle aero.*

- Citation and context at Principle. May'49

RBF DEFINITIONS

Positive and Negative;

nonequal and

"...'Right' and 'left' should be replaced by the opposite words 'positive' and 'negative'..
Left k R»ight,

PgglUY? h HggaUyp: Four Kinds:

"There are four kinds of positive and negative:

- (1) the eternal, equilibrium-disturbing plurality of differentially unique, only-
positively-and-negatively balanced aberrations;
- (2) the north and south poles;
- (3) the concave and convex; and
- (4) the inside (microcosm) and outside (macrocosm) always cosmically comple-
menting the local system's inside-concave and outside-convex limits."

- Citation *k* context at Two Kinds of Twoness, (A), 10 Nov 74
Positive & Negative Set, of the Whole:

See Physical Reality, 11 Jul'62

fSSIMXSLjUiSffSIM

See Positive & Negative, 4 May'57

Active & Passive

See Annihilation

Complementarity

**Energetic Functions Interwave Behavior of Number Mite: Positive &
Negative Functions**

Motion: Six Positive & Negative Motions Nonmirror Imago Oscillation

Parity & Disparity

Polar & Hemispherical Positive-negativeness Pulsation

Reciprocity

Structural Functions

**Tensegrity: Miniature Masts: Positive & Negative Plus & Minus
Outside-out vs. Inside-out Basic Event**

Symmetry: Positive or Negative

See Aberration, 22 Nov'73

Algebra, Oct*66

Antientropy, 10 Oct'63

Atomic Computer Complex, (2)

Axis of Spin: Tetrahedron, 7 Oct*71

See Considerable Set, 1959 Crystallography, 17 Aug* 70

(2D)

Positive & Negative:

See Dynamic Symmetry, 31 May'71

See Energy, 16 Sep'67 Energy Event, 9 Jul'62 Equilibrium. 25 Feb'69

Eternity, (2)

Half Frequency, 29 Nov'72

See Frequency:

See Game of Cosmic History, 27 Dec¹73

See Information Transmitting & Nontransmitting Model.

27 May*75

Invisible / Negative, 28 May'75

Intertransforming, Jun'66

FOJIUYS ***JLllzatIXf***

(2L)

See Left t Right, 4 May'57

See Mite & Coupler, 13 May* 73

Mites & Quarks as asic Notes, (1)—<3)

'flittvt & ilaatlYC

(2N)

See Nature, Jun'66; 13 Nov'69

News & Evolution, (1)<3)(4)

See Odd Ball, : Optimism:

Sep'72

Am Not an Optimist, 26 Apr'77

See Particle, 11)(2)

(2P)

Physical Reality, 11 Jul*62*

Planetary Democracy, (6)

Population of Cities. 10 Sep'75

Plastic Flowers, Oct*70

Powering: Fifth Dimension, 29 Nov'72

Prime Dichotomy, (1)(2)

Prime Structural Systems, 11 Jul'62; J Nov'75 Principle, May'49*

^fQSIUYa

(2Q)

See Quantum: Event-paired Quanta, Jun'66 Quanta Loss by Congruence, (1)

See Reality, 11 Jul*62*; Jun'66

Reflection Sequence: Apple*, (1)(2) Rudderling, May'65

See Seeability, 31 May'71

Scenario ve. Absolute Symmetry, 11 Dec¹75

Star Event & Degrees of Freedom, 12 Kay'75

Stability, 18 Mar'69

Syte, J1 May'71

Six Motion Freedoms & Degrees of Freedom, (1)(4)<5)

See Tetrahedron: Nine Schematic Aspects, 30 Aug'75 Tetrahedral Dynamics. (2) Tetrahelix, 10 Sep*74 Tidal, 9 Nov'73 Triangle, (A); (a); Nov'71; Jun'71 Twoness, 23 May'72; 1967

fMIUYJB & ^Nfl£AUYfl: (2 UVWXYZ:

See Vector Eouilibrium, (I)

X Configuration with One Ball at the Center. (1H2T

Zero, 9 *pr'40; May'49

Positive:

See Low Pressure vs. Positive

See Navy Sequence (7)

Optimism: I Am Not an Optimist, 26 Apr'77

«8E2ttBUTIQMS

Positron:

See Electron & Positron

Possession:

"Galen Handy*b quote, 'since truth is universal, truth cannot be possessed, only the untruth can be possessed;' to which I append that all possession must be founded on delusions, lies or self ` ` deceptions •
**

- Cite RBF Ltr. to N. Kaiser, p.1; 10 Jun'74

Possession:

"Possession is becoming progressively burdensome and wasteful and therefore obsolete."

- Cite Operating Manual for Spaceship Earth. 1969
feaataelOTS

See Mine: That*s Mine Ownership Private Property Thing: Thingness

PoBBibla Into Probabla;

See Life, 16 Aug'50

P0PPibllltY:

bee Question-*oklng Possibility

•Soldiering, ' pretentious hustling, officiousness, abstract posterior! osculations are amplifications of tfre momentum of the'subconsciously sustained fa Racial notion of a necessity of evidenced quasi**justification of existence."

- Citation and context at Industrial Hypocrisy. May*32

Poat-uranluaaS

See Ninety-two Elements: Chart of Rate of Acquisition Superatoaics

Potential;

"Life is fully potential and the entirely sublimated human organism coordinates omnisubconsciously."

. Cite Invisible Architecture: (E), Aug'72

Potential?

"...We have the theoretically perfect man as he goes through the vector equilibrium, he no longer needs the physical.

Everyone is J.702 short of his potential."

Citation & context at Immaculate Conception. 25 Jan*72

Potential;

"Potential lines are metaphysically straight, all physically realized relationships are geodesic and curved trajectories."

- Citation at Mataohyalcal k Physical. 197 V'~

Potential:

"Universe ia a nonalmultaneously potential vector equilibrium."

- Cite SYNEHGH'1'ICS Corollaries, Sec. 240. 1972

Potential:

"The mathematical patterning and intertransformability of nature's geometrical structurings are the only reality of Universe. The infinitely regenerative dynamism, always potential in the fundamental relationship of the principles in itself constitutes the intellectually tunable and ever inescapable reality."

Structurings. aj. the Only Inescapable

- Citation at Reality:

Reality. 193

- C£t

-fiwiaad

See Industrial Principle, 1 Jun'49

Precession, 8 Dec'72

See Universal Integrity: Manifest Ratios t Potential Ratios, 1 Apr'72

See Mite & Coupler, 13 May*73

See Vector, Oct*59 Vector Equilibrium, 2 Nov*73

See Line, Oct*59

Theoretical, 26 May'72

pgtmiU Yfli Primitive:

"The potential activation of tetravolume quantation in the geometric hierarchy is still eubfrequency but accounts for the doubling of volumetric space.

"The potential activation of tetravolume accounting is plural; it provides for nucleation. Primitive tetravolume accounting is singular and subnuclear."

- Cite RBF to EJA J200 Idaho. Wash. DC; 12 May '77 (Incorporated in SYNERGETICS 2 draft at Soc. 1033.181.)

See Vector Equilibrium: Potential k Primitive Tetravolumes

See Cube: Diagonal of Cube as Wave Propagation Model. 22 Jun '72

See Universal Integrity: Manifest Ratios & Potential Ratios, 1 Apr '72

See Angle & Frequency Design Control, Jul '71 Metaphysical k Physical, 1971 Nucleus, 12 Jul '62 Vector, 26 May '72 Wavilinear, 28 Oct '73

RBF DEFINITIONS

Potential

"All spheres are potential spheres."

- Citation & context at Six Motion Freedoms A Degrees of Freedom, 8 Aug '77

See Copotential 1b

Embryo Full Potential Interpotential Perfection

Relevant System Potential Superficial Potential latent Behavior Potential

Cosmic Hierarchy, 23 Jan '77

See Eternal Instantaneity, 22 Jun '72

Fix. 6 Nov'73

Fuller, R.B: On Creativity, 23 May'72 God, 26 May'72 Ideals. 14
Feb'72 Immaculate Conception, 2\$ Jan'72 Invisible Architecture,
(E)* Metaphysical & Physical, 1971 Powering: Third Powering, 15
Oct'72 Reality: Structurings as the Only t Inescapable

Reality, 1963'

Sixty Degreeness, 8 Dec'72

Synergetic Strategy of Convincing with Totality, 28 May'72

Tension & Compression, 1944 Theoretical, 26 May'72 Tongue: Bite
Your Tongue, Aug'72 Vector, 14 Oct'72 Vector Equilibrium, Oct'59;
1971; 23 Oct'72 Vector Equilibrium: Zero Model, 31 May'71 Individ-
ual Life as One Way Universe Could Have Turned

Out, 5 Jun'75

See Potential vs. Active

Potential vs. Manifest

Potential vs. Operationally Effective

Potential vs. Operative

Potential vs. Radiant

Potential Ratio of Volume-to-Quantum Values

Potential vs. Realized

Potential vs. Primitive

Potential Sphere

Pound: Era Pound:

"Heisenberg said that observation alters the phenomenon observed. T.S. Eliot said that studying history alters history. Ezra Pound said that thinking in general alters what is thought about. Pound's formulation is the most general, and I think it's the earliest."

- Cite Hugh Kenner, "The Hope and the Knot " Kentucky

RBF DEFINITIONS

Pound: Ezra Pound: (1885-)

"Before Heisenberg's 'indeterminism,' T.S. Eliot said

'the act of considering history alters history.* Ezra Pound anticipated them both when he remarked much earlier that 'the act of thinking alters thought,»*

- Cite The Generalized Laws of Design, p, 1, 22 Apr'68

Pound. Ezra:

See Heisenberg-Eliot-Pound Sequence

RBF DEFINITIONS

Poverty:

"And humanity's enlightenment is delayed

Because the Earth planet is so large,

And man is so infinitely tiny

And so myopically preoccupied with personally avoiding

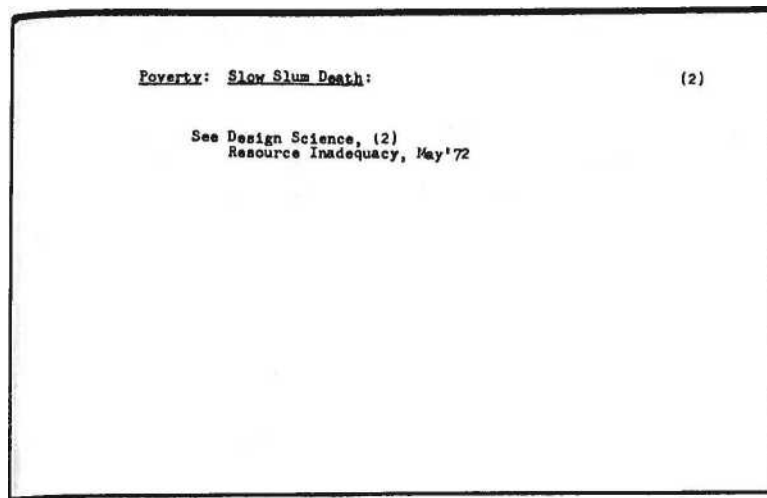
The erroneously assumed inevitability of poverty for the many which has slavishly and fearfully conditioned his reflexes."

Poverty: Slow Slum Death:

(1)

See War: Official 4 Unofficial

War: Slow Death by Slums vs, War as Quick Death



Poverty; Poor;

See Success, 10 Sep'75

News t Evolution, 15 Mar'7 Enough to Go Around, (1)(2

Power Factoring:

See Six Motion Freedoms & Degrees of Freedom, 11 Aug'77

£e*?r Gfingmion:

See Electromagnetic Generating Wind Power Sequence Inanimate
Energy Power

Power!HR:

"In the topology of synergetics powering is identifiable only with the
uni-angular vectorial convergences,"

Citation and context at Convergence. 16 Nov'72

Powering:

"Number powers refer to the number of times any given number is multiplied by itself. While empty set numbers may be theorized as multipliable by themselves, so long as there is time to do so, all experimental demonstrability of science is inherently time limited. Time is the only dimension. It is expressable as frequency."

- Cite Synergetics Braft at Sec. 960.03, 16 Nov*72

Powering;

"Powering means the multiplication of a number by itself

- Cite SYNERGETICS draft at Sec. 960.02, 16 Nov'72

Powering;

"Powering is numbers self-multiplying."

- Cite RBF to EJA, 3200 Idaho, 28 Oct'72

Powering:

"Powering means the development of dimensions that require the introduction of constant angular interception of a constant angle system of planes by a plane not already in the system."

- Cite RBF re-write of Oregon Lecture #4, p. 131 on 12/13 Sep '71, in SYNERGETICS draft 770.01; Jan. '72.

Powering;

"In the topology of synergetics powering is identifiable only with uni-angular vectorial convergences. The number of superficial vertex convergences of the system are identified with second powering, and not with anything we call 'areas,'¹ that is, not with the surfaces nor with any experimentally nondemonstrable continuums."

- Cite Rasa Speech p. 90 as rewritten 12/13 Sep '71, by RBF in SYNERGETICS Draft at Sec. 770.02, Jan *72.

Powering:

"It is a radiational (eccentric) or gravitational (concentric) wave system:

Second powering is identified with the point population of the circumferential arrays of any given radius stated in terms of frequency of modular subdivisions of the circumferential array radially-read system's concentricity layering;

Third powering is identified with the total point population of all the successive wave layers of the system;

Fourth powering is Identified with the interpointal domain volumes; and

Fifth and Sixth powerings are identified ffBI as products of multiplication by frequency doublings and treblings, etc."

- Cite SYNtRICETICS Draft, Corollaries - May 1971

See Secs. 240.44 and "Modelability, Powering," Secs. 772.3, 773.1, 774.1, and 775.1.

Powering:

^{wt}Powering¹ ... in this topology is identifiable only taji with the vertexes and not with something we call 'area,* that is, not with a surface or an experimentally non-demonstrable continuum."

(Adapted.)

(I deleted "second" before
"powering."

Cite NASA Speech, p. 90, Jun'66

PltiMeifi.es + r.wee.wfc

Powering:

"Nature needs only triangles to identify arithmetical powering for self-multiplication of numbers. Therefore,

'triangling'is twice as efficient as 'squaring.' "

- -Cite 1a----Di Pl -

Return to ModelabXlty p.---¥-9---

- Cita NASA Speech, p.75, Jun*66

Powering: (A)

2

Re Equation 10 F +2:

"That is a very interesting kinder mathematics for you to think about for certain reasons. To start off, you have second power. This second power- is a number characterising layers or surfaces. What we use for surface is a shell— in a sense it becomes the. 'surface' or a package in the system. I get a bigger package and I can tell what the number is by using the second power. We have been very used to using second power for the surface of a cube or any other thing. We say the linear measure is first power; this is the radius or edge of the cube and the surface is the second power, and the volume is the third power. Second power has been connected uniquely with surface area and it is still the surface or the shall. But what it is showing is very Interesting: there is no continuous shell, there are actually only points. They are little spheres. You can have this very high frequency and we would be counting the points in the shell, and not the surface as a whole, so we find second power representing points in the system and not surface. . . What we really discover in physics is that there are no such things as solids, and there are no such things as surfaces, because what we simply meant was a solid surface.

nf- sec 770sA - Cite Orbn Lecture #7, p.2jy, 11 jul'62

Powering: (B)

"We have been used to the idea of the second power for plotting the solid surface. In the quantum and wave phenomena they have been dealing in individual packages that do all of their accounting. They don't have continuous surface at all. Suddenly we find here then a congruence of the phenomena we have been very familiar with, the second power, and we understand it now to mean the shell and you can identify the second power with points or little separate packages

and not as a continuous solid surface. You could relate it to little energy actions, little separate stars, and you are coming out all right. This is what you really mean by quantum. Now you have actually conceptuality in respect to the quantum.**

- Cite Oregon Lecture #7, PP«239-240, 11 Jul'62

Powering: {1)

"Science had thought that it was impossible to be conceptual because it had felt that fourth dimensionality which had been showing up time and again as an arithastleal behavior of the physics, could not be accommodated by the XYZ coordinate system and it can be accommodated by synergetics. Why can it be? Because the vector equilibrium has a volume of 20. You can get eight cubes around one point, and so the third power of two, which is eight, has used up all the space, but using the tetrahedra I can get a volume of 20 around one point as I do in the vector equilibrium. Twenty is two to the fourth power plus two to the second power and it makes it quite possible to make models of fourth powering by using tetrahedroning. In fact we find vector equilibrium is unity because its edge module is one, as is the cube the module of one. It is when it is one, when it is unity, that its volume is 20. When its edge module is two, it is two to the third power times 20 which is 160 and the volume is 160 where the edge module is two. It will accommodate very high powering, the sixth powering, and so forth. It makes possible the actual modelling of the multipowers that have characterised some of the physics and some of the chemistry which have not been modellable before and had only been treatable mathematically--- and calculatable but

- Cite Orgeon Lecture #6, p.233, 10 Jul¹62

Powering:

"not modellable. Now that they are modellable again, we find that modellability goes with using the right coordinate system and therefore conceptuality and modelability has returned and is valid so that we will probably have an entirely new kind of day dawning for man because it is going to mean that it is possible for the scientist really to talk to the kindergarten children and these are very simple increments. We are not having any numbers that are not easy to handle in the very earliest phases, so the coordinating capability of the child is going to be able to accommodate the nuclear physics and that is a very new kind of day."

- Cite Oregon Lecture #6, p.233, 10 Jul*62

Powering:

"Powering, the development of dimensions that require a unique perpendicularity to a plane not already in the system."

-Cite Oregon Lecture #4, p. 131.feJuly 1962.

f0NC<r<K«- set. o»«t|

Powering; (Synergetics¹ Six Dimensional Reference Frames.)

• • I identify second powering with the point population of any one radiant (eccentric) or gravitational (concentric) wave systems circumferential arrays of any given radius stated in terms of frequency of modular subdivisions of the circumferential arrays radially-read systems¹ concentricity layering; third powering with the total point population of all the successive wave layers of the system; fourth powering with the interpointal domain volumes; firtrj and sixth powering as products of multiplication by frequency doublings and treblings,etc.. The Doppler effect or wave reception frequency-modulation caused by motions of the observer and the observed are concentric wave system fourth and fifth power accelerations."

-Cite INTRODUCTION TO OMNI DIRECT ION HALO, P. 126.. 1959 ¹

Powering. (Synergetics¹ Six Dimensional Reference Frames.)

"All local events of universe may be calculatively anticipated by inaugurating calculation with a local vector equilibrium frame and identifying the disturbance Initiating point, direction, and energy of introduced action.

"/Synergetics/ six positive and six negative dimensional reference frames are reinitiated and regenerated in respect to specific local developments and interrelationships of universe.

"Arithmetical one dimensionality Is identified geometrically with linear, pointal frequency.

"Arithmetical two dimensionality is identified geometrically with areal pointal frequency.

"Arithmetical six dimensionality is identified geometrically with vectorial system modular frequency relationship.

"Arithmetical size dimensionality is identified geometrically with relative frequency modulation."

- Cite COLLIER'S, P. 114, Oct'59

Powering; ^zero Powers

"Zero power is the fix. It can be just an angle, which is subcyclic. It is a fix. No nodule."

- Cite RBF to EJA. 3200 Idaho. DC, U Oct*72; aa rewritten by RBF, 15 Oct*72 ⁷

"Zero power is the point. It can be just an angle, which is subcyclic. It is a fix. No nodule."

- Cite HBF to EJA, J200 Idaho, DC, U Oct*72

"We say the linear measure is the first power, that is, the radius of the sphere or the edge of the cube. First powering expresses only one vector, i.e. one-twelfth of relevant system potential."

- Powering. Jan*71 as rewritten by RBF 15 Oct*72

"rfa nay the linear measure is the first power, that is, the radius of the sphere or the edge of the cube."

- Cite SINERGETICS text at Sec. 773.02, Jan*71

"We eay the linear measure is the first power, that is, the radius of the sphere or the edge of the cube.

"First powering expresses only one vector, i.e., 1/12th of relevant system potential."

- Cite SYNERGETICS draft at Sec. 77?r02', Jan*71 as expanded by RBF, 3200 Idaho, U Oct'72

Powering: Power:

"First power is linear. A tina-siae nodule.

- Cite RBF to EJA, 3200 Idaho, U Oct'72

first and Third Power Concentric Shell Growth Rates:

"The discovery of the formula for the rational whole number expression of the tetrahedreaal volume of both the spherical and interstitial spaces of the first and third power concentric shell growth rates of nuclear closest packed vector equilibria.'*

- Cite SYNERGETICS draft at Sec. 251.47, 15 Oct*72

"Synergetical second-powering is Identified with the point population of the progressively embracing, closest-packed point arrays at any given radius stated in terns of frequency of modular subdivisions of the circumferential array's radially-read concentricity layering."

- Citation and context at Dimensionality (1), 28 Oct*73

EQWQrlflg: Second Powering!

"Second powering relates to points and not to surfaces.

- Citation and context at Fuller. R.B.: Meeting With FarnandM-Mgrah
(2), 5 Apr'73

"In synergetics we find the familiar practice of second powering displaying a congruence with the points, or little separate energy packages of the shell arrays."

- Citation and context at Package, 17 Nov*72

"The number of superficial radiantly regenerated vertex convergences of the system are identified with second powering, and not with anything we call 'areas,' that is not with surfaces nor with any experimentally demonstrable continuums."

- Citation and context at Convergence, 16 Nov*72

"Second powering is areal: superficial area modularly outlined. Second powering expresses only superficial potential."

~ Cite Powering: Second Powering.

14 Oct'72 as rewritten by

RBF 15 Oct'72

Powiat Second powering:

"Second powering is areal: superficial area modularly outlined.

- Cite BBF to EJA, 3200 Idaho, DC, U Oct'72

"The synergetic discovery of the identification of the

surface points of the system with second powering accommodates quantum mechanics' discrete energy packaging of photons and elucidates Einstein's equation, $E = mc^2$, where the omnidirectional velocity of radiation to the second power--- c^2 --- identifies the rate of

the rational order growth of the discrete energy quantation. This also explains synergetics' discovery of the point-rate external growth of systems. It also elucidates and identifies the second power factoring of Newton's gravitational law."

- Cite RBF to EJA, 21 Dec. '71, Washington DC, incorporated in SYNERGETICS AT, Sec, 251.25.

Powering: Second Powering:

"The mathematical regularity identifies the second power of the linear dimensions of the system with the number of non-polar crossings of the comprehensive three-way great circle gridding, in contradistinction to the previous mathematical identification of second powering exclusively with surface areas."

- Cite RBF to EJA, 21 Dec. '71. Washington DC, incorporated in SYNERGETICS Draft at Sec. 251.24.

Powering: Second Powering:

(1)

"Second powering¹ in this topology is identifiable only with the vertexes and not with something we call 'area,' i.e., not with a surface or an experimentally nondemonstrable continuum.

"There are no topologically indicated or implied surfaces or solids. Because the vertexes are the external points--- the higher the frequency of the system, the more dense the number of external points. We discover then that 'second powering' does not refer to 'squaring' or to surface amplification but to the number of the system's external vertexes in which equating the second power and the radial or circumferential modular subdivisions of the system multiplied by the prime number one if a tetrahedral system; by the prime number two if an

octahedral system; the prime number three if a triangulated cubical system; and the prime number five if an icosahedral system; each multiplied by two and added to by two will accurately predict the number of superficial points of the system. This fact eliminates our dilemma of having to think of the second and third powers of systems as referring exclusively to continuum

- Cite NASA Speech, pp.90-91, Jun'66

3 fu Entries - secs SH

Powering: pQC9D4 Paring- ⁽²⁾

"surfaces and solids of the systems, neither of which have been experienced by experimental science* On the other hand electro** magnetic frequencies of systems are sometimes complex but always constitute the prime rational integer characteristics of physical systems*"

- Cite NASA Speech, pp.90-91, Jun'66

"The word second power gives you something to dofl* now with radicals and surfaces."

- Cite Oregon Lecture #7, p. 241. 11 Jul'62

See Linear Becomes the Second-power Rate of Growth

Universal Integrity: Second-power Congruence of Gravitational & Radiational Constants

Vertexial Topology

See Convergence, 16 Nov'72* Dimensionality, (1)* Gravity: Circumferential Leverage, (3) Isotropic Vector Matrix, 16 Nov*72 Mass, 16 Nov*72 Package, 17 Nov*72* Polar Joints, 29 Nov*72 Variables: Theory Of, 1960 Vertexial Topology, Aug'71 Ten, 22 Jun'75 T Module, 31 Jul'77

(Second and Third Powering.)

Powering:

"Second powering * point aggregate quanta « area.

"Third powering - volumetric quanta • volume."

- Cite P. PEARCE, Inventory of Concepts, June 196?

-SFG

"Synergetical third-powering is identified with cumulative total point population of all the successive wave layer embracements of the system."

- Citation and context at Dimensionality (1), 28 Oct'73

"Third power is volume modularly and areally embraced.

Third powers express full potentials."

- Cite Powering: Third Powering. U Oct*72 as rewritten by RBF 15 Oct'72

^{PQ}*grlryr Third *ftMozlnr*-

"Third power is volume nodulerly and areally embraced

- Cite RBF to EJA, 3200 Idaho, Wash DC, 14 Oct'72

See Third-power Rate **at** Variation Model

See Dimensionality, (1)

Gravity: Circumferential Leverage, (4)

Nothingness, 16 Nov'72

Perpendicularity, 17 Nov*72

Powering: Sixth Powering, 20 Dec'73

Somethingr.ess, 16 Nov'72

Synergetic Constant, (1)(2)

Powering: (Three and Four Dimensions:)

****• • . The four dimensionality works in convergences and divergences« Parallelism is uniquely characterising the three dimensional system/***

dXfCoM *Lec-TOIZE7*|». 2*5”

1 A «r

piwMiwt - see 77 4.63

Pptffrlnc* Three fc Four Dimensiong:

See Hole in the Victrola Disc, 24 Jan'75

"While nature oscillates and palpitates asymmetrically in respect to the frame of the omnirational vector equilibrium, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrinous state, ergo omnirationally commensurable and modelable to the fourth power volutnetrically, which order of powering embraces all experimentally disclosed physical volumetric behavior*

"The volume of the vector equilibrium - 20 f\ When, frequency - 20, we have 20 x 20 x 20 x 20; Vol. - 20*."

- Cite same caption, 21 Dec'71 to which RBF added "volumetrically

on 26 Nov'72

- SYNERGETICS Sec. 966.11, 18 Nov'72, modified accordingly

Powering:

Fourth Dimension:

"It was the failure of the exclusively three-dimensional XYZ coordination that gave rise to the concept that fourth dimensionality is experimentally undemonstrable, ergo its arithmetical manifestation even in physics must be a mysterious, because nonconceivable, state which might be spoken of casually as the "time dimension."

- Cite SYNERGETICS draft at Sec. 966.06, 18 Nov'72

"While nature oscillates and palpitates asymmetrically in respect to the frame of omnirational vector equilibrium, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrating state, ergo omnirationally commensurable to the fourth power. - V d u .

which order of powering embraces all experimentally disclosed physical behavior.
The volume of the vector equilibrium

- 20 F3. When frequency - 20 we have $20 \times 20 \times 20 \times 20$;

Vol. - 20*."

- (For later context see A Priori Four-dimensional Reality. (1)

20 Dec*73.I

Originally derived from RBF statement to EJA at 3200 Idaho, 21 Dec'71. Above text is altered and expanded version incorporated in SYNERGETICS draft at Sec. 966.14, 18 Nov'72

sec.

Powering: Fourth Powering:

"Fourth powering identifies the nuclear propagation ratea inherent in the radiation vs. gravity, convergent and divergent interoscillatory wave propagations which pulsate through the omnidirectional serophase of the vector equilibrium. Fourth powering identifies the magnitude of energy involvement as either particulate mass or wave frequency, vectorially expressed."

- Cite RBF rewrite of Powering: Fourth Powering. 15 Oct'72 incorporated in SIhsRuEtiUs, 2nd. Ed. at Sec. 966.13, RBF rewrite as of 9 Sep*75

"Synergetical fourth-powering is identified with the interpointal domain volumea."

- Citation and context at Dimensionality (1), 28 Oct*73

"Fourth powering would be always the nuclear propagative as described in convergence and divergence. Fourth power would thus be the energy content: the energy involvement as mass and frequency, vectorially expressed. Radiation vs. gravity are fourth power behaviors. Fourth power expresses behaviors."

- Cite Powering: Fourth Powering, 14 Oct*72 as rewritten by RBF 15 Oct'72

"Fourth powering would be always the nuclear propagative as described in convergence and divergence. Fourth power would thus be the energy content: the energy involvement as mass and frequency, vectorially expressed."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, U Oct»72

See Fourth Dimension

XIS

See Loss: Discovery Through Loss, 14 Dec*73 Nonpolar Points. 29 Nov'72 Dimensionality (1) Synergetic Surprise, 9 Apr'71 Words, 1\$ Jun'74 Gravity: Circumferential Leverage, (4) Modelability, (b)(c)

Powering: Fourth and Fifth Dimensions:

"In an omnimotional Universe it is possible to Join or lock together two previously independently moving parts of the system without immobilizing the remainder of the system, because four dimensionality allows local fixities without in any way locking or blocking the rest of the system's omnimotioning of intertransforming. This Independence of local formulation corresponds exactly with life experiences in Universe. This omnifreedom is calculatively accommodated by synergetics' fourth and fifth power transformabilities."

- Cite SYNERGETICS draft at Sec. 966.07, 18 Nov'72

Powering: Fourth and Fifth Dimensions:

"When we begin to integrate our arithmetical identities, as for instance n^2 or $n\backslash$ with a 60-degree coordination system, we find important coincidence with the topological inventories of systems, particularly with the isotropic vector matrix which makes possible fourth- and fifth-power modeling."

- Cite SYNERGETICS draft, Sec. 423,04, 9 Jun'72

Powering: Fourth and Fifth Dimensions:

"We find that the volume of the two-frequency cube equals eight, which is two to the third power, expressed as 2^3 , whereas the volume of the two-frequency vector equilibrium equals 160, which is two to the fifth power multiplied by five, expressed as $2^5 \times 5$. In 60-degree vector equilibrium accounting when the edge module reads two, and we have an energy quantity of two to the fifth power times five, we understand why the previous nonmodelability of fourth and fifth dimensions occasioned the century ago discard by science of the generalized modelability which now returns with energy-vectored tetrahedroning,"

- Cite NASA Speech, pp. 81-82. Jun*66

See Imaginary Number, Jun*66

Sixty Degree Modulatability, 19 Nov*72

Synergetics, 20 Jun'66

Vector Equilibrium: Field of Energy, (C)(D) Multidimensional Accommodation, 11 Dec*75

"Synergetics discloses the rational fourth, fifth, and sixth powering modelability of nature's coordinate transformings as referenced to the 60-degree, equiangular, isotropic vector matrix."

- Citation at Fourth Dimension, 21 Dec*71

Powering; Fourth, Fifth, and Sixth Dimensions:

"The awkward irrationalities were the consequence of nan's attempts to measure the omnidynamically transforming fourth fifth, and sixth dimensional Universe with a static, three- dimensional system."

- Citation and context at Future of Synergetics, 19 Apr'66

"We know that the sphere points on the outer shell of the vector equilibrium and the icosahedron, between which states the pulsative propagation of electromagnetic waves oscillates between the icosahedron and the vector equilibrium, but the number of points remains the same: $10 F + 2$,"

- Cite SYNERGETICS draft at Sec. 527.5Z, 29 Nov'72

Powering: Fourth Dimension,):

"Five-dimensionality is realised by the pulsation of the positive-negative VE --- Icosa --- VE --- as 2.5 --- five."

- Cite SYNERGETICS draft at Sec. 527.54, 29 Nov'72

Powering: Fourth, Fifth & Sixth Dimensions:

See Fourth Dimension, 21 Dec'71*

Future of Synergetics, 1y Apr'66*

Six Motion Freedoms & Degrees of Freedom, (B) Synergetics, Dec'61
Synergetics Constant, (A)

Powering: Fourth Dimension and Sixth Dimension:

.. Whereas we can only get eight cubes around a point. . . 90 degree-ness uses up all the space around a point. When I am dealing in 60 degree-ness, when I am using tetrahedron as unity, we can get the whole volume of 20 tetrahedra around one point. The tetrahedron is unity. Then we are getting 20 around a point instead of eight around

a point. Eight is the third power of two. 'When I have a stack of cubes coming together around a point, the edge count is two cubes. Unity is two there. There is just one set of radii from the center of gravity in the system and you can only have a total volume of eight which is the third power of two. If I have a volume of 20 around a point, then two to the fourth power is 16, plus two to the second power. I can then accommodate two to the fourth power plus two to the second power around a point. It is very easy to make models of the fourth dimensionalities. We discover that when we do that--- this is what we call the vector equilibrium the edge count is sooi one. When the edge count is one we have a vector equilibrium, not two as in the cubes. The volume is 20. You start with unity as 20. . . And we find that we are able to accommodate sixth powering."

- Cite Oregon Lecture *i'.k*, pp. 137-138. 6 Jul'62

Powering? Fifth- and Sixth-Powerings:

"Synergetical fifth- and eixth-powerings are identified as products of multiplication by frequency doublings and treblings, and are geometrically identifiable."

- Citation and context at Dimensionality (1)(2), 28 Oct*73

RbF DEFINITIONS

Powering: Fifth & Eighth Powering:

2

"The vector equilibrium at initial frequency (frequency) manifests the fifth powering of nature's energy behaviors. Frequency begins at two. The vector equilibrium of frequency* has a flMMiMi prefrequency, inherent tetravolume of 160 ($5 \times 2 \gg 160$) and a quanta-module volume of $120 \times 24 \cdot \cdot 1 \times 3 \times 5 \times 2^\circ$ nuclear-centered system as the integrated product of the first four prime numbers;

1, 2, 3, 5. Whereas a cube at the same frequency accommodates only eight cubes around a nonnucleated center."

(Sec. 1006.33) (2nd. Ed.)

-Cite SYNERGETICS, 2nd. Ed., at Sec. 1006.33} 25 Jan'76

Powering; Fifth & Eighth Powering:

"The vector equilibrium at initial frequency (frequency²) manifests the fifth powering of nature's energy behaviors ₂ Frequency begins at two.. The vector equilibrium of frequency has a tetravolume of 160 modules (5 x 2 = 160) and a

quanta-modulevolume of 120 x 24 = 3 x 5 x 2[®]. Whereas the cube at the same frequency² accommodates only 8 cubes around a nonnucleated center."

- Cite RBF to EJA + RBF holograph, Wash., DC; 11 Dec'75

"Sixth-powering ie all tha perpendiculars to the 12 faces of the rhombic dodecahedron."

□ Cite RBF rewrite of SYNERGETICS galley at Sec. 621.05, 9 Nov'73

"Synergetical six-dimensionality 1b Identified geometrically with vectorial system modular frequency relationship.*

- Citation and context at Dimensionality (2), 26 Oct*73

"Linear, as manifest in the tetrahedron, the simplest structural system of Universe, is six dimensional, providing for the six degrees of universal freedom and the operational six-wave (sexave) phenomenon of number."

- Cite SYNERGETICS draft at Sec. 527.4*, 29 Nov*72

"Synergetics posits six positive and six negative dimensional reference frames corresponding to the 12 universal degrees of freedom unique to each point in Universe. The six dimensional reference frames are reinitiated and regenerated in respect to specific local developments and interrelationships of Universe."

(N.B. On 30 Oct'72 RBF wrote in margin of this passage at Sec. 972.01 Synergetics draft: "Sonny: drop out this paragraph. The six edges of the tetrahedron lie in three planes.")

- Cite COLLIER Ltr. p. 113, Oct'59
- Incorporated in SYNERGETICS draft at Sec Aug'71

later re-edited as Sec. 972411, Jan'72.

•Since the original point was a tetrahedron and already, a priori volumetric, the third powering ie In fact sixth powering: $N \times N^{-5} - N^{\&}$."

Cite RBF rewrite of SYNERGETICS gallery at Sec. 965.01, 20 Dec'73

"While nature oscillates and palpitates asymmetrically in respect to the frame of the omnirational vector equilibrium, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrious state, ergo omnirationally commensurable and modelable to the sixth power vectorially, which order of powering embraces all experimentally disclosed physical vectorial behavior.¹¹

- Cite Vector Equilibrium. 21 Dec'71
 - Cite same caption, 21 Dec'71 to which RBF added "vectorially"
- ABIU TV \

"Sixth powering ie all the perpendiculars to the rhombic dodecahedron which ie all the internal truncations of the tetrahedron."

- Cite RBF to EJA, Bear Island, 25 August 1971.
- SCC- VILAS'')

See Ch@@@'e" A (*J;Ori Intell«ct Invents a Gone Called Vector Equilibrium,
21 Dec¹71; 19 Nov*74

PoWgrlng: Seventh Powering: Seventh Dimension:

"Like the octahedron, the vector equilibrium also has eight triangular facets; while also explosively extroverting the octahedron's three square central planes, in two ways, to each of its six square external facets, thus providing seven unique planes, i.e., seven-dimensionality."

_ Cite SYNERGETICS text at Sec. 1011.23; rewrite of 26 Dec'73

Powering: Powers:)
 See Dimensional Growth Dimensional Supremacy Equatability of
 Volumes & Powers Fourth Dimension Limit of Powering Sixty-degree
 Modulatability Triangling Volumes - Powers Scheherazade Numbers:
 Declining Powers Of Hil tirepowerings Point Growth Rate

powering: Powers: (2)

See Convergence, 16 Nov*72* Perpendicularity, 17 Nov'72 Pythagoras,
18 Jun'71 Tima-cixe, 20 Dec'73

See Child Sequence, (3)
 Interrelatedneee ve. Names, (1)

See High Voltage Power Tranamieeion World Power Grid

(?)
 T^ranamlgai^pn;

See Communications Theory, Oct¹66 Invention Sequence, (z)

See Operational

Specialisations of Residual Physical Reality

See Intuition, 1971

Practical; Practice:

See Earth: Let'a *et Down to Earth Reduction to Practice

Prayer: Praying:

See Christ,

7 Oct¹?!

Precess:

"Compression members precess to bend.

- Citation and context at Rope. 6 Mar

Preceaa;

"Preceaa means for two or more bodieam to move in an interrelation-
ship pattern of other than 180 degrees."

- Cite KEPEC

Caption Figure 7e, Page 84 1965

ficcESSitit) sec. £33.o(j

Procession; (X)

•Procession is the intereffect of individually operating cosmic systems upon one another. Since the Universe is an aggregate of individually operative systems all of the Intersystem effects of Universe are precessions! and the 180-degree imposed forces usually result in redirtetional resultants of 90 degrees.

"Gravity's 180-degree circumferential omniembracement effect results in a 90-degree inwardly effected pressure which gains rapidly in intensity as the initially sixfold leverage advantages of the circumferentially tensed embracement gains exponentially in locally induced pressure as the radial distance outwardly from the sphere's center la decreased.

"The Sun's direct 180-degreeness Interattraction pull upon Earth begets precessionally the letter's 90-degreeness orbiting around the Sun. And the Earth's circumferential orbiting direction begeta the Earth's own 90-degreeness of axial rotation. The Sun's radiational 180-degree impingements upon Earth's waters begets 90-degree circumferential cloyd travel, which in turn begets 90-degree radially inward precipitation."

- cite STNERGETICS, 2nd. Ed. at Sec. 533.08 + /09, 19 Nov'74

Precession: (II)

"ProceSSIONal 160-degree efforts beget 90-degree effects such as the Sun's radiation Impoundment on Earth by the photosynthesis of agriculture (around the land) and photosynthesis of algae (around the waters of Earth), which regeneration occurs as precessionally impounded life-sustaining foods. The 180-degree sun r4M-atj^{on} effect precesses Earth's atmosphere in 90-degree circumferential direction as wind power, which wind power in turn precesses the windmills into 90-degree rotating.

"All the metaphysical generalisations of physical principles produce physical indirect acceleration effects which are proceSSIONal.

"Leverage, Sun power, wind power, tidal ppwer, paddles, oars, windlasses, fire, metallurgy, cooking, slings, gears, electromagnetic generators, and metabolica are all 180-degreo offore)tj that result in 90-degree proceSSIONal Intereffects. *

- Cite SINEUETICS, 2nd. Ed. at Secs. 533.10 +.11+.12, 19 Nov'74

Precession lor):

"Nature use rectilinear patterns only precessionally; and precession brings about orbits and not straight lines."

- Citation and context at Rectilinear Pram. 24 S.p>73

Prasesalon;

"Precession and mass-attractive gravity convert centrifugal into orbital motion,"

- Citation and context at Radiation-flavitation Sequence (2)(3), 5 Jun'73

Precession: (a)

"Precession is the effect of discrete motion systems on other discrete motion systems. Since all the Universe consists of differential motion subsystems all of the intersystem effects of Universe are precessional and the 180-degree directional efforts of systems always impose 90-degree directional resultants in the motions of all other systems.

"Gravity's 180-degree circumferential tension, as omniembracement effect, begets 90-degree effects; as for instance, the Sun's direct 180-degreeness begets 90-degreeness of orbiting; and the orbitings' directional 180-degreeness begets the 90-degreeness of axial rotation.

"The Sun's radiational 180-degree impingements upon the Earth's waters beget 90-degree evaporation and circumferential cloud traveling, which, in turn, beget 90-degree rain precipitation. Precessional 180-degree efforts beget 90-degree effects such as the photosynthesis of agriculture around the land and photosynthesis of algae around the waters of Earth, regenerating as food."

- Cite RBF holograph, New Delhi, 8 Dec'72 as rewritten by
REEL 13 May'73
Prpcesffipn: (b)

'The 180-degree Sun effort precesses 90-degrees as wind power, which wind power in turn precesses 90-degrees the windmills and sailing ships. All the metaphysical generalizations of physical principles disclose direct acceleration (which is synergetic) or in-direct acceleration (which is precessional). Leverage. Sun Power, wind power, tidal power, paddles, oars, windlasses, fire, metallurgy, cooking, slings, gears, electromagnetic generators, and metabol-ics in general are all 180-degree efforts that go into 90-degree precessional intereffects."

Cite RBF holograph, New Delhi, 8 Dec'72; as rewritten by RBF
U May'73. '
Precession:

"It could be that in always-and-only-coexisting action-reaction

180°-ness begets 90°-ness)

and) ergo (active)

90°-ness begets 180°-ness j

and

60°-ness is neutral) ergo (potential)

- Cite RBF holograph, New Belhi, 8 Dec'72
PRFCCS.S/OAJ — SE~C. 533.ii)
PpmEBipp:
"Precession io synergetic to mass attraction."

- Citation and context at Hierarchies_T 16 Jun'72

HBF DEFINITIONS

Prccggglsn-

"Precession is a second-degree synergy

Because it is not predicted by mass attraction Considered only by itself. Mass attraction Is experienced intimately by Earthians As gravity's pulling Inward toward Earth's center Any and all objects Within critical proximity To Earth's surface, And moving through space At approximately the same speed And in the same direction As those of planet Earth.

"Not until we learn by observation That the mass attraction Of any two, noncritically proximate Bodies in motion Imposes a motional direction At ninety degrees

To their interattraction axis,

- Cite INTUITION, p.31 May »72

(B)M

PrSCe??19n:

"Do we learn of this second surprise behavior Of two or more bodies.

They no longer 'fall-in,'

One to the other.

"Thus is the Moon

Precessed into elliptical orbit about the Earth

As the Earth and Moon, together,

Are precessed into elliptical orbit around the Sun, Yielding only in a ninety-degree direction To the Sun's massive pull--- Being beyond

The critical proximity distances

For falling into one another."

. Cite INTUITION, pp. 31-32 May '72

Precession:

"I recession is the behavioral interrelationship

Of remote and differently velocity'd, --- Differently directioned,

And independently moving bodies boon one another's

Separate motions

and motion inter-patternings

- Cite INTUITION

p. 30, May '72

Precession:

"Mass attraction is to precession

As a single note is to music.

Precession is angularly accelerating

Regeneratively progressive

Mass attraction."

- Cite INTO IT ION fveft Her Tft - r. ?n p. 30, May »?2

froggaaxgn:

"Precession is the effect of any moving atom upon any other moving atom and the closer the proximity the more powerful the effect. Mass attraction is Inherent in precession. Mass attraction is to precession as a single note is to music. We do not pay much attention to precession because we think only of our own integral motions instead of the Universe, though we are precessing the Universe every time we take a step."

. Cite SYNERGETICS draft at Sec. 533.02, Nov '71

Pmegalon:

"And the transition from being an entity to being a plurality of entities is precession, which is a peeling off into orbit rather than falling back in to the original entity. This explains entropy intimately."

- Citation & context at Entropy. 18 Feb¹71

Precession:

"Critical proximity occurs where there is a 90° angular transition from falling back in at 180° which is precession."

~~Beverly Horvath~~
~~28 Feb 1971~~

- Citation at Critical Proximity. 28 Feb*71

h'tc.tg.ftigjp

"Precession is the behavioral interrelationship of remote and differently velocityed, Differently directioned, And independently moving bodies Upon one another's Separate motions And motion inter-pattermings.

Mass attraction is to precession As a single note is to music. Precession is angularly accelerating, Regeneratively progressive Mass attraction.

The elliptic orbiting Of the sun's planets As well as the solar system's motion Relative to the other star groups Of the galactic nebula Are all and only accounted for By precession.¹

Cite INTUITION, Draft Feb »?1, p. 19

pffCWSro* — SEC. S23-11 +533A£

Precession:

"Because precession imposes angles other than 180° upon all interactions of all moving systems of the Universe there are no straight lines demonstrated in Nature. The fundamental wave behavior of all nature is a consequence of the omnIntereffective precession."

- Citation k context at Social Science: Analogue to Physical Science,
(1), 13 Nov'69

Precession:

"Precession is the effect of any body in motion upon any other body in motion and the closer the proximity the more powerful the effect, and since all known bodies of macro-micro Universe are always in motion all the inter-effects of all bodies are always precessional and those effects always result in the production of an angular change of course in the affected bodies--- thus, for instance, does the Sun's pull on the Earth induce its orbiting in a course around the Sun at 90 degrees to the gravitational pull; that is, the effect on the other body is always produced as an angular re-direction other than a 180 degrees direction towards or away from one another. • . .

"Mass attraction is also involved in precession, which is another of the important, but popularly unknown, generalized principles. Precession allows a spinning top to lean over sideways without tipping further. Precession makes the gyro-compass hold its true north orientation without magnets and despite the ship's changes in course."

ixrSwW*- ffectisuu- clts I,taRU SPEECH > p- 35, 13 Kov'69

Precession;

"The effects of one moving system upon another moving system.

Precession is describable in vectorial terms: i.e.. of physically-realized, design, expressed differentially as relative angle, velocity and mass (size) modification's in respect to an axis.

The precessional result of all events are always threefold. embracing (1) action. (2> reaction, and (3) resultant. None of these interppeces-sional event components occur at 180° to any other components.

A system must have a minimum of four vertexes in order to have an omni-directional insideness and outsideness and six is the minimum number of vectorial edges uniquely connecting the four vertexes of the minimum system. The six vectorial edges are comprised of two energy event's inherent three-vector componentation of action, reaction, and resultant."

„ - Cite "Word Meanings." EKISTICS, Vol. 28, No 167

'1ST Seu-rrwe- fKecSSn u -?rc t \$33. <>l (Oct'69

Precession:

"Precession is the effect of one moving system upon another

"Precession always produces Angular changes of the movements Of the affected bodies

And at angles other then 160 degrees, That is, the results are never Continuance in a straight line. Ergo all bodies of Universe

Are affecting the other bodies In varying degrees,

And all the intergravitational effects Are precessional angular modulations And all the interradiation effects Are frequency modulations.*'

- Cite HOW LITTLE I KNOW, p.73, Oct'66 'pKrc.see.

Precession:

"Reactions and resultants are always precessions!.*

- Citation fc context at Action-reaction-resultant. Jun'66

Precession;

*'Parallel and antiparallel are precession."

- Cite riBF marginalis date! 5 Sept. 1965 in "The Scientific Endeavor," (1963) - page 12

RBF DEFINITIONS

Precession:

. We don't pay much attention to precession because we think only of our own integral motions instead of the universe, though we are precessing the universe every time we take a step. Precessional effects are always angular and always something other than 180 degrees; they are very likely to be 90 or 60 degrees. . . Precessions are regenerative."

- Cite LEDGEMONT, pp. 46, 47 » 15 Oct'64

Precession:

The energy event action itself "is inherently processional because it is against gravity. It is a linear acceleration and an angular acceleration simultaneously as functions with a prominent resultant and a prominent reaction. Because we have now learned that these are going to be at angles of other than 100° and this three~fold affair is obviously not going to occur in a plane. Therefore, we are not surprised to find our event. . . make the tetrahedron.

- Citation *k* context at Energy Event. 9 Jul*62

Precession:

"The effects of all components of universe in motion upon any other component in motion is precession and inasmuch as all the component patterns of universe seem to be motion patterns, in whatever degree they do affect one another, they are interaffecting one another precessionally and they are bringing about angular resultants other than the 180 degrees."

- Cite OREGON Lecture #5 - p. 164, 9 Jul»62

. *sec 533*

Precession?

"There are no straight lines. Nobody has ever thrown a straight ball. Everything is always moving in the direction of least resistance. That is one thing about the relation of all the forces. A body in motion affecting another body in motion . . . the effect is always precession.

When the top is in motion and you in motion touch it, then the result is precession. Now inasmuch as the whole Universe is in motion, all the parts affecting each other are always precessing each other. Precession is the most predominant. You might say the first law of motion is precession. You could say that the first law of motion, if it had been properly written, was that all the Universe is continually in motion and all the other affecting it in various degrees? the effect is always precession."

- Cite Oregon Lecture *jfk*, p. 151* Jul'62

RBF Ut.rUirrlu».L

Precession:

"There are five motions we are all familiar with: spin, orbit, turn inside out, expand and torque.

"There is a sixth motion which very few people are familiar with called precession."

- Citation and context at Motion: Six Positive and Motions. 6 Jul*62

Precession:

"When the stone drops in the water it impinges on the atoms and everything is in motion, and immediately there is a resultant at 90°. The resultant is the wave and the 90 degreeeness begets another 90 degreeeness and this 90 degreeeness begets another 90 degreeeness and so on until you have a series of 90 degreeenesses. . .

"Precession is regenerative and that is why you have the wave, it is very simple to see why there is a wave. Pure precession."*

-Tllu Leu lure-4, p. 4 52, 6

- Citation and context at Wave Pattern of a Stone Dropped In Liquid.
6 Jul*62 ~

jrc 533.01

Precession: (1)

"Precession plays the major role in my re-statement of the first law of motions, which says, 'The entire regenerative hierarchy of major, intermediate, and minor constellations of component-patterns-within-component-patterns of Universe are continual processes of synatony, yet independent and unique, transformative patternings. That is, all components of Universe are in continually accommodative, associative- disassociative motion reciprocity, and all the moving components of Universe continuously affect all the other moving components--- in varying degrees, ranging between high and low tide reciprocities of critically intense to critically negligible. All of these intereffects of all them* motional components upon one another are precessional, and precession always produces transformative resultants in vectorial patterns which always articulate angular accelerations in directions other than the 'straight' lines of directions between the inter-effective components.'

"This is to say that the effects of all local motion systems in the Universe are always precessional, and that none of the resultants of any forces operative between them are

- Cite "Tensegrity," PORTFOLIO AND ART NEWS, p.119, Dec *61

Precession:

"ever straight line patterns. Individual lines of vectorial trajectory interactions never go through the same points. They diverge periodically to innocuity of inter-effectiveness or they periodically converge to critical proximities. Their local interferences, through critical proximity, produce reflections, refractions, and regenerative-shunting patterns.

- Cite "Tensegrity," PORTFOLIO ART NEWS, p.« 119, Dec. '61

Precession:

"Universe is the minimum as well as the maximum closed system of omni-interacting, precessionally transforming, complementary transactions of synergetic regeneration. . .

Cite OMNIDIUKTIONAL HALU, p.135- 1960

Precession:

"...The effect of all the local systems of events upon any and all other systems of local events is processional."

- Citation and context at Newton's First Law of Motion: RBF Restatement Of, 4 May*37

Precession;

•Synergetic geometry precession explains radial-circumferential acceleration transformations."

- Citation and context at Gravitational System Zone. 14 Jan¹⁵⁵

Frac tag Ion **k** PMTOM. af. Frg«taM (D

"Despite the angularly Modified resultant complexities of omnidirectionally operative processional forces upon ever varyingly interpositioned cosmic bodies, Universe may be manifesting to us that there is always and only operative an omniintegrated cosmic coordination

of cosmic independents* actions and reactions wherein, with radial broadcasting of energy there is an exponentially increasing diffusion as well as disturbed diminishing resultant energy effectiveness producing widely varying angular aberrations of the precession, wherein nonetheless there is always an initial individual-to-individual operative attractiveness whereby

180-degreeness begets 90-degreeness
and
90-degreeness begets 180-degreeness

all of whose angularly aberrated complexity of resultant directional effects always pulsate in respect to a neutral or static 60-degreeness which (only staticOT imposes an everywhere- else 60-degreeness of resultants which in turn induces the coexistence of the isotropic vector matrix."

- Cite SYNERGETICS, 2nd. Ed. at Sec.533.21, 19 Nov»74

"The 56 axon of cosaic symmetry (see Sac. 1042.05) interprocess successively to regenerate the centripetal-centrifugal Inwardness, outwardness, and aroundnesses of other inwardnesses, outwardnesses and aroundnesses as the omnipulsative cycling and o&milInter- resonated eternally regenerative Universe, always accoanodated by the six positive and six negative alternately and maximally equieconoBical degrees of freedoa characterising each and every event cycle of each and every unique frequency-quantua magnitude of the electromagnetic spectrum range."

- Cite STNERGETICS, 2nd. Ed. at Sec. 533.22, Nov'74

See Acceleration: Angular & Linear, 11 Feb*73

Precessional Peel-off:

See Doing tthat Needs to be Done, 26 Jan¹75

TEXT CITATIONS

Precession of Side Effects k Primary Effects:

Synergetics, 2nd. Ed. draft Sec. 325.10ff

ErgcttaaXan al-£ldq Effects <4 Primary Effggte?

See Good it, Hadding Kind of Idea

Precession of Octa Kdge-vector:

See Octahedron ae Photoeyntheeie Model, 11 Dec'75

r«£JflalanftUY .Stonted Pattern Rflfty:

•Resistance... in synergetics is called the precessionally shunted pattern relay."

- Citation and context at Tunability_f 1960

Precession; Analogy of Precession and Social Behavior:

"Mass attraction and *□□□ precession Provide the first scientific means Of elucidating social behavior.

When humans affect one another Metaphysically, The least thoughtful Goes into local system orbit Around the most thoughtful. When humans tense one another Physically, The least strong Falls into the other, ` Falls' in love. When they repel one another physically The least strong is rocketed Into remote system orbit."

- Cite INTUITION, pp.33-34. May '72

Precoftipn: Analogy at Preceaeion k Social Behavior:

See Social Sciencea: Analogyue to Physical Sciences, (1}

Pragaaalon aX Two Sate of W °lQgogt-MGkftd Spharea- (D

"I'm sure a number of you have been with me at previous lectures and you may have seen these two sets of 10 closest-packed spheres--- see sec. 260.50 π , but the majority of you, I am sure, still have not been with me all this time. I know that four years ago I was asked to speak at a congress of mathematics teachers in Oregon and there were 2000 mathematicians there and I asked them if any of them were familiar with these objects. And they said •No.* And I said would any of them be willing to come up on the stage with me and put them together in a way that we would all agree is the way. There is a thg way.

"So one of them came up and he looked them over, and he saw these two quadrangles and he tried matching those... then he saw two triangles and he tried matching those... then he saw these---what we call trapezoids---and he tried matching those. So then he tried to put them together like that, and that didn't seem to be too impressive either. Then he tried what we might call like a raft and that wasn't too good either.

So he started all over again and I saw he wasn't getting anywhere, so I said I'm going to have to show you how to do it."

- Cite RBF talk at Am. Museum of Natural History, NYC, EJA transcript, pp.8-9; 1 May'77

"One reason that this is not self-evident is that because, in all the great motions employed by Universe, there are six fundamental kinds of motion and five of them very familiar: spinning, orbiting, turning inside-out, expanding, and torquing.... These are very well-known fundamental behaviors of nature. But there's a sixth one called precession. And you say: I don't remember... I've heard of it. I've heard of the word precession, but that's about the most people can do....

"Precession is one of the most important things to understand--- and it's the mistaken 180-degreeness that finds humanity

missing a lot. At any rate, I'm going to precess these (two M sets of 10 closest-packed spheres! now at 90 degrees. OK?

And I'm going to now put them together and obviously they are now not going to fit⁵ (Applause.) And the reason you didn't see that---and the thing about it is---that you all went to school being taught the XYZ coordinates of parallels and perpendiculars.... And you try to bring in together perpendicularly. But Universe is not operating that way. Universe is operating in radiations¹-divergence and gravitational- convergence. Divergent and convergent: that's the way Universe operates. This is nothing like the XYZ coordinates"

- Cite_RBF talk at Am. Museum of Natural History, NYC, □□□ EJA transcript, pp. 9-10, 1 Ray'77

RBF DEFINITIONS

"and all that---they have nothing to do with the way the Universe works. Things in parallel never get resolved. Convergent things get beautifully resolved, they get exactly ... they get nature into a corner... that's why you couldn't have a nucleus in a perpendicularparallel system. You can only have nuclei when you have convergence. And that's why I say how far out our schooling really is."

- Cite RBF talk at Am. Museum of Natural History, NYC EJA transcript, pp.9-10; 1 May'77

Precession of Two Sets of 10 Closest-Packed Spheres:

Synergetics : Sec. 260.50 (2nd. Ed.)

527.08

Precession of Two Sets of 60 Closest-packed Spheres:

417: 417.01-417.04

(Fig. 417.01)

8527.08

frccosaion - Tension:

See Interaffecting, 9 Jul'62

"There are six edges of a tetrahedron, and each edge precesses the opposite edge toward a 90-degrees-maximum of attitudinal difference of orientation. Any two discrete opposite edges can be represented by two aluminum tubes, X and *, which can move longitudinally anywhere along their respective axes while the volume of the irregular tetrahedra remains constant. They may shuttle along on these lines and produce all kinds of asyrranet- rical tetrahedra whose volume will always remain unit by virtue of their developed tetrahedra's constant base areas and identical altitudes. The two tubes' four ends produce the other four interconnecting edges of the tetrahedron, which vary as required without altering the constantly uniform volume."

- Cite SYNERGETICS text at Sec. 923.10, Apr'72

Pro CAM ion, al Tatra ^{Ed}fioa'

See Interconnection of Any Two Lines in Universe

Precessional Thinking:

The "central and surface angle understandings are

fundamental to precessional thinking which deals locally with the falling-inward critical proximities outwardly of which gravity suddenly induces precession at 90 degrees to the earlier falling-inward proclivity.

- Cite Synergetics draft, Sec. 860., August 1971*

Preceded Triangle:

See Yin-yang, 28 Jan'75

ImaaAsfl:

PA*

Angular Precession

See Chemical Bonds

Energetic Functions

Intereffects

Interprecess

Knight's Move in Chess

Motion: Six Positive k Negative Motions

Mass Attraction

Omnimotions

Orbiting

Omniprecessional

Petal: Tetrahedron as Three-petaled Flower Bud

Polarized Precession

Poisson Effect

Shunting: Relative Motion Patterns

Critical Proximity

Primary vs. Side Effects

Sideways

Synergy vs. Precession

Reprecession

(IB)

See Precession □ Tension Metaphysical Precession Complementerice
Precess Reciprocal Self-preceasors Regenerative Intersupport Mod-
ulation va. Precession Gyrocompass: Gyroscope Regenerative Pre-
cession Quantum Model Vava Pattern of a Stone Dropped in Water

(M) M

Pr«c«Mlon:

See Bonding Hierarchies. 19 Dec*73 Chemical Bonds. May'72 Com-
pression, 19 Jun'71 Design Covariables: Principle Of, 1959 Energy
Event, 9 Jul'62* Entropy, 2S Feb'71* Gravitational Zone System, 14
Jan'55* Hierarchies, 16 Jun'72* Mass Attraction, 6 Mar*73 Multior-
bital, i960

Newton's First Law of Motion: RBF Restatement Of, 4 May'57*

Pull, 25 Sep'73

Radiation-Gravitation, Oct*66; (2)(3)* Rectilinear Frame, 24 Sep'73*
Side Effects, 9 Dec'73 Supersynergeticall, May'72 Synergetics, pj3,
undated Step, Nov'71 Eccentricity, 7 Feb'71

(2B)

See Tetrahedral Dynamics (1) (2)

Tetrahedron, 10 Dec*73; 1 Feb'75

Twelve-inch Steel World Globe (B)

Transformations. 10 Oct'50

Vector Equilibrium: Spheres & Spaces (1)

Wave, 13 Nov*69

Wave Pattern of a Stone Dropped in Liquid, 6 Jul¹62* Action-reaction-
resultant, Jun'66*; May*?!

Tidal, 15 Oct'64

Truth & Love, 16 Feb*73

Polarization, 10 Nov*74

Scratched Surface, 27 Jan'75

Prism, 31 May*71

Gravity, 6 Apr'75

Inward Explosion, 8 Apr'75

In, Out & Around Experiences, (1)(2)

Invisible Quantum as Tetrahelix Gap Closer. 23 May'75

Octahedron as Conservation & Annihilation Model, 23 Jun'75

Yin_Tyang, (2)

See Geometrical Function of Nine, (1)

Octahedron as Photosynthesis Model,(B)(C)

Social Sciences: Analogy to Physical Sciences. (1)□ Six Motion Freedoms & Degrees of Freedom, (5)(6)

See Precession & Degrees of Freedom

Processional Intertransfonnability

Precessional Peel-off

Precession of Side Effects & Primary Effects

Precess Iona Uy Shunted Pattern Relay

Precession: Analogy of Precession « Social Behavior

Precession • Tension

Precession of Tetra Edges

Processional Thinking

Precessed Triangle

Precession of Two Sets of 10 Closest-Packed Spheres

Precession of Two Sets of 60 Closest-Packed Spheres

Precession of Octa Edge-vector

Prediction: Socio-economic vs. Engineering:

See Structural Sequence, (C)

See Prognostication

Synergetic Advantage: Principle Of Synergetic Hierarchies Synergy:
Degrees Of Synergy of Synergies Unpredictable: Unpredicted Viral
Steerability

Unpredicted: Sequence of Unpredicted Events Planets: Prediction of
Unknown Planets Forecasting Capability

See Ignorance (2)

Jet Engine (1)

Science, p.7, 1947

Synergetic Accounting Advantages:

Hierarchy of Patterns, 1954

Nature Permits It Sequence (3)

Synergetic Integral, 1960

Education, 1 Jul'62

Vertexial Topology, Aug'71

Modelability, (bl

Modulations, 17 Jun'75

Structural Sequence, (C)

Hierarchy Of (3)

Prfl~cxperlfln£fiabl£:

See Primitive Regeneration, 27 Dec'74

Prgfabrlmgd Cjedop:

See Fuller, R,B; Crisis of 1927, 14 Apr'70 Robin Hood Sequence (1)

Prefabrication:

See Prestressed Concrete Sequence, (2)

~~RBF-DwnjTTTHJUU~~ Preferred Directiona of Least Resistance:

See Fuller, R.B: What I An Trying To Do, S Jan'66

Prefix:

See Deprefixing

PraTreouencY;

See Presise Subfrequency Prine

PrtfrtqMiwYi

See Conceptuality Independent of Size 4 Time, 2 Jun* 74

Primo, 20 Dec'74

Primitive Regeneration, 27 Dec'74

Fourth Dimension, 19 Feb'76

Powering: Fifth k Eighth Powering, 11 Dec'75;

25 Jan'76

Generalisation k Special Case, 23 Jan*77 Six Motion Freedoms k Degrees of Freedom, (B)

SmoaatJMigj:: Cemaunlaitlfn with Child She i» Bearing:

See Tactile Sense, 6 Jun'69 Tactile Sequence, (1)

Pregnancy: PreznatH;

bee W Unique Frequencies, 18 Aug¹70

PrfhwtM*

"Prehending is pure tension; it's like gravity.**

- Cite RBF to EJA, 3200 Idaho, Wash, DC, 19 Dec'74

See Intuition, 26 Dec¹74

Pr«hl«rarchlcal:

See Prine, 20 Dec'74

Pre-Scenario:

See Dynamic ve. Static, 12 Nov'75

Preacienca:

Sea Poets, 1970

fraaant Qtharnaaa •*

See No-titae-*nd-away~ago, 28 Xay*75 Tetratuning, 30 May'75 Environment, (A)

(1)

See Omnipresent

Now

rrosanv

(2)

See Minimum of Four Tetrahedra, 22 Feb*77

President of the U.S:

See Error: Pullout from Error. 17 Jul'73

The One: Watergate, 13 May'73

United States: Most Difficult Sovereignty to Break Up, (2}

Preamp:

See Conceptuality Independent of Siee Prefrequency Subeiie Sizeleas

Pre-apecial Caae;

See Primitive Regeneration, 27 Dec'74

~~See-DEFINITIONS~~

Pressive; ~~██████~~

See Compression, 1 Apr* 49

Pressure:

"Velocity gives "® what we call pressure or heat it can be read either way."

ft 62

- **Citation at Velocity. 9 Jul*62**

Preasura - Heat:

See Balloon (C)

Sec. 763.02

See Interattraction / Pressure Compression

See Gravity: Circumferential Leverage, (3)

Prcat.:

See Stretch-prees

Prestressed Concrete Sequence; (1)

"I began to initiate such a 'regenerative tree' 2~See Trees7 strategy in experimental undertakings in structures about a third of a century ago. I gave myself the task of exploring the practicality of assembling the components of buildings under the most preferred conditions of technology and science, in order to achieve a very high degree

of efficiency. This collection of components had to be capable of economical air transport to any part of the Earth. I saw that the essentials were local hydraulics and pneumatics and generalized tensional packages--- broadly speaking. Familiar examples of this are all kinds of pneumatic structures, from inflatable toy sea horses and life rafts to dirigibles. Beyond these, there are very complex structures. For examples, I have made geodesic domes--- omnitriangulated spheres-- with pneumatic components, geodesic tensegrity spheres are highly magnified, pneumatic principle structures."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes, 1965. p. 86.

Prestressed Concrete Sequence; (2)

"The hydraulics possibilities include the local cements, water, air, gravel, sand, and rocks. The economic theory behind prestressed concrete is based on prefabrication and shipping only the small bulk of steel as a tensional system, and applying the local water, sand, gravel, and cement as the building bulk. The particles which make up cement are sifted sand and gravel, which, though they look rough, pack averagedly as spheres would pack--- in 60-degree angular packing. Few people think of cement that way, but if it is shaken down, agitated well, and lubricated together with a colloid, it will automatically avail itself of nature's tetrahedral structuring in closest packing pattern."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes, 1965, p. 86.

Prestressed Concrete Sequence? (3)

"This principle of tensional blueprints— prestressed concrete is an example—is manifesting itself as the direction which building will take. In order to make the resources of the Earth adequate to the needs of all people, we must increase the performance per pound of those resources in a very big way, thus giving man

environmental controls. This must be done to accommodate all the new shifting patterns of man around the face of the Earth. We will have to employ nature's much more economical grand logistical strategies. Emulating nature, man must distribute mathematical information as basic pattern, which does not weigh anything at all. The highly technical components of very fine high-tension steels and aluminums and fine alloys can then be centrally processed and distributed. Those will be used primarily for tensional functions, and will be rigidified by the local compressional pneumatic and hydraulics. •. This is the most comprehensive statement that I could make regarding the most recent discovery of nature's forever permitted structural strategies."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes., 1965. P. 88.

Prestressed Concrete:

See Colloidal Chemistry Hydraulics

Pretence Bio-organic

See Corporation, (2)

Pretending

"There's nothing wrong with pretending; in fact we have to pretend. Pretending is just the same thing as our imagination. We have to formulate something like 'going down town' before we can actually go down town. Even Christopher Robin with Alice. It's really not a matter of pretence but more of a trial balance. It's not a pretence: you might just not have had time to do it yet,

"You write the play) Then you act the play. You have to write it first. It's like the lag between the navigating and the conception. You can't just go, except off the deep end, and even a child knows better than that!"

(h.B; Above comments in response to EJA showing RBF a quote from Wittgenstein (Philosophic Investigations: II, xi - 229e : "A child has much to learn before it can pretend.")

- - Cite RBF to EJA, 3200 Idaho, Wash., DC, 8 Apr'75

Pretending - Image-ination:

See Pretending, 8 Apr'75

See Prafraquancy

Timeless

(2)

Se® Conceptuality Independent of Size <k Time. 2 Jun'74 Synergetics vs. Model (B)-(D)

frflYony: Preventive=

See Pathology: Preventive vs. Curative

Previous Otherness:

See Awareness, 24 Apr*72

Sea Selfishness

Sheath of Pride

Ego Self-deception Vanity

See Genius: Children Are Bom Geniuses, (1) Life is a Sumtdtal of Mistakes, (1) Mistake, 7 Nov'75 Crowd-reflexing, 7 Nov'75

Priestly. Joseph: (1733-1804)

See Lavoisier, 1 Oct*71

Primacy:

See Prine Number

Primitive

Primacy:

(2)

See Trigonometric Limit: First 14 Primes, 14 Jan*74

PrlMr-v Faeultl..:

See Intellect **k** Quickness

"We don't pay enough attention to the aide effects. The primary effecte are really very,very tiny. What we have ie the intercomplementation of the primary effecte with the side effects, in which the side effects--- due to precession--- become the really important operation."

- Cite RBF to Yale students, New Haven, 9 Dec'73

RBF DEFINITIONS

ttHHM Primary vs. Side Effects:

"Nature arrange# for the eide effects— at 180* to become the major thrusts. We tend to think of the ohromosomic 180 'drive' programming as the primary effect, but it's not.

"Only mind can discover mind: that's what society is doing right now. The brain is the honey-bee, honey-money reflex.

- Cite RBF to Tale Jjtudonts, Naw Haven, 10 Dec'73 (See also, RBF Holographs)

See Precession of Side Effects k Primary Effects Evolution by Inadvertence

See Ecology Sequence, (PHG) Proton 8c. Neutron, (B) Two Ki* o4 Twonese, (B) Ecology, 3 Apr*75 Planetary Democracy, (3)

Primary Structure:

"Whenever cutting or Joining is introduced, complex structures occur. That is, the hole may be filled with a primary structure and therefore all the structural events of the surrounding ring are second-layer structural emergences of the primary structure."

- Citation and context at Moebius Strip. 10 Jan*50

Primry Structural

See Icosahedron: Inside-outing of Icosahedron.

10 Jan'50

Prlmry SYBEOM*

Sea Equations: Primary Systems

TEXT CITATIONS

rrlBAFY SYftfM-

Synergetics texts Sec. 223,20, et.seq., Feb¹72

Prime:

"Prime means alseless, timeless, subfrequency. Prime is prehierarchical. Prime is prefrequency. Prime is generalised, a metaphysical experience, not special case."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1071.10, 20 Dec'74

Prime:

"Prime means slseless, timeless, subfrequency."

- Cite RBF typescript shown to EJA, Wash. DC., 18 Dec'74

Prime:

"Prime means the first possible realization. It does not have frequency. It is subfrequency. One is aubfrequency, Interval and differentiation are introduced with two.

Frequency begins with three--- with triangle, which is the minimum cyclic enclosed circuitry."

)D'I 3d

- Cite SYNERGETICS draft At Sec. ~~W1,jt~~, 17 Feb'73

Prime:

"Prime means the first layer. It does not have frequency. It is subfrequency. One is subfrequency. Frequency begins with two. Frequency and size are the same phenomena. Subfrequency prime tetra, octa and icosahedron consist of one vertex and an edge module of one."

-»-Cite RBF Dear Ieland 3, Ingst 1071 , -flynai
882,1

- Citation at Subfrequency, 23 Aug'71

Prime Awareness:

"Sphere is prime awareness."

- Citation and context at Vector Equilibrium. 18 Nov'72

Prigfl Conceptuality (1)

See Conceptuality Independent of Six k Time A Priori

See Dohbin & Quantum, (2) Unity as Plural, 1960

Prime Convergence:

See Vertex, 11 Oct'71

"Whenever I can I always try to make a comprehensive prime definition than break it into the main parts. .

- Citation and context at Environment (1), 19 Feb'73

Prime ^Drealm-

See Artist-scientist, Xay'60

Prime Dichotomy RYS (1)

"In the prime dichotomy of Universe into a thinkable tetrahedral zone between unconsiderable irrelevancies, which in turn requires a secondary zonal separation into macro-micro momentarily unthinkable cosmoses, it becomes evident that the tetrahedral zone itself introduces a tertiary dichotomy into the two inherent twilight zones of almost \square considerable bigness and almost considerable littleness, respectively.

">/e find a fourth stage dichotomy of Universe when we consider that the big and little twilights each respectively are again also comprised of two tetrahedra as minimal requirement, one as the concave inward tetrahedron and the other as the convex outward tetrahedron.

"We next, fifthly, discover that the positive-negative (convex-concave) tetrahedra constitute only the minimum functional dichotomy of finite Universe resulting in a minimum portion of the Universe disposed in the microcosm and a maximum portion of the Universe assigned to the macrocosm. An approximately spherical polyhedral zonal dichotomy of finite"

- Cite OkKIDlHiXTIUNAL HAW, pp.UO-UI, 1960

Prime Dichotomy: (2)

"Universe by a spherical array of considered relevancies provides the minimum portion of sum totally finite Universe assigned to the macrocosm and the maximum relat«"e portion of finite Universe assignable to the microcosm..."

"nThe alternate relative proportions of finite Universe's micro-macro magnitude limits of definitive dichotomy as tetrahedral minimum or spherical maximum introduce an inherently alternative propensity of universal finite accountability whose alternative eccentric-concentric reciprocity of omnidifferential-lag-rate compensations inherently propagate and regenerate preferably considered universal evolution accomplished by omnidirectionally expansive-contractive, wave propagating oscillations."

- Cite OKNIDlitECTIUNAL HALO, pp.143-144, i960

Prln? P9Raln:

"A vector equilibrium is not a prime domain or a prime volume, because it has a nucleus and consists of a plurality of definitive volumetric domains. The vector equilibrium is inherently subdivisible as defined by most economical triangulation of all its 12 vertexes into eight tetrahedra and 12 quarter-octahedra, constituting 20 identically volumed, minimum prime domains."

- Citation *k* context at Vector Equilibrium. 26 Dec'73

Prime Domains:

"While generalizably conceptual the prime structural systems and their prime domains, linear, areal, and volumetric, are inherently subfrequency, ergo independent of time and size."

- Citation and context at Subfrequency. 17 Feb*73

Prime Domains:

See Prime Volumes Spheric Domain

"Omnitopology describes prime volumes. Prime volume domains are described by Euler's minimum set of visually unique topological aspects of polyhedral systems. Systems divide all Universe into all of the Universe occurring outside the system, all of the Universe occurring inside the system, and the remainder of the Universe constituting the system itself. Any point or locus inherently lacks insideness. Two event points cannot provide enclosure. Two points have betweenness but not insideness. Three points cannot enclose. Three points describe a volumeless plane. Three points have betweenness but no insideness. A three-point array plus a fourth point which is not in the plane described by the first three points constitutes prime enclosure. It requires a minimum of four points to definitively differentiate cosmic insideness and outsideness, i.e., to differentiate macrocosm from microcosm, and both of them from here and now."

- Cite SYNERGETICS draft at Sec. 1011.11, 17 Feb'73

Prime Enclosure:

"• , » Two points do not constitute enclosure. A point by itself does not enclose. Three points do not constitute enclosure. Three points constitute a plane.

A three-point array plus a fourth point not in the plane of the first three points do constitute prime enclosure. Four points minimum have insideness and outsideness."

"Prime epistemology is generalised thinkability. Epistemology discovers intuition

- Citation 4 context at Prime Thinkability, 26 Dec'74

Prime. Gjuiaratlon:

See Seven Axia of Symmetry: Prime Generation Of

"It was our synergetic®' discovery and strategy of taking the two poles out of Euler's formula that permitted disclosure of the omnirational constant relative abundance of the V's, F's, and E's, and the disclosure of the initial additive twoness and multiplicative twoness whereby the unique prime number relationships of the prime hierarchy of omnisymmetric polvhedra occurred, showing Tetra •»; octa - 2; cube `` 3; VE or Icosa 5.

- Citation 4 context at Constant Relative Abundance. 29 Nov'72

Prime Hierarchy of Symmetric Polvhedra:

See Equations: Primary Systems

Prime Interrelationahipa;

See Understanding, May*67

frlaa lOTfntlfliP

See Done, V Jul'73

Mae Minima s^{mcB}»

See Mites as Primo Minimum System

"All prime nuclear structural systems have one--- and only one--- (unity two) interior vertex.

"Nuclear structural systems consist internally entirely of tetrahedra which have only one common interior vertex: omniconvertex,

"In nuclear structural system each of the surface system's external triangles constitutes the single exterior facet of an omnisystem-occupying set of inter-triple-bonded tetrahedra, each of whose single interior-to-system vertexes are congruent with one another at the convergent nuclear center of the system.

"In all nonredundant prime nuclear structural systems the congruently interior-vertexed, omnisystem-occupying tetrahedra of all prime structural systems may all be interiorly truncated by introducing special case frequency, which provides chordal as well as radial modular subdivisioning of the isotropicvector-matrix intertriangulation of each radial, frequencyembracing wave layer, always accomplished while sustaining the structural rigidity of the system."

- Cite SYNERGETICS, 2nd. Ed., at Secs. 1074.10-03, 27 Dec'74

Pripg Nittlflatad

See Vector Equilibrium, 2 Nov'73

PriM ^Nuclgua=

"The isotropic vector matrix equilibrium multiplies omnidirectionally with increasing frequency of concentric vector- equilibrium-conformed, closest-packed uniradius sphere shells, conceptually disclosing the cosmically prime unique sequence of developed interrelationships and behaviors immediately surrounding a prime nucleus."

- Citation and context at Atomic Computer Complex (2), 13 May¹73

Prima Nucleue:

See Energy Event, May*71

Prime Numbers

"...There really is a number one, and there is a number two. The prime numbers are unique behaviors.... Prime number® are unique to what I call primitive experience and minimum experience."

- Citation & context at Hunan Beings k Complex Uttvaree. (7) 16 Fob'78

"Man accommodated the primes one, two, three and five in the decimal and the duodecimal system. But he left out seven. After seven the next two primes are eleven and thirteen: man calls these very bad luck. In playing dice seven and eleven are crapping and thirteen is awful.

- Cite SYNERGETICS, "Numerology," p, 16 Oct. *71.

Prime Number¹:

"We have some absolutely beautiful rememberable numbers which are all primes. I have discovered that all the prime's until 31 would form the positives and the negatives of all the phenomena we can possibly group in the permutations of the elements. The number of these permutations is a rememberable number. Every so often out of absolute chaos of millions and billions of numbers there suddenly comes a rememberable number which shows the beautiful balance at work in nature."

- Cite SYNERGETICS, "Numerology," pp. 17-1B, Oct. '71.

Prime Number:

"A prime number cannot be produced by the interaction Of any other numbers---

It is only divisible by itself and one.

- Cite NUMEROLOGY Draft, p. 32 - April 1971

Prime Number:

ⁿA prime number is a basic event. Every event has three parts.**

- Citation at Basic Event. 7 Mar*71

Prime Number:

"Electromagnetic frequencies of systems are sometimes complex but always constitute the prime rational integer characteristic of physical systems."

- cn@MttSXSpeefi7 p. 91, Jun'66
- Citation at Frequency. Jun'66

See Scheherazade Numbers:

(i)

Scheherazade Numbers: Declining Powers Of

Prime Numbers Factorial:

See Trlacontrahedron: Great Circles Of, 27 Apr'77

(2)

368

Prime Number: Flrat l.RrlFWa-

"But so long as the comprehensive cyclic dividend fails to contain prime numbers which may occur in the data to be coped with, irrational nbnbers will build up or erode the processing numbers to produce irrational, ergo unnatural, results. We must therefore realise that the tables of the trigonometric functions include the first 15 primes 1, 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 41, 43."

- Cite RBF addition to SYNERGETICS galley at Sec. 1230.11, Santa Monica, CA, 14 Jan'74

flM^Numbgr.fi: Pairing Of;

"The pairing of prime numbers has something to do with the poles.*. . . It has to do with the 14 poles of the seven axes of symmetry."

- Cite RBF to EJA by telephone from LaJolla to Wash. DC, 17 Jan»74

TUT CITATION

Prine Umbers: Pairing Of:

Synergetics *dfctl* at Sec. 12J9.2O, galley

Priffil FWer Inherency * Constant Relative Abundance?

"Structural systems are always special case operational realizations in which there is a constant relative abundance of all the topological and system characteristics with the only variable being a quantity multiplier consisting of one of the first four prime numbers--- 1, 2, 3, and 5--- or an intermultiplied plurality of the same first four prime numbers.

- Cite SYNERGETICS, 2nd. Ed. at Sec. 10?2.10, 2? Dec'74

£rlac Humr Inherency uf Structure! SyattM- Prlnslsla Q£-

"What I have discovered is that: the number of vertexes of every omnitriangulated symmetrical structural system is always rationally accountable as 2 (polar vertexes of the neutral axis of spin) plus the product of 2 multiplied by one of the first four primes (1, 2, 3, or 5) times frequency to the second power; and the number of triangular faces will always be two times, and the number of edges three times the number of nonpolar vertexes.

"This is the principle of prime number inherency and constant relative abundance of the topological characteristics of structural systems."

- Cite RBF Ltr. to Dr. Robt. W. Horne, p.2. 14 Feb'66; as rewritten by RBF Feb'72

Prime Number Inherency of Structural Systems: Principle of;

"Omnitriangulated symmetric systems are polyhedra whose vertexes derive from the external set of the closest packing of spheres and are rationally accountable in terms of the first four prime numbers (N), that is 1 or 2, or 3, or 5.

Equation: $I = 2N(F^2) + 2$

where: X = number of crossings, vertexes, or spheres in the outer layer or shell of any symmetrical system

N = one of the first four prime* numbers: 1, 2, 3, or 5 F = edge frequency, i.e., the number of outer layer edge modules.

- Cite SYNERGETICS Draft, March 1971 (Rev)

RBF DEFINITIONS

Prime Number Inherency of Structural Systems: Principle Of:

"What I have discovered is that: the number of vertexes of every omnitriangulated symmetrical system is always 2 (polar vertexes of the neutral axis of spin) plus the product of 2 multiplied by one of the first four primes (1, 2, 3, or 5) times frequency to the second power; and the number of triangular faces will always be two times, and the number of edges three times the number of nonpolar vertexes."

- Cite RBF Ltr. to Dr. Robert V. Horne, 14 Feb*66, p.2.

Prime Number Inherency and Constant Relative Abundance of Structural Systems: Principle Of:

"The precessionally regenerative concentricity of structure is entropic and evolves toward optimally economic local compressibility and symmetry.

"This principle of an omni-optimally-economic, omnitriangulated point system, symmetry relationships and relative abundance of frequency-modulated multiplicative subdivision of unitary local systems; i.e., M (mass) means: All the Universe's self-interfering

complexes having concentrically self-precessing, local-focal-holding patterns resulting in locally regenerative constellar associabilities as positive-outside-in structures. C^2 (radiation) means: All the Universe's nonself-interfering complexes having eccentrically interprecessing, omnidirectionally diffusing patterns resulting in comprehensively degenerative negative limits of dissociabilities as negative (inside-out) de-structures."

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p.126, 1959
Prime Number Inherency & Constant Relative Abundance Table:

"The table of synergetics hierarchy (223.64) makes it possible for us to dispense with the areas and lines of Euler's topological accounting and provide a definitive description of all omnitranslated polyhedral systems exclusively in terms of points and prime numbers."

- Cite RBF to WA, 3200 Idaho, Wash., DC., 26 May '75

Prime Number Inherency and Constant Relative Abundance of the Topology of Symmetrical Structural Systems: Principle Of:

Synergetics, Sec. 223

Prime Number Inherency & Constant Relative Abundance of (D

The Topology of Symmetrical Structural Systems: Principle Of:

See Vertexial Topology

Shell Growth Rate

Equation; Omnidirectional Closest Packing Of
Spheres

Prime Number Inherency & Constant Relative Abundance of (2)
The Topology of Symmetrical Structural Systems: Principle Of:

See Ten, 22 Jun '75

Vector Equilibrium: Unarticulated VE, 2 Nov '73

See Quantum Mechanics: Minimum Geometrical Fourneas (4) Tria-
contrahedron: Great Circles Of, 27 Apr*77

Primo ^Nuntbsr Cpnaeqvancea of ?pin-hairing, of Totrahcflron'a Volu-
metric Domain Unity:

Table 81033.192

Prime Number:

(1)

See Low Order Prime Numbers One as a Prime One as Not a Prime
Primacy Primitive Scheherazade Numbers SSRCD Trigonometric Limit

Mm Mien

(2)

See Baelc Event, 7 Mar'71*

Cube, (1)

Dieparate, 22 Mar'73

Frequency, Jun'66*

Modulo 10, 26 Sep'73

Octant, 20 Jul'73

XIZ Quadrant at Center of Octahedron, U May»75

Human Beinge 4c Complex Unlveree, (7)*

Prim Qnc?

"Unity is plural and at minimum two. There is but it is one-half of
unity*"

" Citation at Unity Is Plural, 26 Jan*72

Prlaa On«8

See One as a Prine

"Prime otherness demands identification of the other's--- initially nebulous-**- entity integrity, which entity and subentities' integrities first attain cognisable self-inter- patterning stabilization, ergo, discrete considerability, only at the tetrahedron stage of generalizable entity interrelationships. Resolvability and constituent enumerability, and systematic interrelationship cognition of entity regeneration presence, can be discovered only operationally. (See Secs. 411, 411.10, 411.20, and 411.30.) After the four-ball structural interpatterning stability occurs, and a fifth ball comes along and, pulled by mass attraction, rolls into a three-ball nest, and there are now two tetrahedra bonded face-to-face."

Prllfg Otiwrnwa:

- prime otherness wa flrat hypothetically diacovered In the early 1920'a and was Identified by the term 'fundamental complementarity'*¹

"Prime otherneaa haa been experimentally evidenced in 1956 when the Nobel prize waa given for the proof that the complemenerlea were inherently dissimilar, non-mirror-imaged systems. For Instance, proton and neutron always and only coexist; they are interchangeable but have different masses and other dissimilar characteristics.

"The limit case of prime otherness la that of the point and the no-points; the events and the novents. Numerically, one vs.zero. Because it is the limit case it is prime. Zero is prime otherness.**

- Cite ABF to EJA, 3200 Idaho, Wash DC, 23 Sep'73

See Plural Otherness Past Otherness Present Otherness Single Otherness Future Otherness

25 Sep»73

(A)

See Intereffects,

Environment,

RBF DEFINITIONS

Prime Rational Integer Characteristics;

"The frequencies of systems modify their prime rational integer characteristics."

- Cxte SINEKGERICS Draft at Sec 223.41, Feb »72

IW flatly*A JnfKTp:

"Other characteristics of systems: Prime rational integer characteristics: Electromagnetic frequencies of systems are sometimes complex but always exist in complementation of gravitational forces to constitute the prime rational integer characteristics of physical systems.

"Systems may be symmetrical or asymmetrical.

"Systems are domains of volumes. Systems can have nuclei, and prime volumes cannot."

- Cite SYNERGETICS text at Secs. 400.50-.51-.52; partly from NASA Speech, p.91; last rewrite, 28 May'72

Prime Rational Integer Characteristics:

"Electromagnetic Frequencies of systems are sometimes complex but always constitute the prime rational integer characteristic of physical systems."

- Cite SYNERGETICS text at Sec. 515.32; from NASA Speech (p.91) Jun'66

!» <.. Batloyl Tnt,...r Characterlatlcat

See Rational Whole Hunbera Single Integer Dirrarantlala Geometry & Number

Prim MfclgmX .Xantir,
See Frequency, 17 Nov*72
Physical, Jun'66
(2)
Pjlgfi. Stat»i

"The systems as described in Colifps 1 through 9 are in the prime state of conceptuality independent of size: metaphysical. Sixe is physical and is manifest by frequency of length, area, volume, and time. Size is manifest in the four variables of relative length, area, volume, and time; these are all four expressible in terms of frequency. Frequency is operationally realized modular subdivision of the system enclosure."

- Cite SYNERGETICS Table of tooogical hierarchies.
Sec. 223.65 21 Mar'73

"Thera are three types of omnitriangular, symmetrical structural systems. We can have three triangles around each vertex; a tetrahedron. Or we can have four triangles around each vertex; the octahedron. Finally we can have five triangles around each vertex; the icosahedron.

"The tetrahedron, octahedron, and icosahedron are made up, respectively, of one, two, and five pairs of positively and negatively functioning open triangles.

"We cannot have six symmetrical or equiangular triangles around each vertex because the angles add up to 360 degrees--- thus forming an infinite edgeless plane. The system with six equiangular triangles 'flat out* around each vertex never comes back upon itself. It can have no withinness or without ness. It cannot be constructed with pairs of positively and negatively functioning open triangles. In order to have a system, it must return upon itself in all directions."

- Cite SYNERGETICS text at Secs. 610.21-.22-.23; second printing; 3
Nov*75

Primg Structural Sygyepig: (1)

"The domain of the tetrahedron is the tetrahedron as defined by four spheres in a tetrahedral, omni-embracing, closest- packed tangency network. The domain of an octahedron is an octahedron as defined by six spheres closest packed octahedrally. The domain of an icosahedron is an icosahedron as defined by 12 spheres closest packed without a nucleus. All of the three foregoing non-nuclear-containing domains of the tetrahedron, octahedron, and icosahedron are defined by superficially omnitriangulated closest packing of the four spheres, six spheres, and 12 spheres, respectively, which we have defined elsewhere as omnitriangulated systems or as prime structural systems. There are no other symmetrical non-nuclear-containing domains of closest-packed volumeembracing agglomerations.

"While other total closest-packed-sphere enbracements, or agglomerations, may be symmetrical or superficially asymmetrical in the form of crocodiles, alligators, pears, or billiard balls, they constitute complex associations of prime structural systems. Only the tetrahedral, octahedral, and icosahedral domains are basic structural systems without nuclei."

- Cite RBF marginalia at Synergetics draft "Omnitopology," July '71 See Sections 1010.10+11+12, Apr. '72

Prime Structural Systems: (2)

' • All the Platonic polyhedra and many other more complex multidimensional symmetries of sphere groupings can occur. Non of them can occur as a consequence of closest packed spheres having no nucleus."

- Cite RBF marginalia at Synergetics draft "Omnitopology," July '71 See Sections 1010.10+11+12, Apr '72

MWMMi Prime Structural Systems: "The tetrahedron, octahedron and Icosahedron are prime structural systems: there are no other symmetrical non-nuclear domains in closest packed agglomerations. • , . Their domains are defined by superficial omnitriangulation of 4, 6 and 12. The domain of a tetrahedron is a tetrahedron. The domain, of an octahedron is six spheres closest packed octahedrally. The domain of an icosahedron is an icosahedron and is defined by the closest packing of twelve spheres without a nucleus.*

- Cite KBF to EJA, Fairfield, Conn.. Ches rfol. 1B June 1971.

Prime Structural Systems:

"Only the tetrahedron, octahedron and icosahedron are prime structural systems which can be arrived at in structural stability without a nucleus. All the Platonic "solids" and many more complex regular polyhedra are stable structural systems, but they all have a nucleus."

- Cite RBF to EJA, Fairfield, Conn., Ches Wolf. 18 June 1971.

Erlw structwl Sys:

"there are only three possible cases of fundamental

omni-symmetrical. omni-triangulated, least effort structural systems in nature: the tetrahedron with three triangles at each vertex, the octahedron with four triangles at each vertex, and the icosahedron with five triangles at each

vertex."

Cite SYNERGETICS ILLUSTRATIONS - # 7, 1967

"A structure divides Universe into two main parts--- all the Universe that is inside and all the rest Of the Universe which is outside of the structural system. We find that there are only three types of fundamental omnitriangular, symmetrical structural systems. We can have three triangles around each vertex of a symmetrical

structure; this makes a regular tetrahedron. Or we can have four triangles around each vertex; this makes the regular octahedron. Finally we can have five triangles around each vertex which makes the icosahedron. The tetrahedron, Octahedron, and icosahedron, are made up respectively of one, two, and five pairs of positively and negatively functioning open triangles. We cannot have six symmetrical or equilateral triangles around each vertex because the angles add up to 360° --- thus forming an infinite edgeless plane. The structural system with six equilaterals around each vertex never comes back upon itself. It can have no withinness and withoutness. It cannot be constructed with pairs of positive-negative function open triangles. In order to have a structural system it must return upon itself in all directions. If the system's openings are all triangulated it is structured with minimum

- Cite Mexico '63, p. 27. 10 Oct'63

"There are only three possible omnisymmetrical, omnitriangulated least effort structural systems in nature, they are the tetrahedron, octahedron, and icosahedron. When their edges are all equal in length, the volumes of these three structure are respectively: one; four and 18.51."

(Last word substituted.)

- Cite Mexico '63, p. 27. 10 Oct*63

rrXac Strwrtwrftl Smspp:

"We find there are only three possible ottni triangulated systems that subdivide Universe. There are the three faces around one vertex which is the tetrahedron; the four faces around one vertex which is the octahedron; and the five faces around one vertex which is the Icosahedron,

"You can't have six because it would be flat and would not close back on itself to close the system, It would be neither concave nor convex. We have the positive and negative condition of these three things. Remember that you cannot have a polygon of less than three sides. So the triangle is minimum polygon; it is the only polygon that is inherently stable. We have learned that the triangle stabilizes itself with minimum effort, so we learn that triangulated systems are the systems of the least effort. If they are equilateral triangles then all the system is of equal effort in all directions... so that there are only three possible cases: tetrahedron, octahedron, and icosahedron.¹⁵¹ `` Exploring experimentally, synergetics finds the tetrahedron, whose volume is one-third that of the cube, to be the prime structural system of Universe: prime structure because stabilised exclusively by triangles that are experimentally demonstrable as being the only self-stabilising polygons: and finally, because accomplishing the subdivision of all universe into an Interior microcosm and an external microcosm and doing so structurally with only the minimum four vertices topologically defining the insideness and outness.

- Cite SYNERGETICS draft at Sec 223.73, 26 Sep'73

Prime Structural Systems:

"Of the three fundamental structures (tetrahedron, octahedron, and icosahedron) the tetrahedron contains the least volume with the most surface and is therefore the strongest structure per unit of volume."

- Cite Manio 63,

* - Citation at Tetrahedron, 10 Oct'63

51 Cite Oregon Lecture #7, p.249, 11 Jul'62

"Light (as typical wave frequency group) obstruction is greatest where structural components converge (grid photostats show this as stars at convergent points). A multi-axial or dynamical system cannot have only two triangles ground one vertex. It can have three, four, or five equilateral triangles, but cannot have six or more equilateral triangles in a finite system."

(Above extract is in the context of a discussion of radomes)

29 Dec*58

- Cite Rescript "Definitions by RBF,"

Context at Radome Sequence (1)

Synergetics - Sec. 1011.30 "Prime Tetra, Octa and Icosa."

Synergetics - Sec. 724 "Three and Only Basic Structures"

Synergetics - Sec. 610.20 "Omnitriangular Symmetry; Three Prime Structural Systems"

Synergetics - Sec. 532.40 "Three Basic Omnisymmetrical Systems"

Synergetics - Sec. 612.00 "Subtriangulation: Icosahedron"

Synergetics - Sec. 1010.20 "Nonnuclear Prime Structural Systems."

Synergetics - Sec. 1031.10 "Dynamic Symmetry. (Esp, 1031.13) Synergetics - Sec. 611.00

Synergetics - Sec. 905.13

²²3-73 .251.19

982.02-982.06 .937.14

,²²²_20 .1074.10-1074.13

See Icosahedron

Octahedron Tetrahedron

Primary Structure Prime Volumes Tensegrity: Basic Tensegrity Structures: Three

and Only

Prime Minimum System

Domains of Tetra, Octa A Icosa

Tetra, Oct & Icosa

See Cycle, 10 Feb'73; 1955

Least Effort, 1967

PattemStrip Aggregate Wrapabilities, 19 Dec'73

Radome Sequence (1)*

Sphere. 25 Feb ` 74

Planck'8 Constant (A)

Tetrahedron, 5 Mar'73; 10 Oct'63*

Z Cobras, 6 Nov'73

Subfrequency, 1? Feb*73» 23 Aug'71

Physics: Difference Between Physics k Chemistry, 31 May ` 71

Frequency, Jun'66

Dyanamic Symmetry, (2)

Octahedron Model of Doubleness of Unity, (1)(2)

Quantum Sequence, (2)(5)

Stable k Unstable Structures, k Jun'72

Icosahedron: Subtriangulation, 9 Nov'73

PrIM Svatom:

<1)

See Minimum System Primary Systems Prime Nucleated System

"Prime thinkability is inherently systemic. Prime epistemology is generalised thinkability. Epistemology discovers intuition.

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1071.26, 26 Dec'74

Pripw ThinXftbUlw

' 'Systematic Character of Prime Thinkability."

- Cite section caption in SYNERGETICS. 2nd, Ed., at Sec, 1071.00 20 Dec*74

HBF DEFINITIONS

"All structural accounting of nature is accomplished with rational quantities of tetrahedra. The ITZ coordinates may be employed to describe the arrangements, but only in awkward irrationality because the edge of the cuGe is Inherently irrational in rtspect to the cube's facial diagonal. The hypotenuses actually function only as the edges of the positive and negative tetrahedra which alone permit the cube to exist as a structure. The hypotenuses connect the sphere centers at the cube corners; they function concurrently and simulatane- ously as the natural structuring of the tetrahedra edges in the omnidirectional isotropic vector matrix; as either hypotenuse or tetra edge they are prime vectors-"

"Of the eight corners of the cube only four coincide with the sphere centers of closest-paeked, unit-radius spheres; therefore only the cube's facial diagonals can interconnect closest packed spheres. One closed set of six cube fhce diagonals can only interconnect four sphere centers corners of the prime tetrahedron which alone provides the structural stability of the cube, whose eight-cornered, structural stability completeness requires the saturation of the alternate set of six diagonals*

- Cite SINEKGERlCb, 2nd. Ed., at Secs. 540.11 +.12, 1y Hov'74
rrtJW^v<Ctgr- 12)

"in each of the cube's six faces, which alternate set of six diagonals intertriangulates the other four sphere centers of the cube's eight corners. The cube diagonals and the edges of the tetrahedra structuring the cube are two aspects of the same phenomenon. The tetra-edge, cube-face diagonals connecting the two sets of four corners each of the cube's total of eight corners are the prime vectors of the vector equilibrium and the isotropic vector matrix.

"The second power of the length of the prime vector that constitutes the diagonal of the cube's face equals the sum of the second powers of any two edges of the cube. Because these two edges converge at the cube's corners to form one standing wave which may be multifrequenced to apparently coincide with the cube's facial diagonal, we discover that this relationship is what we are talking about in the deliberately nonstraight line. It is the same mathematical relationship demonstrated in the ancients' proof of the Pythagorean theorem, wherein the square of the hypotenuse is proven to be equal to the sum of the squares of the triangle's two legs. Thus the deliberately nonstraight line displays an evolutionary transformation from" coincidence with the two sides of the parallelogram to "

- Cite SYNERGETICS, 2nd. Ed. at Secs. 540.12 +.13, 19 Nov»74
ElF? vector- (3)

"coincidence with the seemingly straight, wavelinear diagonal of the parallelogram.

"Prime vector may be considered variously as

- the axis of intertangency (Secs. 521.21 & 537.22);
- the control line of nature (Sec. 982.21);

- the deliberately nonstraight line (Sec. 522);
- the diagonal of the cube (Sec. 463);
- half vectors (Sec. 537.21):
- the hypotenuse (Sec. 825.26);
- the internuclear vector modulus (Sec. 240.40);
- the line between two sphere centers (Sec. 537.21);
- linear menfoj'ation unity (Sec, 982,51);
- the radial line (Sec. 537.21);
- the tetra edge (Sec. 982.51); or
- unit radius (Sec. 1106.23).

- Cite SYNERGETICS, 2nd. Ed. at Secs. 540.13 +.U, 19 Hov»74
 Erl aft. .YfigtPXi

"Of the eight corners of the cube only four are sphere centers; therefore only cube diagonals can connect spheres.

"The diagonals of the cube which connect sphere centers coincide with the tetra edges of the two tetrahedra that structure the cube* They are two aspects of the sane thing.

"The tetra edge connecting the two cube corners that are sphere centers is the prime vector--- just another aspect of the radial line connecting any two tangent sphere centers.

"This is what I am talking about in the Deliberately Nonstraight Line. It is what the ancients were talking about in the Pythagorean Theorem: the square of the hypotenuse equals the sum of the squares of the two legs."

- Cite RBF to EJA by telephone from Pacific Palisades, CA, 20 Jul*74

See Axis of Intertangency Control Line of Nature Cube: Diagonal Of Deliberately Nonstraight Line Hypotenuse Internuclear Vector Modulus Line of Interrelationship Line Between Two Sphere Centers Mensural Unity Pythagorean Theorem Radial Line as Tetra Edge Synergetics Constant Tetra Edge Vector: Half Vectors Vector: One-second Vector Length Radial Unity Unit: Unity Unit Radius: Unit Vector Radius

PrIM V0Ct9F:

(2)

See T Quanta Module, (1)

"The 25 great circles of the vector Equilibrium all go through the prime vertexes."

- Citation & context at Seven Axes of Symmetry. 16 Aug'70

Prime Volumes:

"A prime volume has unique domains but does not have a nucleus.

"A prime volume is different from a generalised regenerative system. Generalized regenerative systems have nuclei; generalized prime volumes do not.

"There are only three prime volumes: tetrahedron, octahedron, and icosahedron. Prime volumes are characterized exclusively by external structural stability,"

(Sec. 1010.01-.03)

- Cite SYNERGETICS text at Sec.a 1010.01-.02-.0j; 17 Feb»73

"A prime volume is different from a system. Systems have nuclei and prime volumes do not. There are only three prime volumes: tetrahedron, octahedron, and icosahedron. Prime volumes are characterized exclusively by external structural stability."

1010.62 AffT'l

- Cite SYNERGETICS text, at Sec. 3.1.1

"A prime volume is different from a system. Systems can have nuclei and prime volumes cannot. There are only three prime volumes: tetrahedron, octahedron and icosahedron. They have to have exclusively external structural stability to be prime volumes."

Uit Synergetics draft, Sec. 0.1, August 1971.

"Systems can have nuclei and prime volumes cannot.

there are only three prime Volumes."

/~EJA comment: Tetrahedron, Octahedron and Icosahedron.

- Cite RBF to EIA, Fairfield, Conn., Chex Wolf. 18 June 1971.

Heo.o)

RBF DEFINITIONS

Prime Volumes:

"Systems can have nuclei and prime volumes cannot.

There are only three prime volumes."

- Cite RBF to EJA, Fairfield, Conn., Chez Wolf, 13 Jun 1971

See Prime Enclosure

Spheric Domain

Tensegrity: Basic Tensegrity Structures: Three 4

Only

Three 4 Only Structural Systems in Nature

System vs. Prime Volume

frim Vglmnqg;

(2)

See Prime Domain, 26 Dec'73

Domain & Quantum, (1)(2) Prime Rational Integers, 28 May*72

See Between: Vector Equilibrium as Prime Between-neas Model

Conceivable Entity - Prime Limit

Primacy Primitive

Vector Equilibrium as Prime Nucleated System Tetrahedron aa Prime
Nonnucleated Structural System

See Complex, 17 Feb*73

Originality, Apr'71

Subfrequency. 23 Aug'71*

Vector Equilibrium, 15 May'73

System, 27 May'72

Basic Nestable Configurations: Hierarchy Of, 29 May'72

See Prime Awareness

Prime Conceptuality

Prime Contractors

Prime Convergence

Prime Definition

Prime Design

Prime Dichotomy

Prime Domain

Prime Enclosure

Prime Hierarchy of Symmetric Polyhedra

Prime Interrelationships

Prime Invention

Prime Nucleated System

Prime Nucleus

Prime Number Inherency of Structural Systems:

Principle Of

Prime Number

Prime Numbers: Pairing Of

Prime Numbers: First Four Primes

See Prime One

Prime Otherness

Prime Rational Integer Characteristics

Prime State

Prime Structural Systems

Prime System

Prime Vector

Prime Volumes

Prime Vertex

Prime Epistemology

Prime Thinkability

Prime Generation

Prime Minimum System

PrimtlYo:

"Priirftive is what you conceptualize slzelessly without wordA Prim-
itive has nothing to do with Russian or English or any special case
language. My original 4-D, convergent- divergent, vector equilibrium
conceptualising of 1927-28

was primitive /X? Bow Tie: the symbol of Intertrans- formative equiv-
alence as well as of complementarity:



convergence

divergence



Also the symbol of syntropy-entropy
and of wave and octave

-4, -3, -2, -1,

+1, +2, +3, +4”

- Cite RBF rewrite of 19 Jul*76; incorproated in Synergetics, 2nd. Ed. at Sec.
1033.453

primitive:

"Primitive is what you say without words. . • it has nothing to do with
Russian or English. Like the triangular grid in "4-D." Frequency: Hex:
In, out and around."

- Cite RBF to EJA, 3200 Idaho, Wash, DC; 10 Jul'76

Primitive:

"We may use the word 'primitive' to describe the initial self-starting
condition of divergence.... Thus the primitive is quite different from
the 'fundamental particles' game of the high-energy research physi-
cists."

- Citation & context at Starting with Divergence. 19 Feb'76

Frlnltlyfl:

"Primitive is principle end not a special case.

(virgin soil - primitive.) Virginity is an aspect of primitive. There can't
be any special case

vrgins; virignity is prefrequency."

- Cite RBF to EJA, 3200 Idaho, 18 Dec*74

PrlaltlYc;

"Prlnitive aeana a priori, rather than priae."

- Cite RBF to EJA, Waldorf Astoria, 10 Jan¹74

Primitive Dimensionality;

"Primitive dimensionality is systemic. You could not point to something that is less than a system. The points are the ins. What is non-point-to-able is simply the untuned. This primitive way of looking at things affords prime intertransformable magnitude independent of size."

- Cite RBF to EJA, by telephone from Jim Fitzgibbon's in St. Louis; 1 Mar'76

Primitive Experience:

See Prime Number, 16 Feb'7B

See Fourfold Twoness

Minimum of Four Tetrahedra Minimum Tetrahedron Tetrahedral Minimum

See Number: Cosmically Absolute Numbers, 5 Nar'73

System, 26 Dec*74

Cosmic Hierarchy, 2J Jan¹77

FriBltlYo vs. rnmncy;

Sse Synergetics: Ivolutlon Of, 14 Oct*76

See Cosmic Hierarchy

Geometric Hierarchy

Primitive Geometric Conceptuality;

See Tetrahedron as Conceptual Model, 28 Jan'73

See Quanta Loss by Congruence, (2)

Six Motion Freedoms & Degrees of Freedom, 11 Aug'77; (A)(B)

Synergetics, 17 Oct'77

See Quanta Loss by Congruence, (3)

PrlJil.UYe RgKflngmign;

"Prine primitive. Primitive ie generalized principle and not a special case. Virgin - primitive, 'Virgin soil* - special case. Virgin female human • special case, only because of the 'human* case realization. Virginity is a generalised aspect of primitive. There can be no special case generalized virgins. Virginity is not only prefrequency, it is pretime, pre-special-case, and pre-experienceable dimension.

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1076.10, 27 Dec¹74

Pritaltlve Regeneration:

See Conceptual Geneels Life's Original Event

See Conceptuality Independent of Slie Conceptuality Independent of Site &, Time Initial: Initiating Prefrequency Primacy Prime Prime Number Tetrahedron ae Primitively Central to Life Virgin • Primitive Potential va. Primitive

See Octave Wave, 5 Mar'73

Models, 9 Jan'74

Tetrahedron, 5 Mar'73

Time, (1)

Universal Integrity: Second-power Congruence of Gravitational <Sc liadiational Constants, 9 Jan'74

System, 26 Dec'74

Starting with Divergence, 19 Feb'76

Tunability, 24 Apr'76

Minimum of Four Tetrahedra, 22 Feb'77

Cosmic Hierarchy, 23 Jan'77

Generalization Special Case, 23 Jan'77

Energetic Functions, 8 Aug'77

See Primitive Fourness

Primitive Geometric Conceptuality Primitive Dimensionality Primitive Regeneration

Primitive vs. Frequency

Primitive Hierarchy

Primitive Inventory Primitive Experience

PrlnordIU:

"One physicist remarked recently, 'I am tiring of the nonsense legend Which finds one end of Universe closed, By a required beginning event And the other end open to infinity.' The concept of primordial--- Meaning before the days of order--- Which imply an a priori, Absolute disorder, chaos, a beginning (•The primordial ooze-gooze explosion¹) Is now scientifically invalidated, passe."

- Cite BKAIN AND MIND, p.1\$6 May ` 72

Primordial;

"The idea of anything primordial could not exist.

There could not be anything prior to order, Man is disorderly only in his ignorance."

- Cite RBF to SIMS Seminar, U. Mass., Amherst, 22 July 1971.

"All the scientific talk of probabilities is asinine.

Ther is no probability about mass attraction. They all want primordial soup, out of which improbable selection would begin. But the LAWS were always there."

- cat* fBT 111 tt.TF, RTjyJl Grill, NX SlipV

- Citation at Probability, 14 Sep'71

See Chaos

Life's Original Event Orderliness Operative in Mature

Soo Probability t 14 Sop*71*

Principle:

"Principles can be realised independent of site.

- Citation & context at Proofs. 7 Oct*75

Principle-

"The principles are the only reality. They are so absolute that you can taste them. The physical aberration is always in our perceptioning but it is not the reality."

- Cite RBF to EJA and BO'R, 3200 Idaho, Wash., D.C., 6 Apr'75

PTInglPlfifl

Q: How did you come to know what you know?

RBF: I intuited principles. I don't know whether I

discovered principles, as such, or not. You should say: How did we happen? and I don't know."

- Cite RBF videotaping session Philadelphia, Pa. 1 Feb'75

Principlei (i)

"I've worked very hard on my audiences to make sure that they understand that it's only the human mind that is able to discover those eternal principles that are operative, governing the eternal regeneration of the Universe. Humans are here for functioning in a special capability of reference to the eternal laws. When you have something as complex in design as the Boeing 747 you have to have all those

instruments up forward and every once in a while the instruments tell the pilot that they're non functioning— or they're not saying anything. It tells the pilot he's got to take over now himself, not to rely any more on automatic and only by direct access to the principles of the Universe can he possibly save his ship.

"The Universe must be a problem of design of eternal regeneration, a design that makes the Boeing 747 look like a toothpick in simplicity compared to the complexity of eternally regenerative Universe. There must be some local things that go on as there would be in the Boeing 747, where you find out where the stresses are, or where the heat is: something you've got to attend to. You need a local monitor on some part of the Universe... and that's what we're here for.

- Cite tape transcript RBF to W.. Wolf, Cloicester, Mass., p.13, 2 Jun'74

"The one thing common to all lives everywhere— regardless of differences in size, or ethnics— the one thing common is that we're here with this beautiful mind with access to principles to solve problems by principles not by force.

We're born as force; we're born as physical. But mind is our great function here. Our relationship to Universe is completely abstract.

"We find then humanity is still in a bind with all the politics, all the big business, all the organization, all for the power structure... who's got the biggest gun? And I say, if we're going to stay here it's so we can actually graduate in our function. This is a priori."

- Cite tape transcript, RBF to W. Wolf, Gloucester. Mass., p.13, 2 Jun'74

Principle:

"All principles are omniembracing, omnipermeative, omni synerget i
c."

- Citation and context at Ecology Sequence (F), 5 Jun*73

Principle:

"The principle is more of a reality than the qualities they produce. The teacher knew that Euclid's planes and lines didn't exist."

- - Cite KBF to EJA, 3200 Idaho, DC, 22 Feb'72

Prin.clpJj:

"Principles governing all the atonic behaviors that associate triangularly and tetrahedrally with the 12 degrees of freedom all are eternal design evolution, such as must include the complex of potential, symmetrical and asymmetrical limited, pulsative regeneration, all of which are ideally conceivable, as is experimentally manifest in synergetics and in my explorations of the idealistic ramifications,"

(Rewritten as Nucleated Systems. 15 Feb*?2.)

- Cite RBF marginalis in Eccles' "Facing Reality," p.3, 3200 Idaho, Wash DC, 14 Feb'72

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PT1R£1P1«

"There can't be a principle that has a 'beginning' and an 'ending.' We cannot suggest that an abstraction could have a beginning and an end. The words 'beginning' and 'end' have to do with the physical."

- Citation and context at Gearaliration Sequence (3), Jun-Jul'69

Principle:

"Principles do not begin and end. Experiences do.

- Cite RBF to Hugh Kenner, Santa Barbara, Dec'67

Principle:

"...The pure principles were general!table and of no weight at all. The principles were always there and the generalisable had nothing to do with the special case. The generalisable was always present in the special case, but it had nothing to do with the avoidupois, for it is not weighable. Mathematics weighs nothing and this is mathematics, It is a mathematical correspondence

- Citation and context at Orderliness Operative in Nature.
(1)(2), 9 Jul*62

Principle:

"By the word principle I mean those generally describable behaviors of local frequency and angle patternings subsidiary to obviously more comprehensive and universally integrative patternings; despite that the local patternings wavelengths are infra or ultra to our sensorial tunabilities, wherefore these infra and ultra sensorial wave frequency and angle complexes are apprehendible and comprehensible only through relayed step-up or step-down transformations of the pattern as a generalizably recognizable pattern behavior as it consistently displaces locally cooperating frequency patternings of lesser or greater wavelengths, e.g., ... the outwardly 'moving wave in water is a pattern comprehensibility by a plurality of reported patternings of local displacements of locally operative pattern relaying as water molecules of waves go in and out from the center of the Earth."

- RBF holograph, 12 Jun'56
Principle:

"... Magnitude vanishes; only principles endure.* The fantastic, being of purely superficial magnitude vanishes in the face of principle."

- Cite TOTAL THINKING, I&I, p.226, May'49
Principle

"...In comprehensive Universe, dimension drops out and conceptual principle remains. Physical interferences of our sensibilities are alike true and real, or realizable only in principle. Positive and negative cancel as the principle zero."

- Citation and context at Reciprocity (3), May'49

Principle va. Aberration:

See Man as a Function of Universe, 21 Jan'75

See Generalization of Generalizations Synergy of Synergies

See Aggregates of Principles Antientropic Ordering Principles Blind
Date with Principle Equatability of Generalised Principles Generalised
Principle Industrial Principle Interference of Principles Inventory of
Principles Inventory of Charai. "Dynamics of Principles Lag Rates of
Principles Objective Employment of Principles Organizing Principle
Pure Principle Reciprocal Involvement of Experiences & Principles
Reciprocal Patterning of Principles Reality as Structural Interaction
of Principles Resource vs. Principle Self-organizing Principle

See Synergetics Principles Undiscovered Principles Schematic of the
Principles Interoperativeness Omninteraccommodative Fantasy vs.
Principle Experiences & Principles bull. Cf. >nrnra AHnpfclrm nf Onhw
Individual & Group Principle Bundle of Principles Mutual Survival Prin-
ciples

See Anticipatory, 3 Nov'64

Antientropy. 20 Jun'66

Artifacts (i)(2)

Ecology Sequence (F)*

Generalization Sequence (3)*

Orderliness Operative in Nature, 9 Jul'6?*

Reciprocity (3)*

Word, May'49

Chess: A Priori Intellect Invents a Game Called

"Life" (1)(2)

Adam 4c Eve, 2 Jun'74

Fantastic, May'49

Airplane, Fay'49

Prrofs, 7 Oct'75*

See Benday Screen

See Rolls, 20 Apr'72 Publishing, 30 Jan'75 Resolvability Limits, 30 Apr*77

See Antlpriorltles

Frtorttr Irlaciilsa'

(2)

See Ship, (3)

Prisa:

"A prism can twist to becoming two tetrahedra by

precessing until the legs cross in the middle* Interconnect the corners
and you have the octahedron."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

£riaan=

(i

See Inventions that Decrease the Degrees of Freedom

See Teleology, 20 Jun'66

Priatine: Prietinity:

See Intuition of the Child, (4) Nuclear Uniqueneeee, 18 Feb'73

Privacy:

"Get yourself the tools and ways of enclosing enormous amounts of space, and make It possible for large numbers of human beings to come together under more preferred conditions than have ever before come together* Then give them large clear spaces so that their privacy results from having sufficient distance between people or groups of people. Get over the idea of partitions. Partitions are like socialism. They came out of living and working in fortresses where there wasn't enough room to go around, so they put up partitions--- really making cells. Partitions simply say you shall not pass. That's all they do. They are improvised to make thqt which is fundamentally inadequate work 'after a fashion,'

"There are four kinds of privacy: if I can't touch you, we're tactilely private; if I can't smell you, we're olfactorily private; if I can't hear you, we're aurally private; and if I can't see you, we're visually private. Just a little space will take care of the first three. For the fourth--- since we can see a great distance--- all we need are delicate occulting membranes, possibly rose bushes or soap bubbles or smoke screens

- Cite EDUCATION AUTOMATION, pp.83-84, 22 Apr'61

See Introversion vs. Extraversion Proximity / Neighborliness Proximity 4 Remoteness

See Done, J Jan'71

Old Man River Project, 20 Sep*76

C casualty ProxamicB Hearable You Touchable You Smallable You

Sea Walla, 29 Jan'75

"Auto » i Motoring Highway - i " "

"During the last twenty years while automobile companies produced and sold \$220 billion worth of autos the government spent \$200 billion on roads.

Private enterprise¹ is a dependent function. It is subsidized self-deceit."

- Cite RBF Holograph, Delos Conference, 1971.

"This is a powerful trend. Private enterprise is taking the Initiative entirely away from politics. Politics lingers in the twilight of geographical islands. Enterprise operates transcendently to such limits. Major enterprise is inherently bound by Universe alone..."

- Citation and context at World Corporations. 9 May '57

Private Enterprise:

See Capitalism Corporation Enterprise Free Enterprise

"Property Rights will stop because they are simply nonexistent!"

- Cite RBF to SIHS > seminar, U. Mass., Amherst, 22 July 1971.

Private Property:

"Look for the obsolescence of Acquisitions and Possessions. Ownership will become progressively onerous because it imposes undesirable local restraints and frustrates realization of world citizenship which is progressively accommodated by the service industries' ever higher performing rentable facilities."•

Cite Dreyfuss Preface, "Decease of Meaninz." 28 April 1971, p. 15

"Private Ownership is going to go, not by political revolution, but because it becomes obsolete, onerous. Our young people are going to want to live around the world, and it just isn't possible to carry 'all that stuff' with them. So we will take all of the beautiful things out of the museums, rebuild Babylon, rebuild Egypt, and spend a week in Egypt living the way the people lived. We will call our dwelling rental service, tell them what we want, and it will be ready for us when we arrive."

- Cite THE FUTURE OF THE FAi-JLY, undated, p. 8
See Capitalism

False Property Illusion

Obsolete: Inventory of Obsolete Concepts Possession

Mine: That's Mine

Property

Real Estate Development

Tollgate: Private Tollgate Yesterday's Private Castle Mentality

Prise;

See Enterprise, 1963

hWblllw

"Probability ia mathematically proven and useful but, aa its name states, it is far from, incisive prediction. It is a tool but a weak tool. If you want to cross the Atlantic to a given port, probability per se won't you there. It can only say that your chances of getting there are such and such a bet--- as

'48 to I¹. Probability says any easterly direction is more favorable than a westerly, but a westerly could probably get you there. But probability would not tell you anything useful about the rocks or continents that night intervene. 'There will probably be rocks and continents in your way.' Probability could not get you to a given port. Navigation can do so. Navigation is discrete and is a powerful tool."

Probability: (1)

"Nature's probability ia not linear nor planar, but the mathematical models with which it is treated today are almost exclusively linear. Real Universe probability accomodates the omnidirectional* interaccommodative transforming transactions of universal events

which humanity identifies superficially as environment. Probability articulates locally in Universe in response to the organically integral generalised omnidirectional in, out, inside-out, outside-in, and around events of the self system as well as with the self system's extra-organic travel and externally imposed processing around and amongst the inwardly and outwardly contiguous forces of the considered system as imposed by both its synchronously and contiguously

critically near macrocosmic and microcosmic neighbors,

"Real Universe's probability laws of spherically propagative whole systems' developments are intimately conditioned by the three-way great-circle grids inherently embracing and defining the nonredundant structuring of all systems as formingly generated by critical proximity interferences of the system's components' behaviors and their dynamical self-"

- Cite SYNERGETICS draft at Secs. 538.01 +02, 26 May '72

Probability:

"triangulations into unique system structuring symmetries whose configurations are characterized by the relative abundance patterning laws of topological crossing points, areas, and lines of any considered system as generally disclosed by the closed system hierarchy of synergetics.

"Synergetics, by relating energy and topology to the tetrahedron, and to systems, as defined by its synergetic hierarchy, replaces randomness with a rational hierarchy of omni-intertransformative phase identifications and quantised rates of relative intertransformations."

- Cite SYNERGETICS draft at Secs. 538.02 +03, 26 May '72

Probability:

"Nature's probability is not linear nor planar as it is almost exclusively employed today. Probability accommodates the omnidirectional conditions of the universal environment of events and articulates, in response the the generalized omnidirectional in, out, and around-the-self system, and of the self-system around and amongst the inwardly and outwardly contiguous forces imposed upon the considered system by both its macrocosmic and microcosmic neighbors.

"Probability's laws of spherically propagative whole systems' developments are intimately conditioned by the three-way greatcircle grids inherently embracing and defining all systems as formingly generated by critical proximity interferences of the system's components' behaviors and their dynamical self-triangulations into unique system structuring symmetries whose configurations are characterized by the relative abundance oatterning laws of topological crossing noints, areas, and lines of any considered system as generally disclosed by the closed system hierarchy of synergetics."

- Cite RBF 20 Feb re-write of 17 Feb citation, 20 Feb'72 sfc, 5'3«.oi+<51\

Probability;

"The specialized mathematical probability art and its developed tables is exclusively linear and is exclusively preoccupied with amorphous, planar graphable, and linearly plottable rate of covariant change calculus. Specialized probability disregards reality shapes and considers itself to be concerned with pure number abstractions."

- Cite KBF 19 Feb re-write of Probability. 17 >eb '72

Probability:

"Probability is not linear nor planar, but it is following the laws of sphericity of whole systems. It ties up with the three-way grid and with the constant relative abundance of points, areas and lines as disclosed by synergetics. **

- Cite RBF to EJA + BO'R, 3200 Idaho, DC, 17 Feb »?2

(For expanded context see Three-Jay Griat Circling: Three- Jay Grid.
17 Feb `72.)

Probability:

"Probability doesn't knew anything about a shape. It's a Juat number, purely mathematical." J

- Cite RBF to EJA and BO'R, 3200 Idaho, WaekDC, 17 Feb«72

Probability:

'Probability is purely mathematics: just points on curves, but they are thought of as linear. Or planar, /hat I call planilinear. Gibbs, in his phase rule ties up the probability with chemistry, his phase rule and topology are the same.

But still all the different chemistries and topologies seem to be random, but synergetics, by relating energy and topology to the tetrahedron, and to systems as defined, and by its synergetic hierarchy, replaces randomness with a rational hierarchy.'

- Cite i'tiiF to LJA, 3200C Idaho, DC, 17 Feb '72

"LAST- .

PA»Wft<.»TY- dec. 518 05

RBF DEFINITIONS

Probability;

"Statistical Probability is a very crude tool-** like using a banner for a screw driver."

- Cite RBF to EJA, Beverly Hotel, New York 15 Sept. »71.

Probability:

"All the scientific talk of probabilities is asinine.

There is no probability about mass attraction. They all want primordial soup, out of which improbable selection would begin. But the LAWS were always there.*

- Cite RBF to EJA, Royal Scots Grill, N.Y. U Sept. 1971

Probability:

"Probability is anything but comprehensively anticipatory: if it had any force there would not be a stock market or a horse race.'"

filled p Coney

April iy/i

- Citation & context at Happening. 22 Apr'71

irwrrteeTics. rec. 503]

Probability:

'You don't program 'happen.'

Probability is anything but comprehensive.

And we find that 'happenings' contradict probability.

- Cite RBF to EJA Carbondale

2 April 1971

IWabUXty:

"Society has been trained to think only atatietically and probability is the most powerful phase of statistics* But probability is a weak tool. If it were strong the stock exchanges and gambling houses would have to close their doors. ... But nature does use synergy."

- Cite RBF marginalia on Old Chap. 2, "Synergy," 18 Mar'69

Probability;

"Probability. the strongest tool of statistics

which deals only with parts, at its best is a weak tool.

"Were probability strong it would predict stock- market behavior with precision and would foretell horse races results with reliability. Contrariwise, synergy and general systems theory are powerful forecasting tools and have been the backbone of modern physics, astronomy, and chemistry."

- Cite DOXIADIS, p. 3U, 20 Jun'66

Probability:

"It is discovered in principle that probability probing of physical Universe on a statistical basis is now becoming of necessity frustrated while, probing in empty conceptual principle could be instituted and accelerated for further advancement or fundamental information, Exploration in principle is re-reward!ng,"

- Citation and context at Reciprocity (2) + (3)g, May»49

Probability Laws:

See Probability, (1)

Probability Model of Three, Care On a Highway: (1)

"I an tying up the social experience, often observed, in which three independently and consistently velocitied autombies (and only three) come into close proximity on the highway--- often with no other cars in sight. Mathematically speaking, three ?oints--- and only three--- define both a plane and a triangle.

he cars make a triangle; and because it is mathematically discovered that the total number of points, or areas, or lines of a system are always even numbers; and that this BMHV divisibility by two accommodates polar-and-hemispherical positive-negativeness of all systems;

because the defining of one small triangle on the surface of a system always inadvertently defines a large triangle representing the remainder of the whole system's surface, and this large triangle's corners will always be more than 180-degrees each; ergo, the triangle is an 'inside-out,' i.e., negative triangle, and to convert it to positive condition requires halving or otherwise fractionating each of its three corners by great circle lines running together somewhere within the great negative triangle; thus there develops a minimum of four positive triangles embracing the Earth induced by such three-car convergences."

Probability Mrtfl of Three Qfira an fi-Hljway: (2)

"The triangle made by the three cars is a complementarity of the three other spherical triangles on the Earth's surface. The triangle formed by the two cars going one way, and one the other way, gets smaller and smaller and then reverses itself, getting ever larger. There is always a closer proximity between two of the three. This is all governed by topological "pattern integrity," Probability is exclusively abstract mathematics: theoretically calculated points on curves. The statisticians think almost exclusively in lines or planes; they are what I call planilinear. Willard Gibbs in evolving his phase rule was engaged in probability relating to chemistry when he inadvertently and intuitively conceived of his phase rule for explaining the number of energetic freedoms necessary to introduce into a system complexly constituted of crystals, liquids, and gases, in order to unlock them into a common state of liquidity. His discovered phase rule and topology are the same: they are both synergetic. Despite the synergetic work of such pioneers as Euler and Gibbs, all the different chemistries and topologies still seem to be random. But synergetics, by relating energy and topology to the tetrahedron, and to systems as defined, and by its synergetic hierarchy, replaces"

"randomness with a rational, cosmic, shape-and-structural- system hierarchy. This hierarchy discloses a constant relative abundance of the constituents; i.e., for every nonpolar point there are always two faces and three edges. But systems occur only as defined by four points. Prime structural systems are inherently tetrahedral, as is also the quantum.

"A social experience of three cars: they make a triangle changing from scaleneto equilateral to scalene. The triangles are where the cars don't hit. (These are simply the windows.) But you can't draw less than four triangles. The complementarity of the three triangles makes the spherical tetrahedron--- which makes the three-way grid. The little spherical triangle window is visible to human observers in greatest magnitude of human observability and awareness of such three-car triangles at 15 miles distance, which is 15 minutes of the spherical arc of our Earth. Such dynamically defined Earth triangulation is not a static grid because the lines do not go through the same point at the same time; lines--- which are always action trajectories--- never do. All we have is patterning integrity of critical proximities. There is always a nonviolated intervening boundary condition. This is all that nature ever has."

"Nature modulates probability and the degrees of freedom, i.e., frequency and angle, leads to the tensegrity sphere; which . leads to the pneumatic bag; all of which are the same kind of reality as the three automobiles. All the cosmic triangling of all variety of angles always average out to 60 degrees. That is the probability of all closed systems of which the Universe is the amorphous largest case. Probability is not linear or planar, but is always following the laws of sphericity or whole systems. Probability is always dependent on critical proximity, omnidirectional, and only dynamically defined, three-way grid-

ding pattern integrity, and with the concomitant topologically constant relative abundance of points, areas, and lines, all governed in an orderly way by low-order, prime-number, behavioral uniqueness as disclosed by synergetics.'*

- Cite SYNERGETICS draft at Sec. 536.14, 26 Sep'73

"I am tying up the social experience of three cars meeting on the highway. They make a triangle which is a complementarity of the three' other spherical triangles on the Earth's surface. The triangles get narrower and narrower and then reverse themselves. There is a proximity between two of the three, we have topology as a pattern integrity. . . Probability is pure mathematics, just points on curves. . . A social experience of three cars-. They make a triangle changing from scalene to equilateral to scalene. The triangles are where the cars don't hit. (These are simply the windows.) But. you can't draw less than four triangles. The complementarity of the three triangles makes the spherical tetrahedron— which makes the three-way grid. . . “

- Cite KBF to EJA, 32OG Idaho, DC, 17 Feb '72

rtBF u*FIMTlvbb

AH”'

"in the early days of the auto on a lonely road--- when you saw another car coming--- there was always a third coming into view or already in view. Three cars frequently come to approximately the same highway point at approximately the same time. This is not surprising because when we, having first taken away the two points from the system to accommodate the axis of the observer, and you always have the topologically constant relative abundance of interference crossings, areas, and lines. Edges are lines. The guided car paths are in reality lines, traces, with universal threefoldness of energy event trajectory vectors. Universe keeps sorting its event traces into bundles of three. The social highway experience of three cars is the Inexorably present, tn-complementarity relationship of the little local triangle

on the Earth's surface complemented by the three other great circle triangles of the terrestrial spherical tetrahedron always inevitably produced in all systems formulations and transformings law. Critical proximity imposes triangulation.

(For preamble to above see immediately preceding statement: Tolar Vertexes, cited to 17 Feb '72.)

- Cite KBF 17 Feb re-write of same caption 17 Feb.

See Social Highway Experience: Three Autos Spherical Triangle Sequence

See Sphericity of Whole Systems, 26 Sep'73

Three-way Great Circling: three-way Grid, 17 Feb'72

See Happening

Navigation vs. Probability Possible into Probable Randomness

Nature Modulates Probability Discrete vs. Probability

See Direction. 1938

Life, 16 Aug*50

Reciprocity (2)0)*

Three-way Great Circling: Three-way Grid, 17 Feb'72

Threshold of Life, 6 Jul'62

Omnidirectional Typewriter (1)

Equimagnitude Phfceeds, 19 Dec'73

Synergy, 26 May'72

Means, 22 Jun*75

General Systems Theory, (B)

Modules: A & B O. uanta Modules, 20 Dec'73

Problem;

"Our problems are almost exclusively metaphysical and can only be coped with by scientific competence and intellectual integrity on the part of the discovering humans.¹¹

- Citation k context at Gravity (k), 12 Jun'74

Problemq:

"Our fundanental proclivity xa to keep Intercepting prob lean, nothing could be acre fallacial than the notion that a nornal *` `• on® without problemsa Even all human games are ways of initiating disorder to be parried by converting the disorder to order«

- Cite RBZ addreaa to Tale Political Union, Naw Haven. 9 Dec'73: as rewritten by RBF at 3200 Idaho, WaeA DC, 13 Dec'73

Problem:

*Our fundamental proclivity 18 to keep intercepting problems. Nothing could be more wrong than the notion that a normal life 18 one without problems."

- Cite RBF address to Tale Political Union, New Haven, 9 Dec'73

Problem:

"Problems are metaphysical entropy. Humans are here to function syntropically as solvers of problems as guided by mind-discovered cosmic principles.**

- Citation and context at Msn an local Problem Solrar (1), Dec'72

Problgm:

"Being between: That's what humans always are. That' the problems start."

- Citation at Between: VE as Prime Between-ness Model_f

where

7 Nov'72

Problems:

"Inevitable, important local problems develop in maintaining the comprehensive integrity of the omni-regenerative universal design. I think it probable that humans are designed to ... be aboard planet Earth as the complex local problem processor. . . . Certainly, each of our own lives manifest just such experiencing of 'problems, problems, problems.' I have worked very hard on problems and I find that for every problem I solve I induce twelve more problems or challenges. You can look at problems as unattractive or attractive, but the problem is that we are faced with problems. Nothing can be more descriptive of life than a sequence of problems. We are beautiful problem analyzing, differentiating and sorting faculties. All that goes on in this room between you and me is absolutely weightless. We are sorting out our experiences."

- Cite Museums Keynote Address Denver, pp. 13-14 from transcript as repwritten by RBF. 2 Jun'71

κBF UtFlkrnUUS

Problem:

",, . The regeneration of the Universe probably depends on these local monitors of very high capability to solve very complex problems. Certainly our lives manifest just problems, problems, problems. Nothing can be more descriptive of life than problems." But we have a beautiful sorting capability."

- Cite HBF address Am. Assn, of Museums, Jenver, 2 June 1971.

"... An intellectual integrity of Universe evokes its own theoretical
evolvment of a Universe of ever- multiplying problems and pure prin-
ciples solutions and eternal regeneration of multiplying problem solv-
ing. *'

- Cite RBF marginalia, 20 Dec, *71 at SYNERGETICS Draft, Sec.
529.07

See General Systems Theory

Local problem Solver

Man as a Function in Universe

Man as Local Problem Solver

Man as Local Universe Technology

Starting with Universe

Mistakes

Trial and Error

Synergetic Advantage: Priflrifple Of

See Artifacts, 10 Aug'70; 17 Sep*74 Dreams. 10 Aug*70 Individual
Universes, (2) l-1anifests: Eight, 1973 Omnidirectional Typewriter,
(1) Questions: Answering Questions, Sep'73 Rationalization Se-
quence, (4) Twelve Universal Degrees of Freedom: General

Systems, (II)

Geometry, 14 Nov'73

Part, May'72

Performance; Equation Of, 1938 Electronic Referendum, 9 Jan'75 Hu-
mane City, (3) Nucleus, 13 Nov'75

Nature in a Corner, 12 Nov'75

Dymaxion Artifacts, (2)

Children as Only Pure Scientists, (A) Child, 1 May'77

Load Distribution, 17 Oct'77

Problem: Statement of the Problem:

"It is my philosophy that a properly stated problem is a problem solved. The adequate statement must contain an inventory of all the resources available and all the variable parameters uniquely involved. The solutions are inherent in such adequacy of statement,"

- Cite SET "Y", p. U, Au«»72

"Our problem is really one of information. We're in this condition where we have to get the information out to all humanity, which in the past was content with following a leader. Some time ago I made the discovery that if I can communicate something to somebody else, write it. put it into print, it goes out of me and I can look at it to be sure I'm not kidding myself. And then suddenly you make the discovery that if you state the problem correctly, the problem is solved. I simply happened to get to that realization a little earlier than others due to my comprehensive training and my thoroughness and the inspiration of knowing that if I could communicate these possibilities, humanity really might make it. I've had a deep feeling about this all along, and it's a very critical matter. Without that information that we need, we do risk a runaway of ignorance, and that's where the great peril lies."

- Cite RBF tape transcript for Barry Farrel Playboy Interview, Feb '72. Above passage deleted. See draft p. 61.

"Other men's consciously articulated awareness of the problem, its existence, and the sequitor conclusion that inherent in its comprehensive statement that once properly stated it could even then only by teleologically solved through competent design, and not by political reform, for not until the comprehensive-competent-teleologic

designer formulates and calculates the total involvement, differentiation and subsequent integration, and initiates the wheel-starting essential tasks do the minimum physical constituents of the 'reform' exist. Ergo, political reform is only and always accessory after the fact. And the concepts of the ultimate products consequent to our syngetically conceived designing, were all alike nonexistent prior to out persona11y-unique- experience-pattern induced abstract apprehension, and subsequent systematic design conception of them, and our production of their component subsystem items and their testing and assembly."

- RBF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NC, If54-59
See Question Asking

See Dreams, 10.Aug'70 Formulation, 19&3 Suncllpse, 1968 General Systems Theory, (2)

FrsfrlfMi Ten World-Around Problems That Have to Be By Bloodless Design Science ` ` evolution

- ”(1) Education lievolution, The Highest Priority OT All;
- (2) Conversion of World Accounting System;
- (3) Elimination of Property By Making Ownership Onerous;
- (4) World Democracy By Electronic Referendum;
- (5) Elimination Of All World Sovereignties;
- [6] Theoretical Exploration Through World Game;
- (7) Realization Of design Science Competence;
- (8) Recognition of Humanity’s Unique Functioning in Universe;

J9J Identification of Mathematical Coordinate System of Universe

(10) Philosophical Realization That Physical Is Not Life.

- Cite WORLD-AROUND PROBLEMS THAT HAVE TO BE SOLVED BY
BLOODLESS DESIGN SCIENCE REVOLUTION, NY Times, 29 Jun'72

Problems:

World-Around Problems that Have to be Solved by Bloodless Design
Science devolution, 29 June 1972?

See Finite Solutions

Social Problems: Tetrahedral Coordination Of

See Between: VE as Prime Between-ness Model. 7 Nov'72*

Consciousness, 12 Sep'71

Electronic Referendum, 29 Jun'72

Eternal Slowdown (2)

Fuller, R.B: Crisi of 1927 (a)

Gravity (kJ*)

Individual Universes, (1)(2)

Mutual Survival Ptinciples, (1)

Process Relationships;

"The transition of initial awareness of sensorially experienced physical forms and process relationships through their progressively ephemeral diaphanous -> ethereal -> brain-to-mind physical-to-metaphysical idea trending toward and attaining absolutely weightless conceptual integrity of interangular proportionality,.. a triangle."

- **Citation & context at Triangle, (1), 28 Jan'69**

See Connections & Relatedness

Relationship Analysis

PrgJgM Yfli ThlJtf:

"Everybody is a process and not a thing.

- Citation at Everybody. J Oct*71

See Behaviorist Word vs. Static Word Eventing

Prgggfffl Ygx- 'nung:

12)

**See Individual Universes, (2) Critical Proximity, Jun*71 Environment,
12 May*77**

See Pattern Processing Machines

Process vs. Thing

Process Relationships

Automation of Metabolic & Regenerative Processes

Urban Processes: Inventory Of Metabolic Process

**See Bird*a Nest as a Tool, May'67; (A)(C) Everybody, 3 Oct*71 Uni-
verse, 1944 Man as an Invention, 1 Apr*49 Geometry, 21 Jan'75 New
York, 1970**

See Anger, (1)-(3)

Human Tolerance Limuts, (A)-(D)

Proclivities: Ulff grffllXa.tgd.. ffYDenttUfi

Synergetics, 2nd. Ed. - Sec. 201.10

FfgCliYitleg: Differentiated va. Synergetic:

See Absolute Network, 10 Nov'74

PIQGliYitlflB, Phages & Discipllnea: Inventory Of:

Synergetics, 2nd. Ed. : Sec. 201.10

FTPSIIYIU: InyffllfFY Qf=

Synergetics - Sec. 1007.15

Synergetics - Sec. 905.16

- Sec. 201.10

See Absolute Network Behavioral Phases Behavior Potential Ener-
getic Functions motion Freedoms cz Degrees of Freedom Structural
Functions

See Avogadro, Jun'66

Chemical Bonds, May'72

Compound. 13 Ma r ` 73

Cosmic Discontinuity &. Local Continuity. 1\$ Jan'74

Eir.stein: RBF Draft Letter To. (2)

Epistemology of -iuantum Mechanics, 16 Dec'73

Field of Cosmic Formabilities, 28 Jan'73

Functions, 26 May'72

Isotropic Vector Matrix, Jul'61

Planck's Constant, (B)

Radiation, 20 Jun'66

Structure, 16 Dec'73

Vector Equilibrium, (2); Feb'48; 13 Nov'69

Wealth, 28 Jan*75

Proclivity: Proclivities:

(1)

See Computer: Atomic-proclivity Computer Differentiated Procliv-
itee Energy Proclivity Model Fall-In Proclivity Functions

In-ness Proclivity

Phase

Proclivities: Inventory Of

Proclivities, Phases & Disciplines: Inventory Of Synergetic Proclivity

See Functions. 26 May'72

Valving, 13 May'73

Vector iullibrium, 15 Kay'73

Invented Periodicities, May'49

Life & Death (1)(2)

Man: Interstellar Transmission of Man, (A) Cube 4 VE as Wave Propa-
gation Model, 23 Feb'72 Psychiatry, (3)

Procreation:

"If you think about it, it's probably a very difficult design problem to get an organism to want to procreate. Go to the mirror and stick your tongue way out and have a good look at it. If you didn't have one of those and a salesman came to your door and said, 'I'd like to sell you one of these things. You stick it in your mouth and it does you a lot of good,' I doubt that you'd be very likely to buy that tongue. If you were to take a look at your guts, your kidneys, and then had to go to a supermarket and buy a kit to make a baby, I don't think you could put it together at all. If each of us could see all the organic equipment required to regenerate this extraordinary walking coral reef that we really are, I don't think anybody would procreate."

"So in order to be able to get us to procreate, nature gave us a beautiful covering which sort of simplifies, at least, all the frightening colors and coils and such. We have a simplified skin stretched over us, and nature has done a whole lot of tricks, trying to make this thing attractive enough so that procreation will actually occur,*

- Cite riarry Farrell PLAYBOY Interview, WBBITranscript, 30 Oct'71
Procreatively Sterile:
See Masturbation

See Abstraction. 24 Feb'72 Parallel: Quasi-parallel Lines, 1y38

See Adam & Eve

Automation of Metabolic &, Regenerative Processes

Baby Button

Life's Original Event Lodging: Fear & Longing Man: Automated Metabolism of Man

Naked Girl on the Bed

Gestation

Sex

Survival Sequence: Love

See Artifacts, 28 Apr'74

Beautiful. 1938

Divide & Conquer Sequence, (2)

Promote: I Don't Promote, 2 Jun*74

Short Cuts, y Fay'57

Tactile Sequence, (2)0)

Wealth as "Know-how", (2)

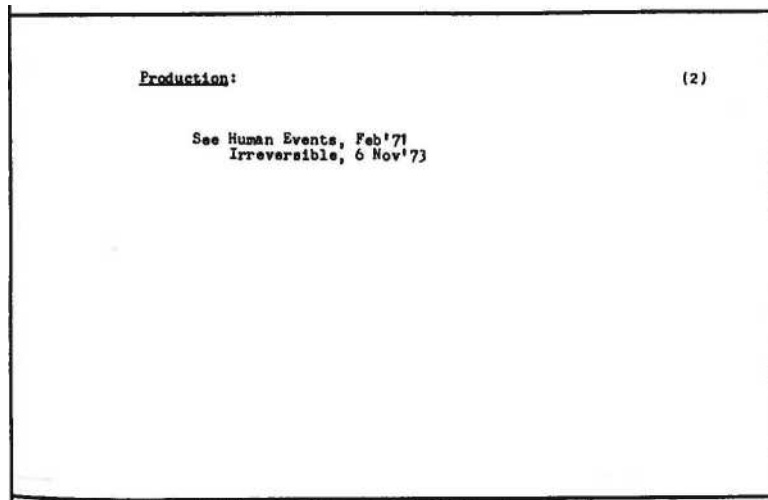
Love, 1 Feb¹75

Helpless: Humans Bom Helpless, 15 May'75 Mistake, 9 Nov'75

(1)

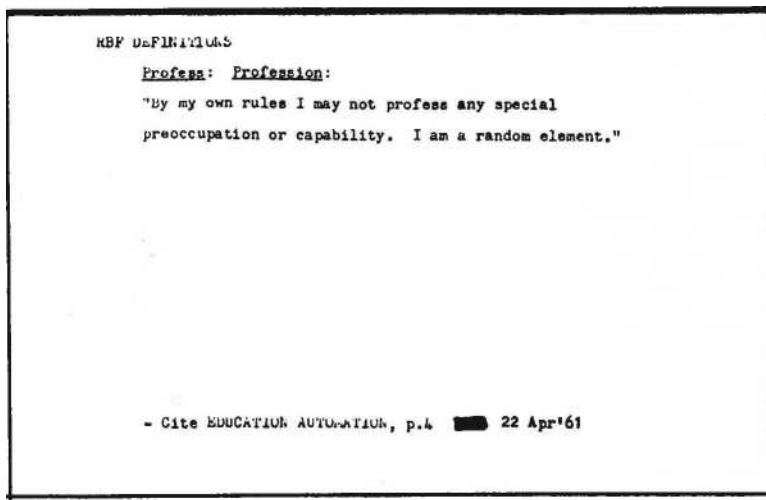
Production:

Seo Economic Accounting System: Human Life-hour Production Non-production



Profanity;

bee Spit-punctuated Monosyllabic Verbalism



ProftMlflV Professional;

Im neither a neurosurgeon nor a professional of any discipline. •

- Cite BRAIN AND MIND, first verse , 4 1970

rtBF DEFINITIONS

Professors:

"You can forget the Universe and, like the other professors. you can become completely unnatural masters and doctors of theoretical myopias."

- Cite NASA Speech, p. 97 • Jun'66

See Tenure: Academic Tenure

Slave Professions: Slave Disciplines

See Artist. 1968

Invention, 9 Feb'64

Prototype, 13 Mar*73

World Game, 12 Jun*69

Word Trends, May¹44

Verb: I Seem to Be A Verb, 26 Apr*77

Th.gr.0 Is N_Q Half-Profile:

"There is no half-profile of you. All conceptuality is systemic; it has to be finitely closed."

- Citation and context at Conceptuality_t 5 Nov'73

There 1B No Half-nrofi.

(1)

See Facial Asymmetry

Picasso Duo-face Picture Split Personality

See Conceptuality, 5 Nov '73' Design, 23 Jan'72

tofUt gf industrial Myglutlgn*

See Industrial Revolution: Profile Of

Profit;

"Profit is just taking the input from the many for the advantage of the few."

- Citation & context at Induatrlalizatlon, (A), 22 Jan¹75

^{Prgf11}: Annual Profit fc Failure System:

See Economic Accounting System: Human Life-hour Production, (1)

Profit: Man-Invented Game of Quick Profit:

"Moat of man's technology is of meager endurance being comprised at the outset of destructive invention, such as that of weaponry, or for something in support of the quick profit, man invented game of selfishly manipulative gameplaying and rule inventing for the playing of his only ignorantly-preoccupying value system."

- Citation and context at Technology. 13 Mar'73

Profit: "We Stars Have Got to Kake a Profit"i

See Afford, 29 Jun'72

See Afford

Capitalism

Deficit Accounting

Economic Accounting System

Expense: Without Any Individual Profiting at the
Expense of Another

Feeding Lots

Money-bee Humans

Status Quo

Money: Making sense vs. Making Money

**See Immorality, 22 Aug*70 Pollution. 1968 Industrialization, (A) Hu-
mane City. (10 Doing What Needs to Be Done, (1) Building Industry,
(3)(4)**

****I don't think we tend to accredit at all the fact that we might go on
to have some other form of living in Universe.**

- For citation and context see Automation of Metabolic and
Hegenarative Procaaaaaa. May >65

See Age of Cybernetics

Destiny of Humanity

Evolution: Subconscious Coordinate Functioning

Extraterrestrial Humans

Future of Synergetics

Historical Event Cognition

New Universe: Disclosure of in Next Decade

Optimism: Reverse Optimism

POint of No Return

Prospect for Humanity

Stillbirth of Humanity

Suicide of Humanity

Survival

Survival Sequence: Love

Surprise:. The Monpolitical Surprise Has Already Occurred

Tomorrow
Womb Population
Year 2000
Transnationalism vs. Colonialism
See Humanity's Final Cosmic Exam
Progress
Enough to Go Around
Fuller, R.B: Ecological Predictions of 1927
Race with Evolution
See Automation of Metabolic & Regenerative Processes.

May'65*

Child: A Little Child Shall Lead Them, May'65
Communications, 196?
Computer. (B)(C)
Earning A Living Sequence, (J)
Economic Accounting System, Sep'72
Environment, 15 Feb*66
Gross World Product Sequence, (3)(4)
Isotropic Vector Matrix, 6 Nov*72
Naivete, Mar'66
Newspaper, 16 Oct*72
Population Sequence, (1)-(8)
Scrap Sorting & Mongering, (2)
Spacehip, (2)
Success, May'70
Synergetics, 6 Nov'72
News & Evolution, (3)(4)
Enough to Go Around, (1)(2)
Options, 13 Jay*77
Womb of Permitted Ignorance, (2)

Prognostication:

See Prediction

Synergetic Advantage: Principle Of

PrQKnQgUcatipnt

See Parts, 1954

KBF uKFiNrriuha

Program:

"You can program in any of the parts, but you cannot program what's
between and not."

Program:

"You don't pro gram'happen* .

. . . and we find that 'happenings' contradict probability.

Carbondale--- 2tprlX~±97t

- Citation at Probability. 2 Apr'71

Program:

"You can't program what it is you're looking for--- because they are
the connections---

and not the things.

The only thing you can program
is the dismissal of irrelevancies,"

- Cite RBF to EJA Carbondale

2 April 1971

See Computer Programming

Design Programming

Linear Programming

Critical Proximity Programming

Chromosomic Programming

Electromagnetic-photosynthetic Programming

(2)

See

Ecology_t 29 Dec'73

Ecology Sequence, (C)-(I)

General Systems Theory, (1); (B)

Human Beings a Complex Universe, (C)(5)

No i.echanical Kind, 22 Jul*71*

Orbital Escape from Critical Proximity, (1) Probability, 2 Apr'71*

Prorjeaa:

(1)

See Improve the Scenario

Prospect for Humanity

See Beller, 6 Jul '75

Pr.Qgoaal.QM:

"In addition to the simple arithmetic, algebraic, and geometrical progressions of the first, second, and third degrees of acceleration, mathematics discloses other series, and superseries, of superficially unpredictable mathematical frequencies because they are composed of complementary and reciprocal numbers whose products alone, though never occurring simultaneously or in whole, are compositely congruent with complex progressions.

"But these complex components occur in discontinuous series, and are inherently self-inexplicable. The complementary functions must therefore impinge upon consciousness only as meaningless. As immediately contemplated upon first experience they of necessity, alone, constitute seemingly absolute perversity of interference. Synergy--- wholistic behavior unpredicted by parts."

- Citation & context at Periodic Experience. 14)(5), May*49

Progressions:

"... All progressions are from material to abstract...

iTMTaHIYO Invention, of UnlY9Fgg =

See Sensorial Identification of Reality, 12J

Protrenniva Order: Uw Of:

See Conservation of Finite Universe: Principle Of 20 Jun'60

See Exactitude, May*72 General Systems Theory, (B)

PrQKTgelQn » Regrgsalon:

See Radiation-gravitation: Harmonics, 3 Jan'75

PMsraaalaas

Sea Dimensions

Hierarchies

Manifests

Synergy: Degrees Of

Trends ' Trending

Powering

Idea Trending

Physical to Metaphysical

Truth as Progressive Diminution of Residual Error

See Life, May*49

Quantum Mechanics: Grand Strategy, 10 Apr'75 Tunability: Intra & Ultra, 1954

Prohibitionfl!

See Society: Control Of, 1938

RBF does not like above terminology. Approved designation is "Triangular Geodesics Transformational Projection."

- Cite RBF to EJA, 200 Locust, Phila., 22 Jan'73

"One of the things I've always wanted to be able to do was to see the whole Earth at once with minimum distortion and maximum effectiveness. That brought me to d method of translating spherical data to a flat surface, which was a direct extrapolation of my mathematical investigations. . • Making a world map took me into the high stratosphere of polyhedra. . . If we put information on a sphere, the maximum that can be read is about one-quarter of the sphere. The tangential information cannot be read. Since our real objective is to be able to read all the information of the total sphere, the whole Earth, then possibly a bigger globe would give more data. Dut if a bigger globe will do, then why not go to the maximum condition and use the Earth itself? Actually, the bigger the globe, the smaller the reader is in relation to it and the greater the re luction in the material that can' be read. There are certain optimal distances of readability. . . Rather empirically, a 12- to 16-inch globe held at arm's length is about the best that can be read from a sphere per se."

- Cite'RBF, Univ, of Rhode Island, 26 Aug, '66, pp. 195-196.

"How can I get a total surface to give me the best information? In traditional methods of projection such as Mercatfir, polyconic or polar-azimuthal, there is only one point, or line, or pair of lines where there is a true reading: that special line along which the conically or cylindrically curved paper is in actual contact with the sphere. From the line.of true contact, accuracy diminishes outwardly in projection. The

errors increase very rapidly, particularly in the Mercator projection in which the sphere is split open from the great circle of the equator and spread flat so that two points in the middle of Russia are split to the map's ends and seem to be 25,000 miles apart.

"I have found then, that instead of trying to use infinitely severed lines with two polar azimuthal projected hemispheres breaking the whole Earth into two separate circular planes, or the polyconic projection with the northern and southern hemispheres projected as fan-shaped planes with their curved edges tangent to one another at only one point, it is possible to avoid introducing infinity within the projected system."

- RBF, Univ, of Kftode Island, 26 Aug. '66. p. 196.

"I use three fundamental reference lines instead of two. When only two lines cross, infinity is involved since one or two lines are open-ended and have no finitely contained areas. If three lines overlap one another they make a triangle. Thus, a finite area is inherently contained. I do not have to break open the data transferred from the sphere to the plane by triangles.

"There is, however, what we call spherical excess in the topological transformation of the spherical data to the flat surface. Spherical excess is the only source of distortion. . . . Spherical excess refers to the amount by which the sum of the spherical triangle's angles exceed 180° . Spherical excess for a large spherical triangle is very much larger than for a small spherical triangle. For instance, on a spherical tetrahedron each of the angles is 120 degrees, so that the total of the three angles of each of the spherical tetrahedron's four triangles is 360 degrees/ 60 degrees minus 180 degrees leaves an excess of 180 degrees. In a spherical octahedron obtained by bisecting the edges of a spherical tetrahedron and interconnecting the three great circles, each of the angles will be 90 degrees, or

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66, p , 197.

"a spherical triangle total of 270 degrees, which means an excess of 90 degrees. If the edges are bisected again each of the corners will be $72^{\circ} 32'$ with a total of $221^{\circ} 36'$ so the spherical excess of $221^{\circ} 36'$ minus 180° is equal to $40^{\circ} 36'$ and is being reduced very rapidly. Smaller and smaller spherical triangles give less and less spherical excess. Therefore, I subtriangulate the total of the Earth's surface in the largest number of identical equi-edged small triangles, i.e., the spherical icosahedron, where the spherical excess is a minimal 36°"

"I have found that if I wanted to take off the total world's data in the largest number of identical triangles and have them symmetrical, the triangles have to be equilaterals. The maximum number of equilateral triangles into which we can subdivide a spherical unity is twenty: a spherical icosahedron.* You might ask, "Why can't you have more triangles than twenty?" To explain, I shall first take two triangles and put them together. We see that they hinge and just come to be congruent one to the other."

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66, p. 197. "A two triangle system has neither insideness nor outsideness. I want to make a system which subdivides Universe into all the Universe inside the system and all the Universe outside the system. Now, I can take three triangles and I can put them together around one vertex and make the tetrahedron. Around each vertex there are always a minimum of three triangles. I can insert a fourth triangle around each vertex and get the octahedron. I can next put a fifth triangle around each vertex and get the icosahedron. In this closed system there are 12 vertexes with five equilateral triangles around each vertex." In a system "the largest number of triangles you can possibly have around a vertex is five. I can take that into the planar condition or the spherical, and in the spherical each of the corners will be 72° . Now that I find that I can get the total Earth's surface on to the icosahedron, the edges of the

icosahedron's spherical triangles will all be $63^{\circ} 26'$. If possible, one of the things I want is to take the 12 vertexes of the icosahedron and manipulate them in such a way in relation to the sphere of the Earth that the vertexes always fall in the oceans."

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66, p. 197.

"Going from the spherical to the planar condition with fige 60° angle-around each vertex means that there are going to be sines opening up to 60° . I would like to have the sine opening in the ocean and not on the land because one of the most unsatisfactory things about looking at the Earth's data on classical map projections is that the continents themselves are always being distorted in an unfair way. The other fellow's continent is always being broken up instead of our own.

"Taking all the Earth's data from the spherical icosahedron to the planar icosahedron permits the corners of the large equilateral triangles to be 'reduced from 72° to 60° so that there remains only a 20° spherical excess. By using an equilateral triangle that is symmetrical with each of the corners having equal subsidence, the amount of contraction becomes invisible and concentric uniform boundary scale is held for the entire length of the triangle edge, and there is no change in this when going from the spherical to the planar condition. .

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66, pp. 197-198.

mo

"There is local contraction within each small triangle of the three-way grid and that contraction is symmetrical. In all the other familiar methods of map projection, projection errors are dismissed outwardly from the point or line of reference and thereby greatly increased.

Compare a circle of radius one with a circle of radius two; because the area of a circle of radius two is approximately four times the area of a circle of radius one, when the dimensional Variables of a projected surface are outwardly distributed, the proportion of total map area that is in relatively greatest distortion exceeds by the ratio of three to one the relatively least distorted areas. In my system, the spherical surface subsides inwardly by symmetrical contraction and the proportion of the map which is in relatively greatest dimensional distortion is less by a ratio of one to three than its relatively undistorted area. In my map the error is sent inwardly and is at maximum at the center of each small spherical triangle of the three-way grid system.' Every triangle is contracted symmetrically at the same rate."

- Cite RUF, Univ, of Rhode Island, 26 Aug. '66. p. 19d.

"Cutting out around the edge of the map in the planar condition and bringing the parts back together makes an icosahedron. If the edges of the triangle are six inches, the folded system is the same as a 12-inch diameter globe. Of course, if you make an icosahedron, you will find it faceted into 12 equilateral triangles. If, however, the faceted icosahedron is compared to a 12-inch globe, the efficiencies of conveying information are equal between the two map systems."

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66., p. 198.

"Since 1917 Mr. Fuller has been evolving his Airocean World Map and new projection method* . * Due to its inherent advantages in respect to astronomical observation, aerial mosaicing, and comprehensive world triangulation by great circle grid the projection comprises a world-around Airocean strip map of approximately invisible dimensional distortion. . * . The Dymaxion Airocean World Map and its projective transformation strategy was glimpse-conceived in 1917,

but required over a third of a century of development of" synergetics "to bring it to its present condition. . . the projection is contained entirely within a plurality of greatcircle bounded triangles--- or quadrangles--- of constant, uniform modular subdivision whose identical length edges. * * permit their hinging into flat mosaic-tiled continuities at the planar phase of the transformation and thereby permit a variety of hinged-open complete flat world mosaics."

- Cite Undated sheet THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

"To provide a continuous one-surface world map--- while peeling off the sections of the globe--- the transformation must be such that the pieces have straight and matching edges when peeled off and flattened out, Unlike any of its cartographic predecessors which present the whole spherical world surface data within a unit flat surface nfcpl the Fuller projection maintains a uniformly modulated and constant length great circle boundary scale in closed- 360 degree--- equilateral periphery controls,"

- Cite Undated sheet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE -TRANSFORMATION

"The Fuller Projection operates in a series of transformation stages. It first subdivides the total world surface into a plurality of great circle bound polygonal zones.

Next it transfers the data from the sphere's surface in separate mosaic 'tiles' corresponding to each of the great circle bound polygonal zones of step one. While migrating as a zonal mosaic tile, each tile (independently) transforms internally from compound curvature to flat surface by methods shown" in the projective transformation model. Each tile transforms entirely within the respective polygonally closed uniform symmetrical containers, allowing none of the data to spill outwardly in perverse distortion.

"When all the tiles have transformed independently from spherical to planar, their straight polygonal edges-- unaltered in length during the transformation in transit migration-* permit re-association in a variety of continuous data mosaics.

"The Fuller projection has the relationship to all other known projection methods that a mechanically fillable and sealable set of flasks bear to hair combs, hair pins, fish bones, and star spurs, as Instruments of liquid transfer."

- Cite Undated sheet: Dymaxion Airocean World Fuller Projective-

"The Fuller Projection not only contains its surface data increments within uniform and linearly unaltered closed great circle arc polygonal peripheries--- all the way from its spherical to its planar positions--- but also uniquely concentrates all of its spherical angle excess. It concentrates the excess into 60 degree symmetry within equilateral polygons. This means that the compound curvature subsides by symmetrical internal concentric contraction into a flattened condition entirely within its neither elongating nor shortening peripheral integrity. The internal subsidence of the Fuller Projection is in contrast to all predecessor projective methods for showing the whole world within one unitary surface. All the predecessors disperse spherical excess by outward 'fanning', i.e., by stretching out to flattened condition."

- Cite Undated Sheet: DYKAXION A'IROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

The projective transformation "transfers the spherical data to the planar by employing only great circle coordinates, while all other projections employ a progressively complex admixture of great circle and lesser circle coordinates."

In the projective transformation "from spherical to planar condition the radii of the sphere of reference which penetrate perpendicularly each spherical surface coordinate point of the comprehensive great circle grid, separate from one another at their respective internal ends-- and each and all remain constantly perpendicular to the transforming, internally shrinking surfaces throughout the transformation, and their original uniform lengths also continue as 'constant*' throughout the transformation."

- Cite Undated Sheet: DYXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

Proactive Transformation:

(6)

"Because of the constant perpendicularity of the Fuller Projection's radii to the transforming surface, the Fuller Projection greatly simplifies celestial calculations. All astronomical phenomena always occur in outward perpendicularity--- zenith--- to the Fuller Projection's internal spherical coordinates. On transformation to planar grids the astronomical data always remains in identical perpendicular zenith to the corresponding coordinate positions in the planar phase of the Fuller Transformation.

"Because of this property the Fuller Transformation would be more suitable than any other projection for a comprehensive planar mosaic of a total covering-set of world-around aerial photographs. Aerial photographs are always taken from zenith positions and at a constant altitude, or radius distance from the Earth's spherical fWML surface."

- Cite Undated Sheet: UYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

The projective transformation "consists of great circle bounded triangles of any angular magnitude which can transform the comprehensive geographical data of the world from the spherical to the planar by employment of either the spherical tetrahedron, spherical cube, spherical octahedron, or spherical vector equilibrium and its alternate, the icosahedron, or any development of these. . . It is a discovery of synergetics that there are no other spherical triangular grid bases."

- Cite Undated Sheet: DYMAXION AIROCEAN WORLD FULLER
PROJECTIVE-TRANSFORMAT ION

"It is a matxpr of Dymaxion cartographic strategy that: the greater number of great circle polygonal zones employed in the transformation, the less the spherical excess to be subsidingly concentrated within each zone surface, and therefore the less the residual distortion distributed to each of the planar mosaic aspects of the whole world's reassembled surface when arrayed in one continuous flat 'skin.'"

The projective transformation presents the only method by which the whole world data can be transferred from the spherical to the planar within an all great circle grid triangularly, quadrangularly, multipolygonally or all two or three together."

"Because of a hemisphere's polar symmetry to its opposite polar hemisphere to the total inventory of great circle grid triangles in the comprehensive world grid is always even in number, therefore adjacent triangles may always be associated in total or partial quadrangular pattern-phases without increase in vertex count."

- Cite Undated Sheet: THE DIMAXION AIROCEAN WORLD FULLER
PROJECTIVE-TRANSFORMATION

Projective Transformation: Raleigh Edition:

"The man may be cut around its periphery and bent on its main triangular edges and the exterior edges brought together--- closing all exterior sinuses--- thus making a continuous or finite surface and constituting a planar facted icosahedron transformed from the pspherical icosahedron, 'tthen the surface is thus closed--- proving itself to be a finite continuity--- and the resulting icosahedron is compared to a globe of the world, the relative shapes and area sizes will be found to be entirely faithful to the spherical globe's relative sizes and shapes."

- Cite Undated Sheet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION The projective transformation employed "in the Raleigh Edition of the Dymaxion Airocean World is that of the spherical icosahedron , chosen because the latter has the largest number of identical and symmetrical spherical triangles, and therefore the least 'spherical excess*' of all the possible symmetrical triangular great circle bound mathematical cases. The spherical icosahedron was also chosen because its controlling arc boundary of 63 degrees 26 minutes 05.816... seconds was just adequate to the triangular spanning of the maximum continental aspects encountered in the unpeeling of the Earth's data--- within 20 symmetrical great-circle bound control triangles--- spanning those continents in such a manner that all 12 vertexes of the spherical icosahedron grid lay in the open waters. As a result this peeled strip map contains all the world's continental contours. . . with no displeasing distortions of the shapes."

- Cite Undated Shet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

Projective Transformation: (Dymaxion Airocean World Map;) "The projection system of the Dymaxion Airocean World Map divides the sphere into 20 equilateral spherical triangles which are then flattened to form the icosahedron. These 20 triangles are each projected into a flat plane. • • This method results in a map having less visible distortion than any previously known map projection system. . . . To flatten the globe it is simply necessary to 'unfold' the icosahedron."

- Cite Synergetics Illustration, 19, caption. 1967

•*I am going to give you a mental model of what I did in developing my method of projection. This is really a 'topological transformation' rather than a 'projection' since it isn't a shadowgram, I am going to take a thin tempered steel band and I am going to mark it with sub-modules, with increments like an engineer's scale. If I bend the band, the modules will all stay in their same original uniform lengths. In a bent condition, or in a flat condition the modules will all read the same. Now I'm going to punch holes vertically through both the end module marks of the band and I'm going to take two more such bands each marked with the same modules and I am going to overlap their hole-punched ends, and I'm going to put a round rod through the holes. The rods going through each of the corners of the steel band edged triangles make little swivels. The rods go through the bands vertically and perpendicular to the plane of the triangle formed by the steel bands. If I take hold of the bottom ends of two such rods that go through the holes at the end of one of the steel bands and pull them towards each other, I make the steel band bend. Now I take hold of the bottom ends of all three perpendicular steel rods and pull them towards one another."

- Cite RBF, Univ, of Rhode Island, 26a Aug, '66, p. 197.

"This will make each one of the steel bands bend. As each one of these bent or arched bands also rotates away from the others, each of the corner angles will be opening up and the three swivel end bands form a spherical triangle."

"In my projection I've used great circles for the edges of the spherical triangles and marked them with a uniform boundary scale. A set of fundamental perpendiculars to the great circles, as the radii of the sphere, come at even modules onto the great circles. I have interconnected these edge modules of the spherical triangles with the three-

way grid. With this three-way grid I could do as I did above with the tempered steel bands and produce a three-way grid of small- spherical triangles within the large spherical triangles of the icosahedron. I can put a grommet where each of these steel bands cross and run a rod through perpendicularly which would represent the radius of the Earth going into the center. Imagine the triangle in a flat or planar condition, with a great many of these bristle-like rods going perpendicular to the surface of the triangle and then pulling them all together at their free ends. The triangles of the three-way grid all form spherical triangles."

- Cite KBF, Univ, of Rhode Island, 26 Aug. '66, p. 197.

Projective Transformation Model: (III)

"We find that these rods remain perpendicular to the surface of the triangle throughout all of their transformations. It doesn't matter whether the triangle is flat or is spherical or how it is spherical or what the corner angles are. Each one of these rods will be perpendicular to its spherical triangle at its vertex of attachment just as the radii of the Earth are to the great circles. This means that when we take the

geometric data of the stars, any star that is in its zenith over the Earth at any given moment will remain in my map in this vertical position over that point on the Earth whether my map is in a planar condition or a spherical condition.' '

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66, p. 197»

Proactive Transformation Model:

"The" projective "Transformation is contained entirely within a plurality of great-circle bounded triangles--- or quadrangles of constant uniform modular subdivision whose identical length '» edges--- shown as steel bands in the illustrations. . .

---permit their hinging into flat mosaic-tiled continuities at the planar phase of the transformation and thereby permit a variety of hinged-open complete flat world mosaics.**

-Cite Undated sheet: THE DYMaXIOK »IROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

The projective transformation model demonstrates how the "xonal mosaic tiles migrate, how each tile independently transforms internally from compound curvature to flat surface."

- Cite Undated sheet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

Fro. iecUv« Transformation:

See Constant Zenith Projection*

Transformational Projection*

Internal Control of Distortion

Preferred terminology)

Project!

Deproject

Pr<?pm^eJ ProniQUQn:

"If you promote you cannot invent,"

- Cite RBF to EJA 4. Michael Denneny, Nicholas Restaurant N.T. City;
7 Oct'76

"There is a gestation rate and that's why I don't promote.

You can't make babies by Madison Avenue, Nature has to have its due course: the chemical process, so much pressure, and so much heat. You can't overdo it or you'll boil the egg. You'll have a hard-boiled egg.

- Cite tape transcript, p.19; RBF to W. Wolf, Gloucester, Mass
2 Jun'74

Promote:

I Don't Promote:

"... The Design Science Institute will keep his books and writings available and will promote such ideas as his geodesic dome." (Press Release, DSI, 29 Jun*72)

RBF wrote marginal instructions to EJA as follows:

"Sonny: it is one of my own strictest disciplines NOT to promote! The Design Science Institute will also avoid all promotion and is committed as am I to giving forth only when asked by others so to do, Please try to have this sentence deleted from your release. Thanks. S. Fuller, Oct. 6, 1972.

- Cite RBF marginalia as above, b Oct'72

His Decision He Lust Not be a Persuader,

See Anonymity

Fuller, R.B:

But a Doer

Fuller, R.B: New Forms vs,

Lecture Invitations Reforms

See Religion, May'65

Robin Hood Sequence (2}

World-around Communication Transcends Politics, (2)(3)

Evolutionary Checks & Balances, 26 Aug'75

Optionsj 13 May*77

Pronouns: I = We - Us: (1)

"The pronoun *I' is simply the observing system's oversimplified I-identification as with the only-threshold-tunable but directionally-identifiable noise, or point-to-able, as-yet- undifferentiable 'pointal' somethingness,

"The experience life being most minimally described as awareness and awareness being dependent on system otherness, unity is at minimum two: 'I*' means ',/e.' I is only the system symbol of the observer side of the awareness equation.

"You (We) become so preoccupied with interrelationship principles as to become unconscious and unaware of any special case aspects of both the observer and originally observed correspondent as to momentarily lose all consciousness of their mutual environment.

"You (I) (We) become one with the environment. You and I and the lamppost, I am a system; you are a system. Systems embrace systems. 'System' is interchangeable with and could replace the you-and-I I-identities. We are both subtunable systems of a greater system of systems. Me-Us is a system. *I-'le* are a"

- Cite RBF holograph, J20C Idaho, Wash., DC; 10 Dec'75

Propound: I - We ^w Us; (2)

"*a system. The system insideness may be hungry; the system's external environment may be cold.

' • The systemic inside-outness-defining considerability, its fourness, and its sixfold interrelationships which provide the awareness of relevance and irrelevance, is always a priori—is always there in every mo-ment,"

- Cite RBF Holographs! 3200 Idaho, Wash., DC; 10 Dec'75

See He-even Matrix of You & I We-me Complex It Self Subjective &
Objective Individual &. Group Principle Objective Intellect Transcendental It You it Me

See Vector Equilibrium, Oct*75

Proofa: "Proofs must proceed from the minimum whole system to Universe and the differentiation-out of Universe of the special case conceptual system. Proofs must start from the minimum something which is the minimum structural system. All geometrical and numerical values derive from fractionation of the whole."

- Cite SYNERGETICS 2 draft at Sec. 1052.361: RBF rewrite S Aug*77

Proof?:

"Proofs must proceed from the whole to the particular, starting from the minimum something. All geometrical and numerical values derive from fractionation of the whole."

- citation k context at Hit, as l-'adel for Quark. 3 Kay'77

Proofa:

"...The thing about proofa is that I am really operational and for me the test is: if the airplane flies. If it does fly, then that's operational. But the mathematicians... you read about them in Courant and Robbins... they have a different kind of criteria. Even though they know that a certain situation always produces predictable results every time, it's not necessarily proven.... The way they might have points on a surface but don't credit the fact that the points are also on the other side of the surface. But you know the way I start out with one point, then two points, then three points, and the insideness and outsideBess with four points.... That shows that principles can be realised independent of size."

- Cite RBF to EJA, by telephone from Phila. Office; 7 Oct'75

Proofs:

. Any individual has only limited knowledge of what the total Universe frontiering may be. The list embraces whac I know to be my own discoveries and I have no knowledge of others having made those discoveries prior to my own. I am claiming nothing. Proofs may have

been made by myself and will be made by myself. Proofs have been made by others and will be made by others. Proofs are satisfying. But many mathematical theorems are of great advantage to humanity over a long period of time before their final mathematical proofs are discovered. The whys and wherefores of what is rated as mathematical proof have been evolved by mathematicians; they are formal and esoteric affirmations from one specialist to another.'*

- Cite RBF to EJA, Washington DC, 20 Dec. '71 incorporated in SYNERGETICS, at Sec. 250.C. ^A

EMJ

Proof: Proofs:

See Circumstance-proved

Knowns Harvested From All the Unknowns Experimental Demonstrability

See Science: Left Hand & Right Hand, May¹65

Synergetic Strategy of Commencing with Totality,
28 May'72

Geometry, 14 Nov'73

Systematic Realisation, 20 Dec'74

Minimum Limit Case, 9 Jun'75

Philosophy, 11 Aug'76

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

Multiplication by Division, 20 Jan'77

Mite as Model for Quark, 3 May*77

Propaganda:

"All the Western world's free-enterprise-controlled media's propaganda is designed to rationalize selfishness—this is its function in a world where there is supposed to be lethal inadequacy of life support which therefore assumes a survival- only-of-the-fittest raison d'etre."

- Cite RBF to White House Fellows, Watwrgate Hotel, Wash. DCj 28 Mar¹77; as
rewritten by RBF 29 I'ar'77

Propaganda:

(1)

See Psychological Warfare

**See Design Revolution, 7 Nov*67 Law, Fay*65 Superstition, circa
1955 Democracy, 10 Sep*75 New York City, (6)**

Propagative Tranaformtion of the Vector Btmllibrlua:

See Jitterbug

See Electromagnetic Wave Propagation

Energetic Functions

Feedback

Propagative Transformation of the Vector Equilibrium

Spherical Propagations

Quantum Propagation

Wave Propagation Tenduncy

Wave Propagation Model

Wave System Propagations

Nuclear Propagation Rate

Sec Frequency, 22 Jun*72

Isotropic Vector Matrix. 30 Nov*72

Life, May'49

Observing vs. Articulating, Mar*71

Radiation, May*72

Spheric Domains. 6 Nov*72

Vector Equilibrium, 30 Oct*73

Zerophase, (1)

>!ale Ic. Female, 1 Feb*75

Abstraction, 24 Feb'72

Convergence & Divergence, 6 Jun*75

Synergetics, 11 Oct'73

Metaphysical & Physical Tetrahedral Quanta, 25 Mar*71

Energetic Functions, 8 Aug*77

Propeller:

"Let me take one propeller blade by itself. I am going to split it longitudinally and get an S curve, one in which the rates are changing and no power in the curve is the ease. So it is asymmetrical by itself: it is repeated six times: positive, negative, positive, negative. . . and the six blades come round in dynamic symmetry. The energy forces involved are in beautiful absolute balance. We have energetic balance."

- Cite SYNERGETICS text at Sec. 532.23; Dec'71

See Diesel Ship at Sea Dynamic Symmetry

See Ecology Sequence. (Q)

Wave, 11 Jul¹62 Wind Power Sequence, (2)

Er.gp.qrtx-

"The Elimination of Property By Making Ownership Onerous: The elimination of property by making ownership onerous is to be accomplished by making man a world citizen, each to enjoy all the treasures of the whole Earth. He can't any more 'take it with him' around the world than he could 'take it with him' in yesterday's concept of 'into the next world.' He 'can't take it with him' and enjoy the new world of Universe citizenship, and its natural emancipation from slavery chained to ponderous thingness."*

Cite WORLD-AROUND PROBLEMS THAT HAVE TO E: DESIGN SCIENCE REVOLUTION, 29 June 1972

BE SOLVED BI BLOODLESS

Property: You Can't Take it With You:

See Transnational Capitalism i Export of Know-how, (1)

See False Property Illusion

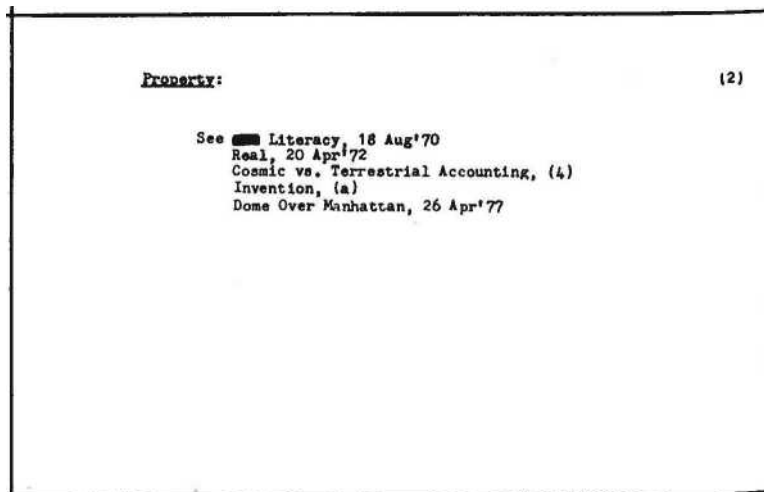
Obsolete: Inventory of Obsolete Concepts

Ownership

Private Property

Thing: Thingness

Politics & Proprty



Proportion: Proportionality:

See Interangular Proportionality Interproportional

See Ventilated Prose

Verse vs. Prose

See Threshold of Life, 6 Jul'62

fxflfpflet for Humanity:

"Russians, Arabs, Israelis— wherever you look— there is a popular presentment of the political. People are ready.... Businessmen are not bad, they're just caught in playing the wrong game.... Integrity: It's up to each of us in the little things each of us do... if we don't pick up the paper to clean up our own mess. Hurra nity is at the final exam. Humanity is not marking the papers.... We are prone to think that the Universe is here to please us and the stars are just so much decoration.... And there are so many falsa jobs that do not produce life support. Ky predictions?... I know the options, but I don't know whether we're going to make it or not."

- Cite RBF at videotaping session Philadelphia, PA., 2. Feb'75

Prospects far. HujpnitY?

Q. What are your dreams for the future of society?

RBF: "No society: no Ke. I am the product of two, to start off with. No otherffcAess: no me. No otherness: no awareness. The individual is here for problem-solving. We will become much more concerned by Universe than by society. Earning a living is really the mischievous nonsense.

"People will be living in the Macro and the micro. You can ?ut all the things back in the museum and live 3,000 years ago ou can go backwards or forwards in time. We will have fellow ships just to think, and fishing is a better place to think than a schoolhouse.*

RBF to videotaping session Philadelphia, Pa., 1 Feb*75

See Meek Have Inherited the Earth, (1)(2) Walla vs. Airspace Technology, (2) Success, 10 Sep'75

Proapero-proletarian Predilection:

See Computer Asks an Original Queetlon, (3)

See Tensegrity Masts: Pentagonal Polarity, 27 Dec*76

Proton and Neutron:

"I will give another example

Of always and only co-occurring phenomena.

Physicists today observe

That the proton and neutron

Always and only co-occur.

While they are not 'mirror' images of one another

And have different weights, They are transformable One into the other,

And are thus complexedly complementary, As are isosceles and scalene triangles. None of the angles and edges of either need be the same To produce triangles of equal area.

And the sums of the three angles of each

Will always be one hundred and eighty degrees.

ⁿThe mathematical balancing or complementation

Of the proton and neutron are analogously balanced, Each one having two small energy teammates.

The proton has its electron and its antineutrino, And the neutron has its positron and its neutrino.

And each of these little three-member teams”

- Cite BRAIN KIND, p,134 May '72

Proton and Neutron: (2)

’Constitute what the physicist calls $\hbar/2$ spin or a half-quantum.

They complement one another

And altogether comprise one unit of quantum.

We have now discovered experientially

An always and only coexisting tension and compression;

An always and only coexisting concave and convex;

And an always and only coexisting proton and neutron.”

- Cite BRAIN t MIND, pp.134-135 May '72

Proton and Neutron:

'The physicist finds

That the proton and neutron

Not only always and only co-occur, CftjteJW* are interchangeably transformable,
But also could not occur independently Any more than a triangle could occur With
only two points. . .

"We are founded on □□□*

The orderly base

Of the proton-neutron tripartite teams Of six unique energy integrity
vectors."

Citation and context at Universe, pp.156-157 Hay '72

Proton and Neutron:

"When you isolate the neutron you are isolating the concave. When
you isolate the proton you are isolating the convex."

- Citation at Convex and Coqayg

te OJA, jaOQ-Jdahi, Wash DO? 29 Fay»72

"The astrophysicists say that no matter how far things come apart,
they never come further apart fundamentally than proton and neutron
which always and only coexist. </hile one is convertible into the other,
the masses are not the same. The conversion of one into the other is
only by virtue of each having two side energy effects. In other words
the proton and the neutron have its two side energy effects. These
are like the resultant and the

reaction. And in relation to complementarity. . . The Nobel Prize
being given 16 years ago to two young men who discovered that the
complementarity was not in mirror-image, as it had been assumed up
to that time. :ie had been

assuming that all you had to do was to multiply the Universe by two. For some years it was discovered and demonstrated scientifically, physically, that the complementarity was not the mirror-image.

"I'd like to give you a way you can understand how the proton and neutron, which do not have the same mass, yet are interchangeable one with the other, are always known to coexist and are complementary to one another: how could they then do this and not be mirror-image?"

- Cite RBF at Slib, U. Mass, Amherst, 22 July '71, pp 20-11
Proton and Neutron; (B)

"For instance, you could have an isosceles triangle. And you could have a scalene triangle where all three edges are different. So the scalene and isosceles triangle quite clearly are different triangles. Yet the sums of the angles on the scalene and the isosceles are all 180° . And you could have the sums of the lengths of the edges of the scalene and the sums of the lengths of the edges of the isosceles also the same, which is exactly what we do have in the proton's and neutron's side energy effects, where we have the proton with its electron and its antineutrino; and neutron with its positron and its neutrino. Each of these teams is called one-half quantum; or one-half spin in the physics."

- Cite RBF at U.E. Mass, Amherst, 22 July '71, p. 21

"I'm simply giving you complementarity. I find that nature, with proton and neutron always and only coexisting, by virtue of which the astrophysicist of today has to say that there never could have been anything primordial, that is, something before order—that there was original chaos and disorder, out of which, surprisingly, order developed. I would say very surprisingly, because it is fundamental to anti-entropy that order inherently increases, disorder inherently decreases, and it would be completely counter probability that out of inherent disorder there would develop a beautiful human being or a lily. . . So the astrophysicist discovers that we must always have Aft

had proton and neutron, always and only coexisting: that we must always had order, iian was disorderly in his ignorance. We find that fundamental complementarity. .

- to have to have two to explain and complement one another, is not an illogical matter.”

- Cite KBF at Sims, U. iass., AAherst, 22 July *71.

Talk 12, p. 27

Proton & Neutron:

“...A basic orderliness of Universe is provided by the always coexisting proton and neutron which, though complexedly intertransformable, are not mirror images of one another, nor are of equal mass or weight.**

- Citation and context at Chaos, 13 Nov'69

"Of all the essential, harmonic, wave-frequency associable phenomena none is more compatible with all other phenomena than are the proton-neutron teams of physical energy. At the next higher level of complexity no phenomena is more universally associable than is the hydrogen atom. No physical complex is moieprolifically reproduced in Universe than is the hydrogen atom. But the proton-neutron teams and the hydrogen atoms are individually invisible to the naked eye and are aesthetically appreciated only by the scientists who deal with the invisible ranges of the great electromagnetic spectrum 'reality.' As the essential complexes first become visibly discernible as snowflakes, minuscule flower blossoms, crystals, or any other of the myriads of minutiae, they are spontaneously acclaimed by man as aesthetically pleasing.

This aesthetic pleasure includes not only all other visible phenomena ranging from small to large, from starfish to celestial star, but also ranging in biochemical, structural, mechanical, and electromagnetic complexity from the simplest algae and radiolaria to the elephant, the

giant redwood, and the human being. The spontaneous aesthetic satisfaction does not stop here but goes on to include the products of these living complexes, which in turn includes humanity's invented tools."

- Cite GENERALIZED LAWS OF DESIGN, p.3, 22 Apr'68

RBF DEFINITIONS

Proton and Neutron:

"The proton group and the neutron group account rationally for all physical structures."

See Dog Pulling on a Belt

Nucleon

Quantum

Universal Integrity: VE & Icoea

See Chaos, 13 Nov'69*

Convex & Concave, 29 May*72

Coupler (2)

Equilibrium, 25 Feb*69

Icosahedron as Local Shunting Circuit, 22 Jun*72

Integrity, 24 Jan*72

Modules: A II B Quanta Modules, Apr*72

Quantum: Event-paired Quanta, Jul*66

Universe, May'72*

Vector: Threeness of the Vector (1) (2) Crystallography, 17 Aug*70

Human Beings & Complex Universe, (2)(3)

Pmoplftgp*

See Spectrum, 15 Oct'72 Viral Steerability: Control, 22 Jul'71 Animate & Inanimate,

Angle-frequency Design 11 Dec'75

Prototype:

"Just as in art, science, and poetry the most lasting is proven to be the most profoundly understanding and yet most simply articulated, so too may the word prototype in the mass reproducible undertakings of humanity in the most recent decades and most recent century and most recent millenium of humans' known presence on Earth, only be given in retmrospect to those one amongst thousands of inventions which are in fact so timely and simply appropriate and adequate as to induce mass reproduction and can thus warrant the only-retrospective identity of prototype. Just as myriads profess to be artists, poets, or scientists, yet history fails to confirm their claim, jo too the word prototype is prematurely claimed for enterplse initiating designs which fail to be reproduced." *

- Cite RBF draft Ltr. to Karan Singh; above omitted from passage incorporated in SYNERGETICS, Sec.260, 13 Mar*73.

Prototype:

Nine Chas to the Koon, p. 38ff, 1938

Letter to Karan Singh - 1973

Sea Aesthetics of Uniformity

Development

Fuller, R,B: What I Am Trying To Do

Perfect Protorype

Reduction to Practice

Regenerative Design: Law Of Reproducibleness: Law Of Research & Development

ProtQtrafi ?

(2J

See Dwelling Service Industry. (2): |A) Frame of Reference, 4 Oct'72
Omnimedium Transport Sequence, (3) Reproducible, 30 Kay*72
Dome House Grand Strategy: 1927-1977, (1} Building Industry, (3)

Saa Population Density: Manhattan Cocktail Party Privacy

£ras@nla»[!]

See Community, (2)

Proximity I¹ Heirhborllneaa:

See Coninunity, (2)

PrQXI°titY *

"Whereas none of the geodesic lines of Universe touch one another,
the lines approach one another, passing successively through regions
of most critical proximity, and diverge from one another, passing suc-
cessively through regions of most innocuous remoteness."

- Citation at Geodesic Lines, Oct'59

Stc.

MNM Proximity & Remoteness:

''Where all the local vectors are approximately equal,
we have a potentially isotropic local vector equilibrium, but the operative vector
complex has the inherent qualities of proximity and remoteness in respect to any
locally initiated Mss&nMgHMi action ergo a complex of relative
velocities of realization lags."

- Cite COLLIER'S, p. 113 , =Oct«59

See Convergence & Divergence Cosmic 4. Local

Privacy vs. Community Unsettling vs. Settlemente World Pattern vs.
Local Pattern

See Covariation, 14 May'73
 Energy. 6 May'48
 Geodesic Lines, Oct'59*
 Local Vector Equilibrium, 2 Nov'73
 Triangular-cammed. In-out-and-around Jitterbug
 Model, 11 Dec'75
 Old Ian River Project, 20 Sep'76
 See Critical Proximity Fall-in, Shunt-out Proximities Interproximity Proximity *k*
 Remoteness Venus Proximity

See Tensegrity Sphere: Six Pentagonals (1)(2)

PffY<?hedaUg:

"I can really understand psychedelic experiences where we depress our definitive resolution capabilities which leaves the phenomenon color uncontestedly supreme."

- Cite Museums Keynote Address Denver, p. 4. 2 Jun'?1
 Psychiatry; ^{t1)}

"I have your questions here* You asked roe first my general impressions, ideas, and experiences in psychiatry, I haven't any personal experience with psychiatry; that is, I have never been to a psychiatrist. I have known a number of psychiatrists, however, and I have talked to them. . . and I have gone back to 50 years ago here in Chicago when a friend of mine was a student of Jung. * . and I have had conversations with people for many years and I have had a number of students at the university who have been going to psychiatrists.

And I have always really questioned whether those students who were going to psychiatrists really needed to go to psychiatrists—almost all of them were students of wealthy families and we?e having troubles with their families and maybe that was the thing to do. I had a tendency to feel that these students depended too much on the psychiatrist. They were just making another parent and continuuiung with whatever the problems were and they were just not trying to figure things out on their own.

"I have been told by my friends—and particularly by my friend of 50 years ago, Dr. Douglas E., the man who was a student of Jung. . . he said that I had self-analyzed
 - Dr. Michael Bruwer

Psychiatry:

"myself and by the age of 32 I had changed my whole life pattern. . . and at that time I reviewed very truthfully *my* relationships with my family—particularly my mother—in such a way that I would be able to be very fair to her and to bring out whatever the truth really was. And this is a very important part of doing my own thinking. Whether I did or did not follow the practice of psychoanalysis according to the various theories, I did have some kind of an experience all right—enough to have had an experience that made me think about other human beings and their problems. . . and I certainly think that I got myself into that much of a cul de sac in life that I had to start very fresh and do my own thinking.

"I had been brought up in an era that was no longer operative, where the older people were utterly convinced that the younger people's thinking was completely unreliable. . . that it was something that did not firm up until they were 30 or so. And all the younger people were continually being told by the (Bolder people: 'Never mind what you think! Listen, we're trying to teach you.' And we were taught to get over our sensitivity and to give up all the things that seemed*

- Cite transcript (pp. 142) of RBF tape with Dr. Michael Bruwer, Ritz Carlton, Chicago; 20 Feb'77

Psychiatry- (3)

"to be our fundamental faculties and proclivities, ... And there was a game, • . there was something called life, and that's the way life really is. , . really a game. And, knowing that my father died when I was very young, and my mother—I knew how much she loved me, that she sent me to the kind of school where she thought I would get something excellent in the way of education, but I was continually being told: 'Never mind what you thinkJ' ... So I simply made up my mind to try to give up and pay no attention to what I think ... to give up all my sensitivities and put on an act, and I actually got to be very good at it,

"I confused my realities. When I was running and high- jumping, and so forth, I was really very true to whatever I am there. I was very true to myself in a ship at sea and I did very well in the Navy, but the naval officer was a game in itself. We had to be an officer. . . and I did very well in the Navy, did very well as a mechanic—because I didn't have to make any money aboard ship. . . , I didn't have another game to be superimposed on it."

- Cite Transcript (p.2) of RBF tape with Dr, Michael Bruwer, Ritz Carlton, Chicago; 20 Feb'77

Psychiatry:

"/hen I got out of the Navy and had to come into the building world, I found that I was interested in putting up good buildings; and I was not interested in making money. I never had the slightest feeling for making money. I was really tremendously surprised and actually felt very

badly about why people wanted to play games for money with me—and this spoiled the whole thing. The money idea was obnoxious to me really fundamentally. I tried very hard to play the game and I was no good at it. I was in this cul de sac. I had made a mess of it.

"A lot of people thought I was very bright with high initiative and all, and they bet on me and so they lost all their money. I was in a real mess. And I had either thee to do away with myself, because I had a new child, and this was not just our first child, but a second child. Our first child died before her fourth birthday—and after a five-year hiatus here was this new life entrusted to us—that my wife and I were to have in Chicago. . . our families were in the East far away when we had this new child,"

- Cite transcript (pp. 2 & 3) of RBF tape with Dr. Michael Bruwer, Ritz Carlton, Chicago; 20 Feb*77

HBF DEFINITIONS

PfLYGhlatry- (5)

"And so I really had to. . . saying I'm not going to pay any attention to the game. . . and had to actually do my own thinking.

"So I tried to understand again how and what human beings are, and how we happen to be in our Universe, and above all learn how to use all the faculties and senses we are given as part of our regular design—a fundamentally Important design. That is really all I have to say about my general impressions and experiences with psychiatry—and my relationships to psychiatry—and I have now lived 50 years with this new way of employing my faculties."

- Cite transcript (p.5) of RBF tape with Dr. Michael Bruwms, Ritz Carlton, Chicago; 20 Feb'77

Paxshlatrx: Psychoanalysis:

Sea Schizophrenia

pgyfihlayry: PflychoanalYflifi •

(2)

See Dwelling Service Industry, (6)

Responsibility, Dec'69

Self-discipline, lay* 72

Anger,

Fuller, R.B: Moratorium on Speech,

Six notion Freedoms ic Degrees of Freedom, (5)(6)

Psycho-guerilla Warfare:

(1)

See Narcotics as a Political Strategy

FaYthg-fuerma Warfare

(2)

See China (A)

Womb Population, (3)

Politica & Property, 6 Jul'76

See Behavioral Science

Mob Psychology

Operant Psychology

Reflexes

Deja Vu

Human Tolerance Limits

Motive: Motivation

Determinism

Inferiority Complex

Conditioned Reflex

Mentality

Fortress Mentality

Mind

Yesterday's Private Castle Mentality

Behavior &. Environment

Feeling Good

Mental Health

See Consciousness, 14 Feb'72 Metaphysics, Jun'66 Synergetics, 15
Jul'73* Design Science, 22 Apr'67 Anger, (l)-(3)

PSYCHOLOGICAL GEOMETRY

(u)

See Awareness

Balls Coining Together

Conceptuality as Polyhedral

Ethical Physics

Ego

Geometry of Thinking

Identity

Individuality

Individual: Theory of the Individual

Interference as a Social Model

I

Loss: Discovery Through Loss

Matrix of You &, I

Otherness

Me

Middle

Observer & Observed

Me the Observer

Madonna Theme

Individual Universes

See Precession: Analogy of Precession and Social Behavior

Personality

Prime Otherness

Self

Subjective t Objective

Social Problems: Tetrahedral Coordination Of

Self-now

Self & Otherness

Swallow the Otherness

Tetrahedral Dynamics

Thinking: Analogy of Sphere layers

We-Me Awareness

Unselfishness

You

You &. Me

You 4r Me

Daddy

Teleology

Ke Ball

Pronouns: I = We " Us

**You & I as Pattern Integritys Pronouns Complex It Individual & Group
Principle Split Personality Metaphysical & Physical**

See Individual, Jun*66

**Environment: A Priori Environment, May'72 Remember, 20 Feb'72
Evolution, 22 Apr*71 Free Will, 20 Dec'73 In, Out & Around, 17
May'77**

See Narcotics as Political Strategy Mob Psychology Propaganda

Fmholow

* • • • I find I don't use the word »psychologic⁵²!

KBF JLFIIUTIUhS

Psychology:

"ho consciousness; no psychologist "

- Cite RBF marginalia at Eccles, 'Facing Reality, ' p. 3., 14 Feb *72

Public Landa:

Sae Squatters, (2)

See Electronic Voting

See Itforld Game, 4 Klar'69

Public Relational

**"You need public relations because the new dome you are building is
on a technological frontier but not out of this world."**

52 Citation and context at Svnargatiee, 15 Jul*73

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan*75

See Corporation, (2)

Robin Hood Sequence, (2)

Politicians & Defense Budgets, 20 Sep'76

Publishing:

"The printing machine belong# to hunanity. There is something mysterious in the system of how things get into print--- and once they do then you no longer have the same responsibility

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan'75

Publish;

' 'Finally after about five years I published this list / ` ` of environmental hazards/ in an engineering magazine and once it was published it got out of me. I have found that it is good to get things published and forget about them."

- Cite OREGON Lecture #2 - p. 64, 2 Jul*62

See Books

Idea Stealing

Energetic-synergetic Geometry: Original Publication In 1944

Fuller, R.B: On Galley Proofs

Fuller, R.B: Unpublished 1'mathematical Discoveries

Writing

Seo Anonymity. 19 Dec*71

Boole, 1970

Problem: Statement Of, Feb*72

Question Answering, Sep'73

Puerto Ricans Moving Into New York:

See City as Center of Abstract Intercourse (2)

Pueh_t Anthony:

See Four-triangular Circuits Tensegrity, 6 Apr*77

RBF DEFINITIONS

Pull:

"ProceBalon is the pull."

- Citation and context at Intereffecta. 2\$ Sep¹73

Pull:

"A chord has pull: we would probably not think about the connections unless there was some pull between them. The function of the chords is to relate. The event is the vertex. ^Ahe reaction is the chord, the pulling away."

- Citation and context at Chord. 20 Feb'73

Pull:

"The beginning of awareness of intellect is otherness, the mass attraction of another with a pull which relates it to all our system."

- Citation and context at Eternal Instantaneity. 22 Jun'72

Pull:

"In all our experiences there are relatively few principles that are operative in nature; as for instance we had the first instance when we tried to pull something as a child. We tried to pull paper apart, pull books apart, and then we began to try to pull sheets apart and we tried pulling things apart. Then we get onto a boat and someone says "Hold on to that rope," and you find you are pulling very hard. They say pull this way and then that way--- one is called a sheet and one a halyard and so forth. You have this experience on a special boat and are very excited and for many years □ you will always think about the "Primrose" and your fun sailing the *Primrose* on this special day.

You gradually get into other boats and you find there are the same kind of things to be pulled. And you find there is a general kind of thing to be pulled in contrdistinction to things that are pushed. This is what we call a generalisation We are beginning to discover patterns that persist, principles that are operative independent of whether the rope was white, or dirty, or yellow, whether it waplastic or whatever it was, you still pulled it." '

- Cite Oregon Lecture //2, p. 55. 2 Jul*62

Pu).lou:

See Error: Pullout from Error

£01: (1)

See Airplane Flight as Lift Bottom: Pulling the Bottom Up Directional Field Pulls Low Pressure vs. Positires Push-pull Push-pull: Push Wave & Pull Ware Wind Sucking Sequence Dog Pulling on a Belt

See Chord, 20 Feb'73*

Eternal Instantaneity, 22 Jun*72*

Intereffecta, 25 Sep'73*

Rate, 9 Nov'72

Rowing Needles (1)(2)

Orbit, 20 Jan'75

Weather as Exchange of Highs ft Lows, (1)

Wind Stress & Houses, (7)

Integrity, 2 Nov*73

Gravity, 11 Feb'76

Pulmotor:

See Scenery: Rearrange the Scenery, (2)

See Black Hole Omnilibriua

See Otani equilibrium, (2)

Pulsation;

"The inward-outward expandibility is the basis of convergencedivergence and radiation-gravitation pulsation--- which seems furthest from man's awareness. This is what science has discovered: a world of waves in which waves are interpenetrated by waves in frequency modulation. There is a systemic interrelationship of basic fourness always accompanied by a sixness of alternatives or freedoms."

- Cite RBF to EJA, 3200 Idaho, incorporated in SYNERGETICS draft at Sec. 411.36 9 Nov*72

Pulsation:

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the xerophase of conceptual integrity inherent in the positive and negative asymmetries which propagate the problems of the consciousness. ..."

- Citation & context at Experience, 12 Sep*71

Pulsation:

'•One of the things we have to make clear for society is the dilemma of the Max-Planck-descended scientists, the way they do their problems, you can have either a wave or a particle, but not both simultaneously, Heisenberg has the same fault. They make the error of having a wave as a continuity, as a picture--- not as a pulsating frequency. A planar reflex causes them to think of continuous waves.**

- ettuJiBF ft ill, 'KPI, I.IILH, Jmxiuu-

±971__

- Citation at Wave vs. Particle. 22 Apr'71

~~Site: - Idaho, -~~ Pulsation:

"What appears to be congruence will require pulsation,"

BYIKhTMIUCd ptflmion of two separate entities."

- itnc -r W..I1, r>iH|-.hintnn DC,25 Jan *72

- Citation & context at Congruence. 25 Jan*72

Pulsating Controls:

See Cyclic Bundling of Experiences, May *49

See Asymmetric Pulsation

Discontinuity

Feedback: Self-accelerating Feedback

Interpulsativeness Inward t Outwardness Nuclear & Nebular Zonal Waves

Omnipulsative: Omniinterpulsative Oscillation & Pulsation

Resonance

Wave System Propagations

Wow

Pulse Pattern

Pulse: Pulaive: Pulsiyity

In, Out & Around Experiences

Expanding & Contracting

Pulsation: Pulsativeness:

See Calculus, Jul*71

Complementary, May*72 Congruence, 2> Jan*72*
Distributive. 23 Sep'73 Experience, 12 Sep*71*
Orbital Feedbacks, 10 Sep*74 Order k Disorder,
May*72 Physical Reality, 4 Nov*73
Radial-circumferential, Apr'72; y Jan*74 Radiation:
Speed Of (D) Star Tetrahedron, 8 Oct*71 Wave, 22
Apr*71* Wave vs. Particle, 22 Apr*71* Zerophase {1}
Vector Equilibrium, 10 Nov*74; Intuition, 1 Feb*75
Ojnniequilibrium, (1)(2)
Otherness Restraints k Elliptical Orbits, (2) Verse vs.
Prose, 11 Dec*75

Nuclear Pattern of Growth k Decay, S Dec*75

See Three: Number Function of Three in a Four-axial System, 24
Jan*76

Pulse Pattern;

"Beginningless and endlessa Scenario Universe

With its vast frequency ranges

Of omni-interpulsative

Yes-no, give-and-take

Radial expansions and circumferential contractions.

p Citation at Scenario Universe, Jan»72

- LifeEVOLUTIONARY 1972-1975 ABOARD SPCE VEHICLE EARTH, Jan '72.

Pulse Pattern:

"How brilliant and conceptually advanced Were the Phoenicians' high
seas predecessors The Polynesians,

For the latter had long centuries earlier Discovered the binary system
of mathematics Whose 'congruence in modulo two' Provided unam-
biguous, Yes - no; go - no go Cybernetic controls

Of the electronic circuitry
For the modern computer
As it had for milleniuras earlier
Functioned most efficiently
In storing and retrieving
All the special-case data
In the brains of the Polynesians
By their chanted programming
And their persistent retention
Of the specific but no longer comprehended
Sound pattern words and sequences
Taught by their successive
Go - no go, male-female pairs of ancestors.”
- Cite Numerology draft August 1971, p.22.
Pulae Pattern;

"• • • Talking about edges of the three frequency vector equilibrium
where there are 92 balls on the surface. Now there would be then a
frequency of 4 three, but there are four balls to an edge going point-
to-point, with three spaces in between them. An edge of four balls
could either belong to the adjacent square or it could belong to the
triangle. It can't belong to them exclusively: it is like our bonding
where we get common edges. When I began to take the sequence of
the * wave pattern I found them running through the indigs of always
eight of the aero nine. I found some of them are characterized by not
only that one that 's plus one, plus two, plus three, plus four, minus,
plus four, plus three what am I saying?

Minus one, minus two, minus three, minus four, plus four plus three, plus two, plus one."

- Cits RBF to EJA. Tape transcript. Chez Wolf. 18 June 1971. PP-36-37.

Pulse Pattern:

"The great circles of the vector equilibrium. . . There is

one that goes through six vertexes: it has the most possible connections. Six great circles are only going through two vertexes. . . So you've got a very even amount of minus one, minus one, plus two. This is a sequence that occurs time and again. Which is, I have a ball . . . and this is no, no, yes, yes, no, no-- this is nestability of the ball in the center. It is the same as that yes, no, no, yes or yes. no, no, or minus one, minus one, plus two. It is that kind of a sequence. . . Then it goes on again yes, yes, no, yes, yes, no. Or it goes always yes, yes, yes, yes, yes. Or yes, yes, no, yes, yes, no. Or it goes yes, no, yes, no, yes, no. Or it goes yes, yes, yes, yes. There are three ways it can behave. . . . You hemispheres are the opposite of the same so it goes yes, yes, no or no, no, yes. . . Or it could go yes, no. yes, no, yes, no. Or it goes yes, yes, yes. These are all the combinations you can get. ..."

- Cite tape transcript KBF to EJA and BO'R, Chicago, Blackstone Hotel, 13 June 1971. pp. U-15.

Pulse Pattern:

"But the six 1b really the beautiful connector on the vector equilibrium side and it is the one that goes through all the six vertexes. It has the most possible connections.

? . . It * 8 a kind of double pulsation. . . It's only going to send energy when it's going through a vertex. So it does this twice in a cycle. Its energy increments between the two going: yes, yes, no; yes, yes, no; so they add up to a pulse. It goes yes, yes, no; boom, no, no; boom, no, no. •

- Cite tape transcript RBF to DK and BO'R, 2 May 1971, pp. 8-9

Pul8a Pattern:

, Those have the extraordinary quality of going through* a pumping business... $54^{\circ}44'$; $54^{\circ}44'$; $70^{\circ}32'$. . .

I use 60° as normal instead of 90° , so $54^{\circ}44'$ is $6^{\circ}16'$; 5° and $16'$. There's 10° and $32'$. This is plus two and this is minus one, minus one, plus two, if $5^{\circ}16'$ is unity. . • " $54^{\circ}44'$ and it leaves you $5^{\circ}16'$ "; two time $5^{\circ}16'$ is $10^{\circ}32'$, so it's Minus One Minus One, Plus Two, Minus One. Minus One, Plus Two,. . . As it revolves these are where 60° is again our vector equilibrium so you've got the very even amount of Minus One, Minus One, Plus Two. This is a sequence which occurs time and again. . . I have a ball nest in the center. This is no, no, yes; or yes, no, no. . . Then it goes again: yes, yes, no; yes, yes, no, always. This is a basic nuclear arrangement. So you want to get a telegraph system that is going to flash with nuclei and it's going to go yes, yes, no; yes, yes, no. That's what you're getting in the six great circles

- Cite tape transcript RBF' to DK and BO'R - 2 May, pp. 6-7.

*71

Pulse Pattern:

"It is fascinating to learn that, with the development of the computer, nature uses a Yes-No or binary system.

This is the basis of waves. Consequently the Polynesians have been using the most advanced techniques during the period that we have presumed them to be inferior because they only counted to two."

- Cite NACA TO THE INVISIBLE SEA, p. «b. 1970

Pulse Pattern:

"We come into some very interesting conditions of the tetrahedron where we find that a strip of paper, □□□□toe remember that we are exploring ways in which nature with a given frequency will do certain things. Remember also precession. We find resultant of forces are not at 180° and therefore there is a tendency to go off angularly. Therefore a zig-zag like this of identical length members becomes a very fundamental processional consequence of a high frequency event. ... A continuous strip like this when folded down, down, up, down, down, up, down, down, up would fold back on itself and form the tetrahedron and octahedron. . . . and the octet truss and fill all space,"

- Cite Orgeon Lecture p. 300 12 Jul'62

Pulse Pattern:

Cite Oregon Lecture #8, p.305, 12 Jul'62

"In the sixth frequency there is a ball again. So if you go on layer after layer you will find that it reads: nucleus, no nucleus, no nucleus, nucleus, no nucleus, no nucleus, nucleus, no nucleus, no nucleus. In other words it is yes, no, no, yes, no, no. It is a very different kind of pattern from yes, no, yes, no ... or yes, yes, yes, or no, no, no. . . . When I folded the piece of paper into a strip and said it was precessing, I said: hill, hill, valley, hill, valley. It is this kind of one. That is, a nucleus set of events could give you a yes, yes, no which would be the same as hill, hill, valley--- so it was a permitted kind of folding in a nuclear set of fundamental prime set of interactions."

Pulse Pattern:

See Binary Bits: Bitting Diesel Ship at Sea Dot-dash-dot-dash Go-no-go Yes-no-no Yes-no-yes-no Now-you-see-it-now-you-don't

Pulse Pattern:

See Awareness, Feb*50

Spherical Vector

Foldability of Great Circles:

Equilibrium, 11 Oct'62

Integer, 15 Oct'72

Nucleus, 18 Feb'73

Scenario Universe, Jan'72*

Pulalvty of flaalizatlong:

See Vector Equilibritun, 30 Oct'73

See Heartbeat Pulsation: Pulsativeness Oscillation Oscillation & Pulsation Palpitate Pulse Pattern

See Experience, 12 Sep'71*

Life, May'49 Regenerative Design: Law Of (2) Sphere. 31 May*71
Time, o Mar'73; 27 Dec'73 Universal Integrity: Principle Of, Dec'72
Vector Equilibrium, 30 Oct'73 Weather, Feb*73 Critical Proximity,
May'71 Frequency Islands of Perception, 13 Nov'75 Time is Only
Now, 1y Jul'76 Orbital Feedback Circuitry vs. Critical Path,
9 Sep'74

Pumping Model?

See Jitterbug

See Angle: Punping Fraction Factors

Hydraulics Pulsation: Pulsative

See Trees, (3)

Punched Carda:

See File Cards with Triangular Array of Holes

Punishment:

See Deesign Revolution: Pulling the Bottom Up, (8)(9) Human Tolerance Limits, (1T: (B)

Purchasing:

See Mobile Rentability vs. Inrobile Purchasing

"jHrt* fta fin ftremrt Mart*

See Line: Imaginary Straight Line, 22 Apr¹71

Pure Principle:

"What I am saying is that we have only eternity and integrity. Unity is plural in pure principle. The awareness we speak of as life is inherently immortal and equi-eternal."

- Citation 4 context at Awareness. 10 Feb*73

Pure Principle:

"There is nothing that the tough man can get hold of. That is really what happened during World War I and society paid no attention to it. We went off the invisible and it had been discovered by the people who deal with the invisible that there are no hard core things. If you say that the thing goes off with an awful bang, it is Just like I said to you that the water in a wave isn't going from here to there. Yet it is possible for the porgpoise to go from here to there surfboarding along with gravity pulling him down forwardly in angles, but the water isn't going from here to there. (There is some top water that gets blown

slowly from e to west, but I'm not talking about that.) The gneMBmi-
ALs moving at a very great velocity, and there is no wave of water going
there. It is moving in pure principle so it is possible for us to realize
that what we call physically pure principle of that bang, because that
porpoise can bang up on the beach pretty hard. What he is dealing in
is weightless."

- Cite Oregon Lecture #4, PP. 123-124. 6 Jul'62

See Generalized Principle Perfect Prototype Principle

See Absolute Integrity, *k* Nov'73

Awareness, 10 Feb'73*

Epistemology of Quantum Mechanics, 16 Dec*73

Event, 29 May»72

Particle (2)

Radiolaria (1)(2)

Surfing: Surfboarding, 5 Jul'62

Tetrahedron, 20 Feb'73

Understanding, 4 Oct*?2

Womb of Permitted Ignorance, 13 Dec*73

Wave Pattern of a Stone Dropped in Liquid, (1)

Invisible Tetrahedron, (1}{2)

Atom, 8 Sep*75

Cyclic Experience, 1961

Geodesic Domes, 24 Jan*\$8

Pure Science Events:

See Inventions vs. Pure Science Events

See Inventions vs. Pure Science Events

Science: Pure & Applied Science

Purge • Purging

See Self-purging

Purines:

See Hex-pent Structure of Purines

tasaaa:

See Ends

Design Meaning Teleology

Purpoelelea;

See Culture, 11 Aug'76

Push;

"...I had kept pushing things, trying them out. And It alMlye seemed to come to a dead end..."

- Citation and context at Fuller. B.B.: Crisis of 1027 (A) Feb'72

See Tensive vs. Pushive

(2)

Push vs. Attraction:

See Hammering Sheet Metal. (2)

Pueh Button *k* Dial Sveteaa:

(2)

See Industrial Principle, 1 Jun*49

Puahive:

"Radiation ia puahive, ergo tends to increase in curvature« The puahive tends to area of ever leaser radius (nicrowavea are the very essence of thia)...**

- Citation and context at Curvature_T 2J Sep*73

Pushive:

"Explosions are puehlve and evolute and involute as do rubber toruses."

- Cie»=H8r isjit Syaergetifg IlluctraViPg'fftT.

Beverlv-JlQtel_t HHew York. 24 April—tart.

- Citation at Explosions_T 24 Apr*71

Pushive:

See Tensive

. Pushive

Push-pull;

/~In reviewing with EJA Athena V. Lord'a manuscript of

PILOT FOR SPACESHIP EARTH, R0F came across a description of conventional stone structures held together by compression • . . "where the top stones are pushing down on the ones beneath.—/

RBF: "Nothing could be more erroneous. How could a top stone push? What would it have to push against? What happens is that gravity pulls the top stone—and all the others--against each other."

- Cite RBF to EJA, 3200 Idaho, Wash, DC.; 26 Mar*77

Push-Pull:

"The shift between spheres and spaces is accomplished precessionally, You introduce just one energy action--- push or pull--- into the field and its inertia provides the reaction to your push or pull; and the resultant propagates the sphere-to-space, space-to-sphere, transformation whose comprehensive synergatic effect in tijun propagates an omnidirectional wave. Dropping a stone in the water discloses a planar pattern of precessional wave regeneration. The curves are seen generating and regenerating and are not instantaneous."

- Cite SYNERGETICS draft at Sec. 1032.34=; 22 Feb'73
£14

RBF DEFINITIONS

MB Push-Pull:

"The twelve degrees of freedom are also then identified
as the push-pull directions of the tetrahedron's six edges."

- niriurTiy fill To Pi of, Thieuilin o~firrlTn«_r Iff Feb.. '66.
- CAtabion t context at Twelve Universal Degrees of Freedom

18 Feb»66

HBF DEFINITIONS

Push-Pull:

"my philosophy also takes heed of the approximately unlimited ratio
of length to girth of tensions! controls which always tend to pull true,
versus the very limited length to girth ratio of pushing devices which,
when pushed, tend to bend and breacZ"

- Citation and context at Ruddering Sequence (5), 1963

Push-pull Limit.a:

See Ignorance, (1)

'•Minimum structural stability requires six struts, each of which is a
push-piill member. Push-pull structural members embody in one su-
perficially solid system both the axial-linear tension and compression
functions.

"Tensegrity differentiates out these axial-linears into separately
cofunctioning compression vectors and tension tensors. As in many
instances of synergetic behavior, these differentiations are some-
times subtle. For instance, there is a subtle difference between
Eulerian topology, which is polyhedrally superficial, and synergetic

topology, which is nuclear and identifies spheres with vertexes, solids with faces, and struts with edges. The subtlety lies in the topological differentiation of the relative abundance of these three fundamental aspects whereby people do not look at the four closest-packed spheres forming a tetrahedron in the same way that they look at a seemingly solid stone tetrahedron, particularly when they do not accredit Earth with providing three of the struts invisibly cohering the base ends of the camera tripod."

(Sec. 722)

- Cite SYNERGETICS text at Sec.s 722.01 t 722.02; 28 Oct*72

See Structure, 22 Jul*71

Push-pull: Push Phase vs. Pull Phase:

See Visible Light vs. Electricity, 1946

Push-pull swilAmion-

See Teneegrity Geodesic Grid: Three-way Grid, 10 Oct'63

I Puah-Pull: hiahXAYfl.fr PuU Haw

"The push wave is high frequency.

The pull wave is low frequency.

The vector equilibrium consists not of curved lines but of wave lines."

- Cite RBF to EJA, Bear Island, 25 August '71.

**See Energetic Functions Inventory of Push-pull Alternations Interref-
fects Oscillation Structural Functions Tidal Push vs. Attraction Ten-
sion & Compression**

See Necklace (1)(2)

Polar Vertexes, 19 Feb*72 Rudder Sequence (5)* String, 14 Feb'74 Tensegrity, 20 Oct'72 Tensegrity Sphere, 19 Dec'73 Tetrahedron. 18 Feb'66 Vector Equilibrium 13 Nov'69; (I) Structure, 22 Jul'71 Building, 10 Sep'74 Hammering Sheet Metal, (2) Male & Female, 1 Feb'75 Economics, 1 Feb'75 Omnimedia Transport Sequence, (3) Invisible / Negative, 28 May'75 Wind Stress & Houses, (10) (11) Basic Event, Dec'71 Triangle, Nov'71 Window, 22 Nov '77

See Pushive Push-pull

See Curvature, 23 Sep*73 Explosions, 24 Apr'71 Flight. 1971 Evolution, 22 Jun'75 "I am holistic and I really don't want to be limited. It's like a bunch of picture puzzles that we used to have with a picture on the box of what you were asking. But let's just suppose we had no picture on the box, and we had ten pussies in different transparent plastic bags, and we mixed them all up each of the pussies with the other, pussies. I think we could, you and I, sort of intuit which kinds of pieces must be with one puzzle and which kinds of pieces with another and eventually we could at least get them all in the right bags again so they could be worked out.

"That's what it's been like here working these days. Like we had a picture puzzle of George Washington Crossing the Delaware. We'd have one little piece that looked like some ice and we'd have another little piece that looked like George's hat. And we're really just throwing in the tiles and that's what I'm doing giving a lecture, when the kids are all following it and you really can go very fast while you're talking about George Washington's hat and then you're talking about the ice around the boat. All that you really have to say and all that you have time for in the lecture is just to say HAT or just to"

- Citation and context at Cosmic Fish Sequence (4), 16 Oct'72

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gf waahXnxtpn creffflnK th* Dtijuaar

"say ICE, like that. And everybody follows and we're really throwing in the tiles and we have the picture of George Washington Crossing the Delaware."

- Citation and context at Cosmic Fish Sequence (4), 16 Oct'72

PUHIO Qf WflahinsVgn croafllng Uw Djlawrg:

See Generalizations Reduced to One Word Idea Increments

Pyramid:

"An Egyptian pyramid is a half-octahadron. The other half is hidden in the ground."

- Cite RBF in address to Dag Hammerskiold College. Columbia Mi.. 17 Oct'72.

TEXT CITATIONS

Pyramid of Generalizations:

Synergetics, 2nd. Ed. draft Secs. 325.20 - .25

See Pyramid, 17 Oct*72

Dimpling Effect, (B)

Pyramid Technology;

"With starvation-provoked universal thieving they had to build a strong pyramid to guard the Pharaoh's after-life equipment. This required the invention of scaffolding technology in the present life. When successive Pharaohs passed into heaven the scaffolding technology accumulated on Earth, With a mounting technology the nobles also acquired protective entry into the after-life. As generations of Pharaohs and nobles went from this world into heaven, this world's technology multiplied. Inevitably the citizens or middle class exploited the burgeoning technology to gain entry into heaven with the Pharaohs and the nobles.

Inaugurating the Greco-Roman period of history with knowledge and technology multiplying swiftly, the Moses Buddhas, Christs, and Mohammeds proctHmed the feasibility of safe entry into heaven of everybody. This ushered in 1500 years of building cathedrals, temples, synagogues, mosques and their graveyards to secure everyone's after-life."

- Cite RBF dictation to BO'R, Chicago. Dec. *71 to be inserted at gal-
leys of Barry Farrell PLAYBOY Interview.

Pyramid Technology: Pyramids:

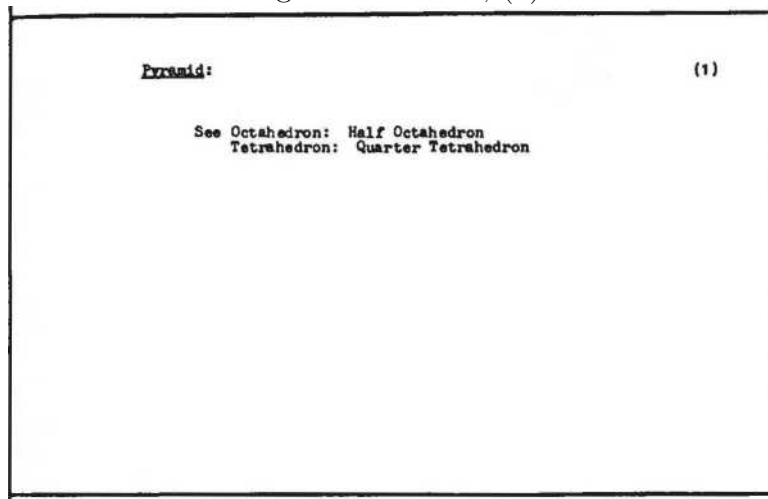
See Inertia, 20 Apr'72

Buddha: Christ: Mohamed, (1)

Pyramid: Great Pyramid at Gizeh:

See Octahedron: Eighth-octahedra, (1}

See Octahedron: Elghth-octahedra, (4)



Pyramid:

(2)

See Cube: Diagonal Of, 10 Jul¹62

Harmonica, Octahedron as Photoaynthesie Model,(B)(C) Octahedron:
Eighth-octahedra, (1)(4)

Pyramid!ne8:

See Hex-pent Structure of Purines, 15 Dec'76

Pnhaf.graft: (1)

"We come then to Greece and the earliest of the going from Just geometry into numbers and arithmetic and we get to our friend Pythagoras. Pythagoras was a very unknown kind of a character, he's quite a mystical one; he's almost like one of the prophets. The ftrthagoreans kept thigs secret.

Pythagoras taught us many things about the second powers of numbers. He was the first to discover the arithmetical second powering and third powering. All the integration of the arithmetic with the geometry comes from Pythagoras.

"And we have Pythagoras... having experimentally tried twanging a string, what you might call a stringed instrument and finding that when it had a flat at half the length of the prime string it brought about a change in notes which we today would call on the /` ` ? J scale, exactly one octave. This is a Pythagorean discovery; and a man who was terribly interested in fundamental rates of change of number, by various operations of the numbers, one with the other, and all the powerings.

"We have him also then thirthing the end of the string and discovering that this took the tone what we call 'down,'"

- Cite tape transcript, RBF to EJA, 6hez Wolf, 18 Jun'71

Pvthap.oras: (2)

"either down or up. what we call a fifth, and what we then have is the keys of the sharps or the flats, these are the fifths up and down, the sharps being a fifth up and the flat being a fifth down; five notes in the smcale--- so that we have very interesting prime numbers halving the number two and the thirthing bringing about fifths. This would

certainly indicate quite clearly a fundamental in our relationship between wave frequencies and number behaviors of octaves. And inasmuch as I'm talking about physics and the waves of the periodic table... its unique frequencies would interact... and what the permutations would be na thematically and I found this highly suggestive that the octave with its characteristically flat resonance really governing the interactions of frequencies.

The resonances are the key to much of modern physical exploration. And I think that the very fact that the Pythagoreans were particularly secret is of importance."

- Cite RBF to EJA, tape transcript, Chez Wolf, 18 Jun'71
See Control Line of Nature

Hypotenuse

Cube: Diagonal of Cube as Control Length Tensed String

Cube: Diagonal of Cube as Wave Propagation Model.

22 Jun'72

Prime Vector, 20 Jul'74; (2)

Radiation-gravitation: Harmonica, 3 Jan*75 Harmonics, (1)

Mites 4c Quarks as Basic Notes, (2)

Q

Quadrangle: Quadrangular;

See Triangular Accounting va. Quadrangular Accounting

Sea Spherical Quadrent Phaeaa

liZ Quadrant at Center of Octahedron

See Ctanlcongruence.

Self-congruence Packing Chemical Bonds: Quadruple Bond

See Octahedron, 10 Dec'75

Quanta Losa by Congruence, (1)(2) Four Intergeared Mobility Freedoms, 2 Nov*73

QRalimlYg:

See Quantitative va. Qualitative

Quantile;

"The A and B modules quantize our total experience,"

*** Cite RBF in Synergetics draft 740.1, 14 Sept. 1971. Re«edlting of Oregon Lecture #8, p. 285.**

Mrtglg?

See Synergetics vs. Model (D)

QWltltatIVt T8. Qualitative

See Synergetic vs. Model (A)

See Conceptual vs. Quantitative Accounting Measurement Tetravolume

See Information, 1967

Synergetic Hierarchy, 13 Nov'69

Unit, 1960

Energy Involvement of 92 Elements, (2) Critical Proximity, May'71
Epistemological Accounting, Nov'71 Modules: A & B Quanta Modules, 20 Dec'73 Energetic Information, 20 Dec'74 Potential vs. Primitive, 12 May*77

Quantum Sequence: (1)

"Omnitriangulation ---□ stmStural system ---> one unit of quantum
---> Lavoisier thought of the nothingness (air) under the bell jar as a plurality of somethingnesses (elements). Under these circumstances you did not have to wait long for the inevitable development of the steam engine,

"Then, Invisible electromagnetics ---□ no models. Black body radiation involves fourth-power rates of change. Therefore, they said, nature is not using models; she is just using mathematics. The scientists were flying blind on instruments; therefore there was no point in trying to look out of the windows; there is nothing to see,

"Design science employs the method of accounting employed by nature.... Suppose you need six hours to solve your problem. The XYZ coordinates only provide a four-hour clock, a positive-negative, positive-negative, 90-degree clock: perpendicularity gives you only four hours. But since you need six hours you have to resort to mathematics in which you can borrow from yesterday's or from tomorrow's clock.... But with the 60-degree hexagon you have an integral six-hour clock."

- Cite RBF to World Game Workshop, Rainey Auditorium, U. Penn., 23 Jun'75

"Scientists deal only in linear acceleration reduced to 90-degree grids. They have no model for angular acceleration. The circumferential and chordal measurements are always in terms of irrational hypotenuses. In the XYZ coordinate system the parallels never converge and the cube has no inherent nucleus: eight cubes around a common center. But the symmetrical expansion of radiation is a divergent phenomenon. Thus we see how man entered the world of nature through the attic window.

"Design science and our very way of thinking deals in terms of limit cases. We have the tetrahedron with three triangles around each vertex; the octahedron with four triangles around each vertex; and the icosahedron with five triangles around each vertex. The limit cases of a system are three (tetra) and five (icosa} A perpendicular bisector of each of the icosahedron's 20 triangles (from each of the three edges) describe 60 right triangles; actually 120 similar triangles. But in their spherical conformation the 120 spherical right triangles are not identical. There are 60 positive and 60 negative because of the convexity and concavity of spherical projection. The Babylonians were very close but they were unable to get their"

- Cite RBF to World Game Workshop, Rainey Aud. U. Penn., 23 June'75

Quantum Sequence:

"geometry and their clock working together,

(3)

"Even the centimeter-gram-second (C.G.S.) system had not temperature in their accounting except as a superscript. C.G.S - for temperature.... The human proclivity for 'building blocks' enhanced their proclivity for cubes and cubic accounting. The stacking of regular tetrahedra leave 7 20' gaps which seemed to inhibit their allspace-filling function.

"So I saw that the vector is a specific angular direction in respect to an axis of observation. The vector is beautiful and unique because its discrete length is a product of mass and velocity. All the qualities of physical reality are present: the mass is in the discrete length and the time is in the velocity. Vectors do not go to infinity. Here is the basis for a generalized Avofqsjro system as it occurred to me 60 years ago.

"The crystals may be probably unique to our planet; they might be incandescent at a different distance from the Sun.... So the peas and toothpicks of kindergarten gave me the first model for closest packing."

- Cite RBF to World Game Workshop, Rainey Auditorium, U. Penn.

23 Jun '75 **

Quantum Sequence: (4)

"You can get 20 tetrahedra around one point omnidirectionally. Frequency does not begin until you have modular subdivision. String polyhedra are like the necklace models. The cube, strung through vertexial connections, will not stand up. Only the tetrahedra, octahedron and icosahedron will stand up as string-connected polyhedra with string joints.

"Octahedron: The XYZ quadrant at the center of the octahedron complements the tetrahedron. We may disconnect alternate triangles of the surface of the octahedron and pull eight of them out for the eight-octahedra to make a cube on the octa faces. Thus 1 tetra = 8 octa (i.e. 4 × the eight eighth-octahedra on the corners.) Ergo, cube = 3,

"Two spheres in Universe ---> mass attraction ---> vector equilibrium
---> nuclear assembly. Nuclear assembly starts with an inherent volume of 20, which is the minimum model of nucleation.

"How much do I know? How do I know anything? Our firsthand knowledge of minimum limits is better than all the physics in the textbooks."
"

" Cite RBF to World Game Workshop. Rainey Auditorium, U. Penn., 23 Jun'75

Quantum Sequence: (5)

"Then we have the total topological inventory of 30 minimum components. Plus two additional components in the poles of the axis of spinnability: 32.... and the ultimate 33rd is the rest of Universe.

"Octahedron: So we have the octahedron in the middle. (Between the tetra and icosahedron. It is also the second power of the only even prime number: 2^2 ` ` The octahedron is the most common form of energy associated as matter. We may consider the octahedron as a water-filled tube, pulling on a water-filled tube. The pulling will make it bulge in the middle. As we pull the gravitational embracement causes a precessional rearrangement of the vector edge whereby one tetrahedron drops out. One quantum has dropped out but, topologically, it is still an octahedron:

$6V + 8F = 12 + 2$ (Three face-bonded tetra) or (octahedron) $6V + BF - 12 + 2$, topologically there is no difference. This is the quantum leap, the quantum jump, With interference it precesses from matter to radiation; and then back again into matter. This is the lever that will bring science into further consideration of synergetics."

- Cite RBF to World Game Workshop, Rainey Auditorium, U. Penn., 23 Jun»75

Quantum:

"Quantum as prime-structural-system volume is eternally generalized, ergo transcends any particulate, special-case, physical-energy quantation. Generalized quanta are finitely independent because their prime volumetric-domain-defining lines do not intertouch."

- Citation & context at Domain of Quantum, 17 Feb'73

Quantum:

"Happenability has the vector equilibrium as its minimum model, ergo the Universe, experience, can't be one quantum."

flj Siir Tnlfnfi, 1\$ titpinr 1971.

- Citation and context at Happenability. 25 Aug'71

Quantum:

"One quantum . . turns out to be also the minimum structural system of Universe."

- Cite RBF at SIMS, U. Mass, Amherst, 22 July '71, P.22

"At the end of a piece of rope we make a metaphysical disconnect and a new set of observations are inaugurated each consisting of finite quanta integral ingredients such as the quality of all finite-energy quanta."

- <w-1tBF-inrginalie-efegA<iltj>

- Citation at Metaphysical Disconnect, 19 Jun'71

Quantum;

"Quantum implies particularity."

- For citation and context see Module. 1 Jun '71

Quantum

"The tetrahedron in a vectorial nodal of one

quantum of energy.”

- Cite NEHRU SPEECH, p. U, 1J Nov>69

Quantum

”One quantum - one tetrahedron

”One-half quantum - One-half tetrahedron - One triangle

“ One event.

- Cite P. Pearce Inventory of Concepts, June 1967

Quantum

"An association of positive and negative half quantu® units identifies the tetrahedron as one quantu® unit."

{See Illustration ffk,}

* Cite SYNERGETICS ILLUSTRATION, caption #4. 196?

2quantumJJ|:

"The right and left helixes formed of two triangles' respective sets of three edges each constitute the vectorial modelling in conceptual array of the positive and negative "half spins" or "half Quanta" corresponding respectively to the proton set and the neutron set consisting of neutron and /`` positron ? _/ and neutrino on the left hand and the proton, electron, and antineutrino on the right hand. Together these six make one quantum unity- which is identified as the tetrahedron."

- Cite DOXIADIS.pp. 312, 3U, 20 Jun»66

RBF Dri'INITIHNS

Quantum IME:

"... The number of all the lines, which is to say the number of all the vectors in the jnniverse, is always a number which is divisible by six. There are no exceptions. Now these six vectors are the six edges of the tetrahedron, which is the basic quantum unit, and consist as we have seen of two sets of three vectors each, each of which sets of three comprises one event, each event consisting always of action, reaction, and resultant."

-Cite NASA Speech, p. 63. Jun'66

"The tetrahedron with three positive edges and three negative edges consists of two half quanta. These add to exactly one quantum unit. The tetrahedr®al quantum unit constitutes the basic structural system of universe. It is transformable, but IMS topological and quantum identity persists in whole units throughout all experiments with physical universe. It is the only polyhedron that can be turned inside-out and vice versa by one energy event."

- "Cite NASA 8-peach, p,

- Citation at Tetrahedron, Jun¹66

Quantum Accounting:

See Parallax, 23 Sep'73

"The six edges of the tetrahedron consist of two sets of three vectors each corresponding to the three-vector teams of the proton and neutron, respectively, each of which three-vector teams are identified by nuclear physics as one-half quantum, or one-half Planck's constant, or one-half spin,

with always and onlu co-occurring proton and neutron's combined two sets of three-vwtor teams togetteer constituting one unit of quantum of energy, which in turn is vectorially identifiable as one tetrahedron, which in turn is identifiable as the mnimum structural system of Universe."

- Cite SYNERGETICS, "Corollaries," Sec. 240.65. 1971 "AB vectors, the proton and neutron— being energy events — both have reaction and resultant vectors which, due to precession are never 180 angular diversions of the actions* Each set of three vectors looks like a Z. both the proton's vector group, with its electron and antineutrino, and the neutron's group, with its positron and neutrino, are ach called one-half Planck's constant; or one-half spin; or one-half of an energy quantum.

"When we bring together these two sets of three vectors each, they integrate as six vectors and make une unit of quantum and coincidentally also make one tetrahedron (of six vector edges). The eterahedron is veritably the conceptual unit of one energy quantum."

- Cite NEHRU SPEECH, p.23, 13 Nov'6y

RBF DEFINITIONS "ii'ni Quantum; Event-Paired Quanta.

"The discovery that a structural system may be describees the sum of its surface angles /in increments of/ 720° . . . bears out. . . that the tetrahedron is the basic quantum unit. It also demonstrates the fundamental •Maw* &- twoness of eney quantum's proton-neutron. It also provides the experimental basis of the Theory of Functions in which a function can only and always coexist with another function as demonstrated tap experimentally in all systems as the inside-outside, convex-concave, tension-compression couples. All the foregoing brings us to precognition of why the proton group and neutron group account rationally for al physical ~ ~ □ ... --- - - - structures.

L %te N°ASA^LSpeechJpp¹ 03-64. Jul'66

**• • • All patterns, for instance, numbers or phonetic letters, consist of physical ingredients and physical experience recalls. The physical ingredients consist inherently of event-paired quanta and the latter's six- vectored, positive and negative, actions, reactions and resultants ..."

- Citation & context at Number. Jun*66
- at Heiu UT'U.
- Cite NASA Speech) p Junt66

See Axtion

Action-reaction-resultant Happening Patterns Minimum System:
Minimum Structural System Proton & Neutron Reaction Resultant
Three-vector Teams Z Cobras

See Cube: Diagonal Or, (1)

See Topological k Quantum Hierarchies

Quantum Jump:

"The doubling of the vectbrs is where the quantum comes in: Nothing is lost!

"It all occurs between the Duo-Tet Cube of 3 (tetra - 1| and space * \square 1 i) and the biggest nucleated cube of 24. The six edges of the quantum loss can appear in the VE to stabilize it as an icosahedron. The quantum reappears as edges rather than volume...."

- Citation k context at Quantum Mechanics: Minimum Geometrical Fourness, (3); 26 Aug'76

Gold/locks, p.D1, 27 May'75

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" 16b '64

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1032.11

See Octahedron as Conservation 4 Annihilation Model

See Basic Triangle: Basic Equilibrium 48 LCD Triangle, 16 Dec'73 Octahedron as Annihilation Model, 30 Dec'73 Octahedron as Conservation & Annihilation Model, 23 Jun»75 Geometrical Function of Nine, (6)

Quanta Loss by Congruence: (1)

"Euler's Uncored Polyhedra Formula: $V - F + E = 2$

Vector Equilibrium $12 + 14 = 24 + 2$

Octahedron $6 + 8 = 12 + 2$

Tetrahedron $4 + 4 = 6 + 2$

"Though the tetrahedron superficially seems to have only six vector edges, it has in fact 24. The tetrahedron is quadrivalent, meaning that four positive and four negative tetrahedra are congruent."

- Cite RBF/JRF. arquette poster "Deceptiveness of Topology," Phila, PA; circa 15 Dec'76 , , ..

(Incorporated in SYNERGETICS 2 draft at Sec. 1033.51 , 6 Flay 77

RbF DEFINITIONS

"In exploring the intertransformability of the primitive hierarchy of structuring-as-you-go, omnitriangularly oriented evolution and the interbonding of its evolving structural components, we soon discover that the universal interjointing of systems and their foldability permit the angularly hinged convergence into congruence of vectors, faces, and vertices, {see VE Jitterbug} each of whose multicongruences appear only as one edge, or one vertex, or one face aspects, wherefore topological accounting as presently practiced accounts each of these multicongruent topological aspects as consisting of only one of such aspects.

"Only synergetics accounts for all the congruent (doubled, tripled, fourfolded) topological aspects' presences by always accounting for the initial inventory of the comprehensive rhombic dodecahedron's tetravolumed 48-ness and the vector equilibrium's inherent tetravolume 20-ness, together with their respective initial or primitive inventories of vertices, faces, and edge lines, which are always present in all stages of the 48 — 1 convergence transformation, though often imperceptibly so."

- Cite RBF/JMiarquette poster "Deceptiveness of Topology," Phila, PA; circa 15 Dec*76 S_{ftP} SYNERGETICS 2 at W33.52+.53

RBF DEFINITIONS

"With recognition of the foregoing topological deceptiveness and always keeping account of the primitive total inventory of such aspects, we find it possible to conceptually demonstrate and prove not only the validity of Boltzman's concepts, but of all quantum phenomena, and thereby to conceptually Interlink synergetics' mathematical accounting with the operational data of physics and chemistry and their complex associabilities manifest as geology, biology, et al."

- Cite RBF/JRMarquette poster "Deceptiveness of Topology," Phlla PA; circa 15 Dec'76

- Incorporated in SYNERGETICS 2 draft at Sec. 1033.54

"The recallable ingredients of experience consist inherently of paired-event quanta of six-vectored, positive and negative actions, reactions, and resultants."

/N.B.: RBF corrections to SYNERGETICS galley at Sec. 505.12 suggest his preference for above term as replacement for Event-paired Quanta. J

~ Citation and context at Happening Patterns, 6 Nov'73

Quantum Mechanics:

"I saw that the whole complex of everyday reality which compounded to constitute the 'environment' continuity was altogether identifiable as pure quantum mechanics.

it could therefore be treated with rigorously as a design science."

~~Clic IUSA-Speech~~ -p. JURF66

- Citation & context at Environmental Events Hierarchy (4)» Jun*66

"As a consequence of discovering that the 'environment' could be effectively analyzed by quantum mechanics, it then became clear that what men had been designating as 'typhoons' or 'dew' fell into a table of abstract numbers elegantly arrangeable in an order of energy magnitudes,"

- ~~et re tt Af~~* Jun*66

. Citation *k* context at Environmental Events Hierarchy (5), Jun'66

"The grand strategy of quantum mechanics may be described as progressive, numerically rational fractionating of the limit of total energy involved in eternally regenerative Universe."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 937.11, 10 Apr'75

Fractionating the whole: that Everything should be neutral until

ie quantum strategy, muted."

- Citation & context at Harnxyiice, (1), 1 Feb'75

"The quantum mechanics of Universe reveals that the big ones are the least frequent. This is the hierarchy of environmental events. Tornadoes vs. i-osquitoes. There is an hourglass pattern. And there are specific designing criteria. I wouldn't know how to make a house nova-proof. I don't have to try. This is quantum mechanics."

- Cite RDF at Penn Bell videotaping, Philadelphia, 30 Jan*75

"Dealing always in terms of a finite Universe or totality of behavior, we are able to work from the generalized whole to the particular or special-case manifestation of the generalized accounting. This is the basis of the grand philosophical strategy of quantum mechanics."

—Cite NASA speech, pp. 29-30. Jun'66 *mv/eKsc ~ io S'*. <si7

"My working assumption that unity was plural and at minimum two actually changed the grand strategy in quantum wave mechanic

- Citation *k* context at Unity Is Plural. 6 Jul*62

See Harmonics, tl)*

Unity Is Plural, 6 Jul` 62*

Considerable Set, 1959

Generalisation & Special Case, Nov*71

Qwntw »!cchanlcfi: ElaUftura GflQiwirliAl Fpumggg: (1)

"You can take atones and break them into smaller stones and they will always remain polyhedra---no matter how small. It is like pieso-crystals. You can break down stones ---> into crystals ---into atoms ---into minimum set. There is the inevitable minimum set • crystal - tetra. Electronjagnetlce--like ultrasonics---has a minimum geometrical fourness: What is a chord? What is a quark? well, there are a minimum of four frequencies. The crystals are four-dimensional. Time ---spectrum."

- Cite RBF to EJA, from Deer Isle, Sunset, ME; 26 Aug'76

RBF DEFINITIONS

Quantum Mechanics: Minimum Geometrical Fourness: (2)

"The cosmic hierarchy shows that the rhombic dodecahedron, rather than the vector equilibrium, is the largest in the hierarchy and is also allspace-filling. The successive polyhedra result from further closest packing in which every closest packed sphere has its passive complement.

The spheres transform into spaces and the spaces into spheres (as shown in Sec. 1032.) "This explains why the physicists did not understand Bolta- njann* s law and how they didn't employ the powerful tool of Euler's topology. They would not have seen the connection with Euler's constant relative abundance without my"

- Cite RBF to EJA, telephone from Sunset, ME; 26 Aug'76

Sqatawn HMtanlgg* MlnlfiWi Geometrical Fourness: (3)

"extraction of the polar twoness and without synergetics* analysis which demonstrates the doubling of the vectors.

The doubling of the vectors is where the quantum comes in: Nothing is lost!

"It all occurs between the Duo-Tet Cube of 3 (tdra - 1\$ and space `` 1J) and the biggest nucleated cube of 24. The six edges of the quantum loss can appear in the VE to stabilize it as an Icosa. The quantum reappears as edges rather than volume. The hierarchy is topological. Even the rhombic dodecahedron has to be omnitriangulated to become stabilized. Each of its diamond faces has to be**

- Cite RBF to EJA, by telephone from Sunset, ME: 26 Aug*76

connected (along the short fold) . . . and you will find that it takes two quanta to do that.

"The 1, 2, 3, and 5 sequence : these are the three-event vectors that also show up in the vector model of the magic numbers (Sec. 995.)"

- Cite RBF to EJA, by telephone from Sunset, KE; 26 Aug*76

See Polyhedra, 18 Jul'76 Tetrahedron as Microsystem, 12 K«r'77

See Epiatenology of Quantum Mechanics Quantum & Wave Half Spin Chain Reaction Quark Superatomica Transuranium Elements Electron

See Considerable Set, 1959

Environmental Events Hierarchy (4)*; (5)*

Minimum Set, 18 Nov*72

Multiplication By Division, 24 Sep*73 J 20 Jan*77

Octantation. May*73

Spin, Dec*71

Subfrequency (1)

Synergetics,(p.101) Jun'66

Unity is Plural, 6 Jun*62

Wholes i Parts, 10 Dec*73

Nine, 16 May*75

Tetrahedron: Nine Schematic Aspects, 30 Aug*75

Environment, 29 1-ar*77

Human beings & Complex Universe, (4)

Quantum Propagation:

See Frequency, 22 Jun'72

See Neutral Axle, ¹ Jan'75

Uncertainty Principle, Nay* 67

See Energy Quanta Values

See Universal Integrity: Manifest Ratios t Potential Ratios, 1 Apr*72

Quntwa Wm fhangiwna Sfgmnco: (1)

"We say that Universe is design and that design is governed exclusively by frequency ana angular modulations, wherefore the 'angle*' and `frequency' must be discretely equatable with quantum mechanics which deals always synergetically with the totality of Universe's finite energy.

"The relative acutenesses and the relative obtusenesses of the angle and frequency modulating must relate discretely to the relative mass experienciabilities of Universe.

"Quantum wave phenomena's omni-wholeness of required a priori accountability and persistent consideration is always systematically conceivable as a sphere and may be geodesically fractionated into great-circle-plane subsets for circular plane geometry considerability. Quantum waves always complete their cycles (circles). The circle can be divided into any number of arc increments as with the teeth of a circular gear--- many little teeth or a few big teeth. In quantum wave phenomena we may have a few big, or many small, differentiated events, but they will always add to the same whole."

- Cite SYNERGETICS draft at Secs. 539.01-.03, 2) Sep '73

HBF DEFINITIONS

"The rate of angular change in a big wave is very much slower than the rate of angular change in a small wave, even though they look superficially to be the same forms--- as do two circles of different size appear to be the same form. The difference in the wave that is big and the wave that is small, is always in relation to the dimensioning of the observer's own integral system and determines the discrete difference* (i.e., the •relativity') of the wave angle.

"What is 'the most economical relationship' or 'leap' between the last occurred event and the next occurring event? It is the chord (identifiable only by central angle) and the rate of the central-angle reorientation-aiming most economically toward that event, which is the angular (momentum) energy change involved in the angular and frequency modulation or all design of all pattern integrity of Universe."

- Cite SYNERGETICS draft at Secs. 539.04 + .05, 23 Sep '73

See Divide & Conquer Sequence, 11J

Environment Controls, (1)

Environment Events Hierarchy, 1954

Physics, 28 Jun'72

Periodic Table: Harmonics of 18, 22 May*75

Synergetics, Nov'71

Environment, 29 l'ar'77

Suaptuff:

A Quanta Module

B Quanta Module

T Quanta Module

See Control Quantum

Discontinuity

Energy Quanta

Package

Proton & Neutron

Relative Quanta Ratios

Structural Quanta

**'Ideologic Quanta Series Vector: Threeness of the
Vector Wave Quantum**

**Wave Quantum & Indig Bow Ties Wave vs. Particle Z
Cobras Volumetric Quantum Photon-quantum
Domain & Quantum Invisible Quantum**

Metaphysical 4. Physical Tetrahedral Quanta

Fourth Quantum

Basic Event Structural Quanta vs. Volumetric Quanta

See Angular Topology: Principle Of, 14 Feb'66 Finite, 14 Feb*66 Finite Furniture, 11 Feb'71 Gravity (2) Happenability, 25 Aug'71* Isotropic Vector Matrix, 13 Nov*69 Metaphysical Disconnect, 19 Jun'71* Minimum Set, 18 Nov*73 Neutral Angle, 16 Dec*73 Omnifinite, 11 Feb'71 Pi, Nov»71 Powering (B) Module. 1 Jun'71 Seven Axes of Symmetry, 13 May'73 Tetrahedron 20 Jun'66; (2); 5 Mar*?3; Jun'66* Universe, 2> Aug'71 System & Structure, 16 Aug*70 VE & Icosa, 10 Apr*75 Invisible Tetrahedron, (1)

See Quantum Accounting

Quantum: Event-paired Quanta

Quantum Hierarchies

Quantum Jump

Quantum: Paired-event Quanta

Quantum Mechanics

Quantum Mechanics: Grand Strategy

Quantum Propagation

Quantum Theory

Quantum Values

Quantum 4 Wave Mechanics

Quantum Wave

Quantum Wave Phenomena Sequence

Quanta Loss by Congruence

Quarks:

Q. "The high-energy particle physicists have their

devices ever seeking the final smallest particle. Will the quarks become quarklets? Are the quarks a by-product of the devices used to seek them, or are they a priori?"

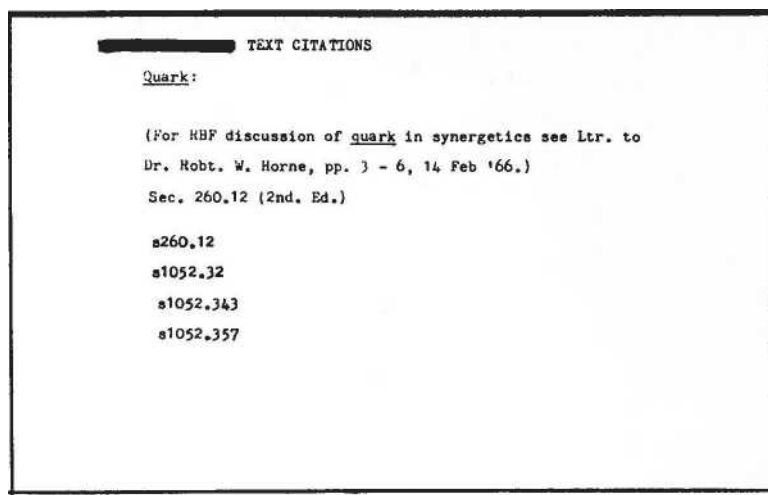
RBF: "Yesterday I gave you the A and B Quanta Modules...

and a tensed string as a system with mathematical properties. Thus the Mites identify with quarks.

"Being tetrahedra, it is no trouble to halve the mites into lower and lower altitude scalehe tetrahedra... the infinite spinnability of the quarter tetrahedra. There is no limit,;

but they may arrive at incredibly small volume.... These may well show up as quarklets."

- Cite RBF to World Game Workshop'77; Phlla., PA; 22 Jun'77



See Mite as Model for the Quark

Half Spin Quantum Mechanics

Mites & Quarks as Basic Notes Strange Particles

Quark:

(2)

See Angular Topology: Principle Of, 14 Feb*66 Invisibility of Macro- and Macro- Resolutions. (2) Microsystems, 22 Mar'76 Quantum Mechanics: Minimum Geometrical Poorness, (1) Tetrahedron as Microsystem, 12 May'77

MBF DEFINITIONS

quarry: Quarrying:

", . . By progressively eliminating the degrees of absurdity and working back to the not too absurd ... he is liable to be able at least to learn the quarry.

where his quarry is in a small area. ;/hat we call quarrying is objective. These are hunting terms."

~C±te~ta~pe- freanaorrpt- riDF lu DJA and DO¹ ft, Gh-ioggOy—1 June 1971
- Citation and context at Heductio ad Absurdum, 1 Jun'71

See Boole Irrelevancies: Dismissal Of Reductio ad Absurdum Twenty Questions

See Reductio ad Absurdum, 1 Jun*?1* ; Nov'?1

Quarterback:

See Ignorance aa Quarterback

SuaryarbacK: Wo Applaud the Quarterback and Not the Lineman:

See America, 22 Jul*71 Organic Model, Oct'66

See Continuous Man, (1)

Industry, 1 963

Ruddering Sequence. (2)

Tools: Craft 4. Industrial, 1970 ; 5 May'67

Trim Tab, Feb'72

Dome over Manhattan, 28 Jan'75

Geoscope, 29 Jan*75

North-south Mobility of World Man, (1)

Q. Do you wish to continue this communications node?

A. *1 do not wish anything. I am grateful for 'what happens.'¹ I am committed to problem solving by positive competent participation in the inexorable physical evolution's transformative stratagems. I am 78. My mail is prodigious. I cannot answer each letter. Therefore, I write books of answers to most pressing questions. Have published 12 books. If you read them all you would not have had to ask the questions that you did for most of them are answered as best I know how in those books. Please do not think that I consider myself an authority. I have been asking myself questions for my whole lifetime and, a half-century ago, challenged myself to find my own answers by experience or in the books. Instead of asking live questions of others. This did not preclude listening to others when they spoke voluntarily to me. I decided to commit my answers to paper so that I could check myself at a later date; in order by trial and error to learn how to think more adequately and incisively. I am glad that you have written to me and above all that you as a young human are interested in such important questions--- at least to me they are important."

- Cite RBF Ltr. replying to one from James Coley, Sep'73

Question Answering:

See Self-querying

QMrtigR AflklM!

"Many years ago I developed a system of question asking in which I ruled that I must always answer the questions from experience. My answers must not be based on hearsays, beliefs axioms, or seeming self-evidence."

- Citation and context at Science. Jun¹66

lon-eklng Possibility:

"There is a question-asking possibility that metaphysical omniscience may be transcendental in its velocity to that of omnipotence, i.e., the definitive physical speed of energy as radiation."

- Cite p, **" r«w<ttnp fry—RRF
_nn-- -w- 19?1—

- Citation at Metaphysical and Physical. 21 Dec¹71

"There is a question-asking-possibility that omniscience may be transcendental in velocity to the definitive

physical speed of energy omnipotence."

- Citation at Omniscience Transcendent of Omnipotence_t 1960
Samian. AJIUW:

See Problem: Statement of the Problem Self-querying Why For? i How Come?

See Computer, i960

Conscious & Subconscious, Jun'66

Experience, Jun'66

F ormula ti ons, 1963

Metaphysical & Physical, 21 Dec*71*

Omniscience Transcendent of Omnipotence, 1960* Science, Jun'66*

Question: Largest Askable fc Answerable Question:

See Universe, (A); Oct*66

Question: Moat Comprehensive:

See Universe, (1)

",. . Here then is an original question: born through occurrence of unexpected interference in experimental interpatternings. MP Original Questions of computers or humans probably are, always, products of unexpected interferences. » . ''

- Citation and context at Computer (D), 10 Dec'64

"The scientist-philosophers of computer intention say that because the asking of original questions is a consequence of interferences, and because interferences are products of time sequences, it follows that original questions are both functions and products of time. There must be a great number of mores and a vast number of computer components before enough time can elapse to develop new types of secondary or tertiary interferences, which in turn may from time to time provoke original questions."

- Citation and context at Computer Asks an Original Question (4) (5), 29 Aug'64

See Computer Asks an Original Question Starting with Universe

See Computer (D)* Cybernetics, May'65 Interference, May'65

"Q. Mr. Fuller, will you be available for a question period after the lecture?

"A. Sure we can have a question period. Each young person after the lecture can ask himself his own good questions and come up with his own answers."^w

- Cite RBF on Telephone to Dr. Edwin Elkin, Wash. DC, 16 Oct'72

Question: Each Next Good Question;

See Future of Synergetics, 1960

See Answer: Answerable

Answer: Unit Answer

Forty Questions

Self-querying

Strategic Questions: Inventory Of

Twenty Questions

Light Side vs. Serious Side of any Question Unanswerable

Why: The Unanswerable Why

Forgotten Questions

See Children as Only Pure Scientists, (1)(2) Experience, Cct'66 Scul-
ture as Single Frame, 22 Jul'71 Survival, 1933 Thinking, 6 Nov'73
Wealth as Know-how, (1)

See Question Asking

Question: Answering Questions

Question-asking Possibility

Question: Largest Askable *Sc.* Largest Answerable

Question: Most Comprehensive

Question: Original Question

Question Period

Question: Each Next Good Question

Question: Old Question

"Song of the Dd and the Quick- Newton was a noun And Einstein is a
verb. Einstein's norm makes Newton's norm.

INSTANT UNIVERSE,

Absurd."

- Cite HOW LITTLE I KNOW, p.34, 0ct»66

IQQ

See Animate t Inanimate

See All-acceleration Universe (2) Instant Universe, vs. All-notion Uni-
verse, 22 Apr'61 Hew Tork City (10)

Smk. PaMiii

See Death: Slow Death by Slums ve» War as Quick Death

(JulfiK: Quickness:

See Intellect t Quickneee Reflex

See Loconotion: Radius of Man's Locomtion, 1 Apr'Ly

R

Race;

"There is no race other than the human race.

"Those who look superficially different

Are the consequence only

**Of milleniums of isolation, attrition inbreeding And inbreeding of the
survival types Under unique environmental conditions.**

"If, in fact, there were different races

No political contriving

Could close the psychological gap,

"Sut in fact

There is only one race."

- Cite EVOLUTIONARY 1972-1975 SPACE VEHICLE Earth,

Jan. '72, p.14

Race: (1)

"University stir-ups, also greatly heightened by the coldwar-stimulated awareness of a century of nonfulfilment of the U.S.A, war for the emancipation of Blacks, and the economic and cultural bans which prolong the racist discriminations against nonwhites... with Blacks skillfully persuaded into activism...

"I well remember the sense of exultant camaraderie which I experienced in 1907 when entering 'Upper School' at Milton Academy. I discovered that the big boys were derisively displeased with the headmaster and, in learning that he was to resign, went into a townwide riot of joy. How I whooped and danced and ran with the others, knowing absolutely nothing of the merits or demerits of the case against the maligned and dishonored 'Head.' This gives me insights into the mass actions of today's students.

"The latter have much more cause for fundamental skepticism, scorn, displeasure, and action against the establishment in general because their elders are asleep at the switch of history's express trains, and because the so-called educational system is failing to give them powerful insights about what"

- Cite Fragment on RACE, 7 Aug'70

Race; (2)

"they need to know and do regarding their elders' dereliction.

"There is no social class distinction, no genetic difference: only history-long brain damaging by undernourishment between conception and one-year old. There is no race differentiation, only a bleach-out of hibernating skin-covered, sub-freezing dwelling zones: Swarthy pink; Sailor mew; Crossbreed--- and go into the north to remain as Eskixps. Finns and Scandinavian blondes--- milleniums of tribally inbred long arctic night hibernaters. Man, born naked prior to invention of clothes, stayed in temperate zones where his nakedness was tolerable;

but going from Polynesia westward across the Indian Ocean into arid Africa, he became greatly blackened on his topsides, but his hands and feet bottoms and fingernail-shielded skin stayed 'white man's' pale pink. White's are bleached out colored people who are the normal people. The undernourished cerealroots- nuts- and bread-eating

poor, constituting 99.9 percent of history-long humanity, thought to be not only illiterate, but incapable of becoming literate, due to an assumed innate 'dumbness' of the masses. Nobility was assumed, by self and commoners, to be a kind of god-contrived, different genetic breed; ergo it was required that the king's sons, daughters,"

- Cite Fragment on RACE, 7 Aug'70

Race: (3)

"nephews, and nieces marry only sons and daughters of royal or noble stock, whether they be friend or foe.

"Karl Marx assumed the scientific validity of both Malthus and Darwin with their combined 'fundamental inadequacy of popular life support*' and 'survival only of the fittest.' He assumed that the working masses were the fittest because, though dumb, they instinctively understood how to cultivate agriculture, husband animals, and work the craft tools.

Wherefore the great pirates, the nobility, and the bourgeoisie who serviced the nobility, were parasites and must perish. Marx also assumed that the genetic difference between the nobility and the masses was valid; ergo his fundamental class warfare inherent in the economic inadequacy to support both. He also assumed the necessity of downgrading standards in order to stretch support systems to serve all; and he assumed minority-party rule by dogmatic adherence to nonindividualistic code, and annihilation of the treacherous 'other class.*

"For only the last ten years of human history, since 1960, have we known beyond scientific doubt that the 'mass dumbness'

- Cite Fragment on RACg, 7 Aug'70

Race: (4)

"was not genetic, but the consequence of undernourishment: i.e., the non-chemically-interbalanced and chemically deficient diet during gestation or the first year of post*-wombland life, which resulted from the meat-eating nobility*s monopoly, of the animal flesh resources and the animals'multi-herb diet."

- Cite Fragment on RACE, 7 Aug*70

Race with Evolution:

See Synergetics, 21 Jun'71

See Crossbreeding World Man No Race: No Class World Man Nation Ethnic

Racine:

See Sailboats, Aug'72

Radar Reflector;

See Octahedron: Eighth-octahedra,

Radar: Radarscope:

See Twenty-foot Earth Globe & 200-foot Celestial Sphere, (1) Lasso, 1946 Octahedron: Eighth-octahedra, (2)-(4)

Radial:

"The time dimension being the radial dimension..

- Citation & context at Dimension_f 16 Nov*72

"Complementarity of Circumferential Oscillations and Inward and Outward Pulsations: We have demonstrated circumferential complementarity, the circumferential twoness of systems such as the northern and southern hemispheres of our Earth. There is also concave inward and convex outward complementarity, inward and outward twoness. As a consequence, there are also circumferential skew oscillations and inward and outward pulsations."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1051.10. 9 Jan»74

"We have demonstrated circumferential complementarity, and circumferential twoness of systems such as the Northern and Southern Hemisphere of our Earth. There is also inward and outward complementarity, inward and outward twoness. As a consequence there are also circumferential oscillations and inward and outward pulsations."

[lol

- Cite SYNERGETICS draft at Sec. 1051.61, Apr'72
Expansion is radial and contraction is circumferential.

{Adapted)

- Citation at Expansion & Contraction. Jan'72
- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH Jan. '72. p. 3.

RBF DU'-INITIUHS

"/e have demonstrated circumferential complementarity, the circumferential twoness of systems such as the Northern and Southern Hemispheres of our Earth. There is also inward and outward complementarity, inward and outward twoness. As a consequence there are also circumferential oscillations and inward and outward pulsations."

- Cite Synergetics, Draft, Sec. 824, August 1971.

"• • • Circumferential micro- or macro- being finite and radial being infinite,"

- Citation and context at Macro-Micro. 1955
«adial-circumferential ccaleratlona*
See Gravitational System Zone, 14 Jan*55

"The coordinate systems of synergetics are omnidirectionally regenerative by both lines and planes parallel

to the original converging set. The omnidirectional regeneration of synergetic coordination may always be expressed in always balanced equivalence terms either of radial or circumferential frequency increments."

03

- Cite SYNERGETICS draft at Sec. 962.-, 17 Nov'72

«A<Llal-clrcumrer»nt<gl Coordinating:

See Analytical Geometry, 7 Oct*71

Life & Death, 26 Jan'76

FMIU-glrcMtffEMUftl. Modularity:

"Had the Greeks originally employed a universal model of x-dimensional reality as their first tool upon and within which they could further inscribe and measure with their divider, scribe, and straightedge, they would have been able to arrive at unity of circumferential as well as radial modularity. This would have been very convenient to modern physics because all the accelerations of all the constantly transforming physical events of Universe are distinguished by two fundamentally different forms of acceleration, the angular and linear accelerations,"

- Cite SYNERGETICS at Sec. 826.01, Sept'72

"The linear measurements represent the radial going-away accelerations or resultants of earlier or more remote events as well as of secondary restraints. The rigid rectilinear angularity of the 90° central angle XTZ mensuration instituted by the Greeks made impossible any unit language of direct circumferential or peripheral coordination

between angular and linear phenomena. As a consequence, only the radial and linear measurements have been available to physics. For this reason physics has been unable to make simultaneous identification of both wave and particle aspects of energy events."

- Cite SYNERGETICS at Sec. 826.04, Sept'74

Radial-Circumferential Modular Growth:

In Synergetics there is a total "correspondence of radial wave modular growth with circumferential modular frequency growth of the totally involved vectorial geometry." This means that "angular and linear accelerations are identical."

- Cite Ltr. to Prof. Von Hochstetter. p.4 and footnote. 28 Oct'64

See Frequency Modulation Modular Subdivision

See Frequency, Jun'71

See Boundary Layer

Circumferential Finite vs. Radial Infinite

In, Out & Around

Inward i Outwardness

Nuclear & Nebular Zonal Waves

Radial n, Orbital

Spherical Barrel: Radial Compression vs. Circumferential Tension

Spherical Field

Inwardness vs. Omnidirectional

Frequency <fc Wave

See Acceleration: Angular & Linear, 18 Oct'64

Cosmic Discintinuity It Local Continuity, 15 Jan'74

Electric Motor, 25 Jan'72

Expansion 4 Contraction, Jan'72*

Fourth Dimension, 1965

Frequency, 15 Oct'72

Gears: Spherical Gears, May'72

Gravity, 18 Oct'72

Integrity of Universe, 23 Sep'73; 30 Oct'73

Jitterbug, 11 Oct'71

Macro-micro, 1955*

Powering: Second Powering, 28 Oct'73

Scenarios Universe, Jan'72

Shunting: Relative Motion Patterns, 1955

Sixty Degreeness, 1965; 18 Jun'71

Synergetics, 14 Kay'73; 14 Jan'55

See Tension i. Compression, 1944

Vector Equilibrium 4 Nov'73 Zoneness: System Zoneness, 8 Jan'55

Peripheral Sep'72

Vertexial Topology, Aug'71

Evaginating, 22 Jun»75

Gravity: Speed Of, 21 Oct'72

See Spherical Barrel: Radial Compreseion ve. Circumferential Tendon

Radial Depth:

"Operationally omnitriangulated polyhedra may only be realized systematically, i.e., with special case dimensionality or special case radial depth of insideness. Dimensionality • radial depth - frequency. Radial depth is expressed in frequency of omnidirectional wave propagations per unit of time.

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1071.23, 20 Dec¹74

See Dimensionality * Radial Depth • Frequency

See Structure, 26 Dec*74

Radial Line:

"The particular line of geometrical reference humans picked happened not to be the line of most interattractive integrity. It was neither the radial line of radiation nor the radial line of gravity of spherical Earth,...**

- Citation i context at Starting With Parts: The Nonradial Line 29 Dec*73

Had 131 Line as Tetra Edge:

"We Identify the minimum tetrahedron as that with radius `` c... the tetrahedron edge of the photon becomes unit radius."

" Citation 4 context at PfadtM: Tetrahedron Edge as Unit Radius, 17 Jan'74

See Line Between Two Sphere Centers Prime Vector Photon: Tetrahedron Edge as Unit Radius

See Linear vs. Orbital Radial-circumferential Embracing vs. Linear One Way vs. Round Trip Local vs. Comprehensive Local Radius vs. Wide Arcs Orbital Feedback Circuitry vs. Critical Path

MUI rt. Qrt>iax=

(2)

Sea Frequency, 11 Mar'69

Umbilical Cord, 4 Mar*73

Einstein: Special Theory & General Theory, 4 Mar*73

See Sweepout

Reachability Range

See Central Angle, 23 Sep'73

RadIU^sfit:

See Vector Equilibrium, Cl)

Radial Symmetries:

"... Each chemical elements atoms are characterised by unique frequencies, and unique frequencies impose unique radial symmetries, this variety of radial dimensionality constitutes one prime difference between nuclear physics and chemistry."

- Citation and context at Physics: Difference Between Physics And Chemistry. 22 Jun'72

See Mites Make All Regular Polyhedra, 2? May'72 Physics & Chemistry: Difference Between, 22 Jun*72*

RMIAI UqlfcX*

See Prime Vector Unit Radius: Unit Vector Radiue

Bang! Unity:

See Rhombic Dodecahedron, 13 Apr'77

(2)

Radial Wave Modular Growth:

See Vector Equilibrium: Field of Energy, (C)(D) Einstein Equation: $E = Mc$, 1959

See Nuclear & Nebular Zonal Waves

See Goare, (p.69) May'72

See Nonradlai

Omniradial

Radial-circumferential

Radius

Rain as Radial

Omnidirectional: Physical Existence Environment Surrounds

Zenith Constancy of Radial Coordination

See Dimension, 16 Nov'72*

Einstein: General Theory & Special Theory, 4 Mar'73

Hexagonal Vector Patter, 8 May*72

Omnidirectional, 1954

Omnintertangency, 17 Feb'73

Sweepout, May'72

See Radial-circumferential

Radial-circumferential Accelerations Radial-circumferential Coordination Radial-circumferential Modularity Radial-circumferential Modular Growth Radial Line

Radial Line as Tetra Edge Radial & Orbital Radial Reach Radial Set Radial Synraetries Radial Waves

Radial Unity

See Pi, 8 Feb'73

Hexagon, Nov'71

Radiantly Alternate Vertaxae:

See Isotropic Vector Matrix. 30 Nov'72

Rhombic Dodecahedron, 36 Nov'72

Radiant Valvability of IVM-defined Wavelength;

"We can resonate the vector equilibrium in many ways.

An isotropiw vector matrix may be both radiantly generated and regenerated from any vector-centered fix origin in Universe such that any one of its vertexes will be congruent with any other radiantly reachable center fix in Universe; i.e., it can communicate with any other noninterfered-with point in Universe. The combined reachability range is determined by the omnidirectional velocity of all radiation, c^2 within the available investable time."

- Cite SYNERGETICS draft at Sec. 426.*t, 30 Nov'72

See Omniradiant Potential vs. Radiant latent vs. Radiant Convergent vs. Radiant

See Convergence. 16 Nov'72

Earth, Jun'o6 Geodesic Done, 12 Mar¹74 Frequency, 22 Jun*72 Hexagonal Vector Pattern, 6 May¹72 Isotropic Vector Matrix. 30 Nov'72 Radiation-gravitation, 12 Jun'74 Spherical Interstices, 18 Nov'72 Halo, 1938

Nucleus, 13 Nov'75

Radiation:

"Radiation la special case, systematically centered, and discontinuously islanded,...

"Electromagnetic radiation ie distributive and entropic; its frequency magnitudes represent multiplication by division."

- Citation & context at Radiation-gravitation. 11 Feb'76

Radiation:

"The symmetrical expansion of radiation is a divergent phenomenon."

- Citation & context at Quantum Sequence. (2), 23 Jun»75

Radiations

"Radiation distributes energy systems outwardly in omnidirectional metric directions. Radiation fractionates whole systems into multidimensionally dispatched separate packages of the whole. The packaging of spherical unity is accomplished by radii-defined, central-angle partitioning of the spherical whole into a plurality of frequency-determined, simplest, central divisioning, thus producing a plurality of three-sided cornucopias formed inherently at minimum limit of volumetric accommodation by any three immediately adjacent central angles of any sphere of any omnitriangulated polyhedron. The threefold central-angle vertex surroundment constitutes the inner vertex definition of a radially amplified tetrahedral pack of energy; while the three inner faces of the package are defined by the interior radial planes (there is a great-circle plane common to any two radii) of the sphere of omnidirectional distribution; and the fourth, or outermost, face is the spherical triangle surface of the tetrahedron which always occurs at the radial distance outwardly traveled from the original source at the speed of radiation, symbolized as lower-case c."

- Cite SYNERGETICS draft at Sec. 541.01, 23 Sep'73

Radiation:

"Radiation is pushive, ergo tends to increase in curvature., Radiation tends to increase in its overall curvature

(as in the 'bent space' of Einstein). The pushive tends to arcs of ever lesser radius (microwaves are the very essence of this

- Citation and context at Curvature, 2J Sep*73

Radiation;

"Euler deals with the physical Universe as radiation, or it 'coming apart' phase."

Cite SYNERGETICS draft at Sec. 1054.12, 6 Kar'73

Radiation:

"When adequate acceleration Is imparted to micro aggregations Of atoms

Sufficient for them to escape

The critical limits Of both mass attraction And precession intereffects
Then radiation

At 186,000 m.p.s.

Of the separate energy quanta

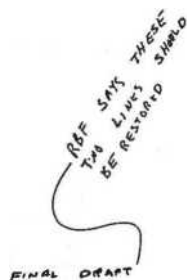
psues ---.

(which phenomena we speak of as fission, (6r fusion J

TTnd the generalized behavioral law_ - IGoverning fission or fusion!

lAnd radiation in general ---J *'

Is that cited by Einstein Of $E = mc^2$."



- Cite IHUITION i- p□

PP.37-38 May «?2

Radiation:

"It is also characteristic of these waves And of all radiation

That when the wave propagation

Is beamingly aimed Perpendicularly outward from Earth's surface
They experience little or no interferences, Once outside our atrno-,
strato, and ionospheres. Other then by collision with meteorites And
other celestially traveling objects*

"There seems to be no impedance

And no inherent limitation to the distance »i/hich such electromagnetic wave signals can go Once outside the Earth mantles.

As far as we know, The waves can go on forever in Universe-- Unless they hit some object,

And whch they hit an object they lose some energy Then bounce away And keep going

In q new direction."

- Cite BRAIN &. KIND, pp.158~159 Fay *72

Radiation:

"The star tetrahedron's entropy may be the basis of irreversible radiation. . .

- ~~ahedi Qijj*-O-OLU.~~
- Citation 4 context at Star Tetrahedron. 8 Oct'71

Radiation:

"Radiation is physical, entropic, incoherent, propelling, disassociative, pushing."

- Cite DOXIADIS, p. 310, 20 Jun»66

Radiation:

"Wave magnitude and frequency are experimentally interlocked as co-functlons and both are experimentally gear locked with energy quanta."

- • ClLe tttTA Opeee-h, p, 1QQ.

- Citation at Frequency f Jun*66

Radiation;

c^2 (radiation) means; All the Universe's nonselfinterfering complexes having eccentrically interprocessing, omnidirectionally diffusing patterns resulting in comprehensively degenerative negative limits of dissociabilities as negative (inside-out) de-structures."

- Cite INTRO, to OMNIDIRECTIONAL HALO, p.126, 1959

Radiation:

"Radiation la generalised compression...**

- Citation and context at Generalisation: Second Degree. 1959

RadjaUgn Sumncg* (

"And we've got no help at all from the atara because they're all areas where the Universe is increasingly disorderly, giving off enormous amounts of radiation in strange kinds of Sun rays, and so forth--- great Sun spots, which we begin to find have some regularity. But you and I didn't know that regularity before because, in a sense, it was so infrequent--- whatever it might be. We didn't have observation to know there were Sun spots up to yesterday.

"Then all the physical is the visible, astronomical world where we use the optical telescope to give us the information. Optical means we're using that disorderly radiation to identify the positioning of the stars. . . So, looking around for some phase of Universe where energies are contracting and becoming increasingly orderly, we find the only example that we really know much about is our own Earth. We do know that in the last International Geophysical Year that we're collecting somewhere around 100 tons of stardust daily. And we're finding our radiation from all the stars, the cosmic radiation--- and primarily from the Sun--- is not just bouncing off our Earth at all, but being Impounded as energy. The radiation to start off with is in the Van Allen belts."

- Cite RBF to World Game, Jun-Jul'69

"Then the atmosphere bends that radiation very readily so that it gives us the red-yellow-orange-green-blue-violet colors themselves. Then when the radiation gets to the water three-quarters of the Earth being covered with water--- you see how much it is bent simply by putting a pole into the water and looking at the bending of it. . . . There's bending, bending, bending until finally the radiation is so bent it gets now impounded horizontally into the surface of the water around our Earth, and we get these horizontal moving streams such as the Gulf Stream, the great warmth. We have then the enormous impounding of the energy of the Sun in just the heating of the atmosphere, bringing about all our storms, the various low pressures and high pressures depending the heating is being impounded by large moisture concentrations or low.

"And so this enormous energy is being collected here, and this radiation then is atomizing the ocean, and then it gets dropped back again, pulled back by gravity as rain. And we find then vegetation operating; vegetation on the dry land and algae in the sea, impounding the energy of the Sun by photosynthesis,"

- Cite Rbf to World Game, Jun-Jul'69

Radjational Constant;

"... The gravitational constant... is always... more powerful in syn-
tropically cohering the Universe than is the radiational constant of
6.666665 in entropically disintegrating the Universe by explosion."

- Citation and context at Universal Integrity: Principle Of.

See Gravitational Constant

Newton vs. Einstein

Universal Integrity: Principle Of

Congruence of Gravitational 4 Radiational Constants

(2)

Se® Icosahedron e« Electron Modal, 7 Mar*73

"... In addition to its heat-transmitting properties, the radiation is also a yes-no, frequency programmed, information carrier--- which precessionally transforms the three tetrahedral quanta of radiation into the four-quanta octahedral crystals in the atomic formation of the hydrocarbon molecules."

- Ciajioi context at Radiation as Information-carrier.

Radiation vs. Crystal Model?

See Information Transmitting & Nontransmitting Model

Radiation as Entropy:

See Instant Universe, U)(2)

Celestial Radiation Accumulators, 28 Apr*77

Rad la Uon-era vi tat ion:

"Radiation is special case, systematically centered, and discontinuously islanded. Gravity is continuous tension omni-inter-between all systems. Because gravitational intertensional intensivity varies as the second power of the arithmetical Interdistancing variations, whose unique variations are locally periodic, it manifests periodic intensities of tidal pulls, but the overall tensional integrity is constant independent of local intensity variabilities.

"Electromagnetic radiation is distributive and entropic; its frequency magnitudes represent multiplication by division. Gravity is nondivisible and syntropic; its conservation is accomplished by holistic embracement of variable intensities. Gravity is integral. Holistic gravity has no frequency."

- Citation <lc context at Islanded Radiation fc Tensional Constancy,
11 Feb¹76

Radiation-gravitation:

"All bodies of Universe interact all other bodies in varying degrees; and all the intergravitational effects are precessionally angular modulations and all the Interradiation effects are frequency modulations."

(For earlier version of above see Precession. Oct*66)

- Cite SYNERGETICS 2nd. Ed. draft at Sec. 533.07, 15 Nov*74
Ra&aUQn.TSrgYl Ration;

"Electromagnetic radiant energy is entropic; gravitational energy is syntropic."

- Citation *h.* context at Gravity (d), 12 Jun'74

Radation-Gravitation:

"Radiation is diintegrative; gravity is integrative"

- Cite SYNERGETICS draft at Sec. 541.05, 23 Sep'73

"Radiation has shadow while gravitation does not."

- Citation and context at Fuller R.B»: Meeting with Fernandez-Moran (2), 5 Apr¹ W

"The generalisations are of the mind and are omnembracing and omnipermeative. Like the rays of the Sun radiations are radii and are focusable. Gravity cannot be focused; it is circumferentially embracing. Radiation has shadows; gravity has none. Radiation produces the phenomenon known to Einstein as the bending of space, the gravitational field."

&1]

- Cite SYNERGETICS draft at Sec. 1009.9\$, 8 Mar»73

I fydlä tlgñ-QraYimign=

"Physics hasn't really associated radiation with (+)

and gravitation with (-), but that's what they are."

- Cite RBF to EAJ, 3200 Idaho, Washington DC, 21 Dec. '71.

- Citation and Plus and Minus. 25 Jan'72 "Gravity is circumferential. All the superficial surface angles are the gravity. Central Angles are the radiation.

Cite RBF to EAJ, 3200 Idaho, Washington DC, 21 Dec. '71.

- !fodlatl2a.-GraYltafrlpn;

"The differences between the central angles and surface angles' function/ngs are identifiable with radiational and gravitational functions. Radiation identifies with central angles. Radiation is outwardly focuSable."

- Citation *it*. context at Gravity. Aug'71

"The coming apart phase of critical proximity is radiation. The coming together and holding together phase is emphasised in our ken as gravity."

- Cite RBF insert to SYNERGETICS (Conceptuality, Critical Proximity), Chicago, 1 June 1971

"... I give you then a tetrahedron which has an external and an internal; a terminal condition ... You get to the outside and you turn yourself inside out, and come the other way. This is why radiation then does not go off into a higher velocity. Radiation gets to a maximum and then turns itself inwardly again--- it becomes gravity. Then gravity comes to its maximum concentration and turns itself and goes outwardly--- becomes radiation."

-91to RHF Tape to KJA * D0*ft, Dlfrckstonfr,-ChicagQ, Kay 19?X.---

- Citation and context at Zero. 31 May*7) M faAlatlflia-Gjayll&lgn "Radiation can be focused; explosions can be linear. Gravity cannot be focused; it is circumferential contraction."

- Cite RBF to EJA Sarasota, Florida

7 February 1971

. All bodies of Universe are affecting the other

bodies in varying degrees and all the intergravitational effects are precessional angular modulations, and all the interradiation effects are frequency modulations.**

- ,e.i I,tiffin 1.TTTI.I';
- Citation & context at Precession. Oct*66

... Gravity is swifter than radiation, therefore, Universe collects its masses in ever tighter concentrations,

- Citation and context at Point: Outbound Point, circa 19MJ

"The complementarity of the great regenerative pattern is geometrically omnimanifest as gravity and radiation. The radiation radiates in rays, or lines, of spherical, energy-source radii. These may be cross-sectionally conceptualized as the radially packed staves of a wooden barrel that try to escape outwardly from the barrel's center. Gravity, however, like the steel bands encircling the barrel's girth, operates embracingly. The individual barrel staves, like the radii, try to go out, to disintegrate; but the finitely closed, circumferential gravity hoops operate integratively, embracingly. The 92-million miles distant Sun's rays impinge approximately in parallel on only one hemisphere of the Earth at a time, while gravity embraces our entire planet, all cosmic systems from all around being equally effective, for instance, on the shadow hemisphere of Earth. Gravity has no shadow. Gravity is uninterferable; radiation is interferable. Gravity is omnidirectional, mass interattraction, which, as Newton discovered, is directly interproportional relative to the respective mass involved, and varies as the second power relative to the interproximities of the respective bodies considered: Halving the distance between any two will fourfold their interaction.¹

- Cite "No Title," (Part II), 'JORLD Jag., p.39, 5 Jun'73

"All the Universe is in motion, and all the effect of bodies in motion on other bodies in motion are what we call 'precessional. * Precession and mass-attractive gravity convert centrifugal into orbital motion. And precession always affects the motion of other bodies in directions other than 180 degrees, not toward or away from one another but at approximately 90 degrees to the line between the most powerfully interprecessing of the bodies. Holding a string in your hand, which, like mass attraction, is fastened to a weighty object on the other end you precess this object into orbit around you by axial rotation of your body. Thus the precessional effect of the axially rotating Earth on the Koon is to make the lesser mass go into orbit around the greater.

"Mass attraction and precession cooperate synergetically to affect all of the Universe: 99.9999 percent of all entities of the Universe are in orbit around some other spinning entity, macro- or micro- cosmic in scale. And once in a while some of the entities accelerate so congruently close to one another that their inter-mass-attraction render.*- the precessional effect negligible, and the lesser body falls into the greater."

- Cite "No Title," (Part II), 'URLD Mag., p.39, 5 Jun'73

"You and I are going around the Sun at 60,000 mph. So too is the Earth, We are so close to our Earth that gravity makes us 'fall in' in orbiting company. Little children find gravity forever pulling them in toward the Earth's center; although they know nothing about gravity they feel it pulling them to the floor. All of the Earth's biological organisms respond so powerfully in a linear manner to the gravitational effect that it is much like the organisms being linearly programmed to a specialized behavioral program. Thus we fail to realize that gravity really works as circumferential embracement. We find everything operating at 90 degrees tangent while humanity fools itself into thinking

that it accelerated the object in a 180- degree direction. Because of this, humanity has come to think illogically in 180-degree, straight-line, ways. The fact is that entities are always traveling away at 90 degrees from the direction at which we are aiming.

"All the cosmic generalized principles are omniembracing-always-true. Truth, like gravity, is nonlinear; it is embracing. And of all the creatures on our planet, only humans have demonstrated the ability to discover such truth."

- Cite "No Title," (Part II), WORLD Tag., p.39, 5 Jun'73

Radiation-gravitation: Angular Functions:

"The differences between the central angles' and surface angles' functionings are identifiable with radii at tonal and gravitational functionings. Radiation identifies with central angles. Radiation is outwardly divergent. Gravity identifies with the three surface angles' convergent closure into the surface triangle's finite perimeter. Gravity is embracing and is not focusable. Gravity is Universe-conservingly effective in its circumferential coherence."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1051.40, 9 Jan'74

"The second-power rate of interattractiveness gain occurring with each halving of the intervening distance of two heavenly bodies recalls Pythagoras's whole, rational number, harmonic octave integrity progression (or regression) occurring with each halving of the length of the tensed cord (with thirding resulting in sharpening or flattening key progressions); wherefore gravitational-radiational second-power, spherical surface rate of gain in respect to radial linear rate of identification of Omnidirectionally propagated sound waves at a gain of the second power of the linear. This gravitational omnisurface-embrace mathematics apprehending coincides with harmonic resonances:

Arithemtical rate
of symmetrical
system's radius

t « Kass linear radial

shortening with Newton's gravita-
system contraction tion

h « Kass linear radial lengthening with Einstein's radiation
system expansion

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1052.68, 3 Jan'75

"The radial arrangement of unit tetrahedral volumes around an
absolute radiation center (the vector equilibrium) constitutes a prime
radiation-gravitational energy proclivity model with a containment
value of 20 tetrahedra (where cube is 3 and tetrahedron 1)."

- Cite SYNERGETICS TEXT AT SEC. 223.73, 26 Sep'73

See Octahedron as Photosynthesis Model Jitterbug Model

R&dlfUon-gmimiQD Mattel?

(2)

See Jitterbug, 11 Oct*71

Vector Equilibrium, 15 May*73

See Radiation-gravitation, circa 1948

Boltzmann Sequence, (3)

Universal Integrity: Principle Of, 8 Kay*?2; 24 Mar'71 13 Nov'69

See Eccentric-concentric

Energetic Functions Intereffects

Radial-circumferential

Universal Integrity Electromagnetic hetnbrane Coming Apart & Holding Together

Balance of Universe

See Bow Ties, 6 Oct'72 Building Industry, (11)

Coherence, 11 Feb'73

Convergence & Divergence, 6 Jun'75; 1 May'77

Cosmic Limit Point, 3 Nov'73

Cosmic Vacuum Cleaner, 16 May'75

Dimensionality, (1)

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

Gravity, (d)*; 6 Apr'75

Gravity: Speed Of, 21 Oct'72

Growthability, 6 Mar'73

Interference, 5 Jun'73

Interrelationship Twoness. 27 Dec'74

Islanded Radiation & Tensional Constancy, 11 Feb'76* Isotropic Vector Matrix, 16 Nov'72

See Limit Point, 9 Jun'72

Love, 23 Oct*77

Metaphysical & Physical, 19 Kay'75

Nuclear Pattern of Growth & Decay, 8 Dec'75 Nucleus, 13 Nov'75

Octahedron as Photosynthesis Model, (A)-(E); 11 Dec'75

Plus & Minus, 25 Jan'72*

Point: Outbound Point, 1948*

Powering: Fourth Powering, 15 Oct'72; 9 Sep'75

Precession, (a)(b): Oct'6b*

Pulsation, 9 Nov*72

Rain, 11 Feb'76

Series vs. Parallel Circuitry, 11 Dec'75

Star Tetrahedron, 8 Oct'71 Structural Sequence. (B)

Star Tetrahedron ac Vector Equilibrium, 9 Nov 15

See Structure, Nov*71 Synergetic Hierarchies, (C) Synergetics, 14
Kay*73 Syntropy & Time, 14 May*75

Two Kinds of Twonees, (B)

Vector Equilibrium, 3 Jan*75

See Radiation-gravitation: Angular Functions Radiati on-gravitation
Model

"What has not been understood thus far by human scientists regarding the transmittal of energy from the Sun to support biological life on planet Earth as accomplished through the photosynthesis of Sun radiation to produce hydrocarbon molecules by terrestrial vegetation and alfie, is that in addition to its heat-transmitting properties, the radiation is also a yes-no, frequency-programmed, information carrier--- which precessionally transforms the three tetrahedral quanta of radiation into the four-quanta octahedral crystals in the atomic formation of the hydrocarbon molecules. Photosynthesis is meaningful commimlcat- ion whereby metaphysical rules the physical (Like the Federal Reserve Bank) by issuing or withdrawing complex coding-identified 'quanta' currency from the overall, cosmic, transforming and transaction system's accounting."

- C|gy|gy Man: Interstellar tRansmission of Man,
Radiation as Information-carrier:

**See Electronagnetically Transmittable Logistics Cosmic Transmission
Transmission**

Radlational MenBurability:
See Vector Equilibrium, (2)

Klnlaium Increment Of:

(1)
See- Photon

See Unit Radius, 17 Jan*74

Radiation: Speed Of:

"Wavelength times frequency is the speed of all radiation. If the frequency of the vector equilibrium is four, its vector-radius, or basic wavelength - 1b6,000/4 miles reachable within one second - 4o,500 reach-miles. Electro- magnetically speaking the unarticulated vector equilibrium's vector length is always 186, 282.396 miles."

(For later version & context of above, see Vector Equilibrium: Unarticulated VE, 2 Nov'73)

. Cite SYNERGETICS draft __»t Sec. 426.4; 30 Nov'72

Radiation: Speed Of:

"The speed of light, at the limit case, becomes the time. The speed of radiation is the limit case, but it is the initial limit. It always comes back to itself."

Radiation: Speed Of:

"The speeds of all the known different phases of measured radiation are apparently identical despite vast differences in wavelength and frequency. Einstein's adoption of electromagnetic radiation expansion--- omnidirectionally in vacuo--- as normal speed suggests a top speed of omnidirectional entropic dftjraer increase accommodation at which radiant speed reaches its highest velocity. This highest velocity is reached when the last of the eternally regenerative Universe cyclic frequencies of multi-billions of years have been accommodated, all of which complex of nonsimultaneous transforming multivarietied frequency synchronizations is complementarily balanced to equate as zero by the sum totality of locally converging orderly and synchronously concentrating energy phases of scenario Universe's eternally pulsative, and only sum totally synchronous, disintegrative, divergent, omnidirectionally exporting and only sum totally synchronous, integrative, convergent and discretely directional individual importings."

- Cite RBF in response to a request to repeat his "brief sentence" on the sphere as a meeting of convergences. See SYNERGETICS, "Scenario Universe," Sec. 3*5*, and "Tension and Compresssion," Sec. 614.08. fl Oct'71

Radiation: Speed Of;

"The speed of light had been measured linearly in a tube--- this is the speed of light in any one direction from its source.

But radiation is called radiation

because it goes in all directions from its source unless reflectively beamed.

Uhen we double the linear dimensions of any object--- the surface of the symmetrically amplified system grows as the second power of the linear.

Science had to choose the lower-case letter c to represent the speed of the radiation linearly, to arrive at the rate at which it grew in an omnidirectional spherical way--- the rate at which the surface of the omnidirectional radius increases as \sim the second power of the radius--- or linear speed: c

Radiation: Speed Of:

"There are no instant lines--- Reaching instantly to eternity; For the concepts

Of instantaneity, simultaneity, and eternity Were annulled by the discovery That light and all* radiation

Have an approximately discrete speed Of seven hundred million miles an hour, Which, of course, is too fast for man's Perceptive detection, But accounts lucidly

For humanity's assuming erroneously
That his sight experience
Is instantaneous.

Prior to the Eichelson-Korley experiments--- Throughout all past history--- On every clear night

Man could seemingly witness for himself The 'instantly eternal' stars.

"However, with the measurement of light's And of other*

- Cite GtWtHALIZEU PRINCIPLES, p.5, 28 Jan'69

Radiation: SpeedOf:

"Electromagnetic radiations* speed We learned that it took Eight minutes for light To reach us from the Sun And two and one-half years From the next nearest star, And an astronomical variety of other Greater and different time lags For light to reach us From each of the other Myriads of stars.

"These time lags were far different From instantaneuous and simultaneous. And experiments made evaident That such light sources

(B)

Are always exhausting

ttwggw local energy concentrations, ' "Wherefore they cannot be eternal.

"Prior to that measurment

The illusion of instantaneity

Induced false' concepts

- Cite GENERALIZED PRINCIPLES, p.5, 28 Jan'60

Radiation: Speed Of:

"'.Which nan formalized into statements

And labeled as axioms

Holding them to be self-evident and a priori, Ergo fundamental, characteristics of nature Reduced to their respective simplest degrees.

"Typical of such

Axiomatic illusions

Were the concepts

Of solids, continuums, at rest, Surfaces, and straight lines . That reach instantly to InHflnity; All of which concepts are contradicted By experimental physics Which has found only Discontinuity and Nonsimultaneity

As, for instance, is witnessible In the discontinuity of the stars In the Miljry Way, And is instrumentally discoverable In the remoteness of electrons"

- Cite GENERALIZED PRINCIPLES, pp.5-6, 28 Jan»69

"From their nuclear protons Which remoteness is equal To the star spacing In relation to their respective Relative activity diameters.

"We have learned experimentally That lines are always energy events And because of their ever variant Complex Of other energy events Of the total environment There are always a myriad

Of precessions Uy steering □□□ effects Which result in curvilinear Orbits, rotations, pulsations, Implosions, explosions, and torations.

"Lines are finitely developed events.

And their durations Are always relative To some cyclic experience in time.

"Size and time are synonymous."

- Cite GENERALIZED PRINCIPLES, p.6, 28 Jan'69

Radiation; Speed Of:

. C^2 /radiation? equals all the eccentrically disassociative individual patternings of all energy (C being the radial or linear speed of radiant energy, which is apptSimately 186,000 raps)."

Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, P.124 , 1959

See Absolute Velocity Light: Speed Of Radiant Valavability Relativity: Special Theory Spherical Wave Terminal Limit Velocity Shunting: Relative Motion Pattern Top Speed: Top Velocity

See Central Angle. 23 Sep'73 Conscious World, 1938 Engineering, 13 Nov'69 Intellect, 27 May'72 Light, 22 Nov'73 Limit Reach, 17 Jan'74 Nuclear Sphere. 16 Dec'73 Omnidirectional, 1965 Time, 30 Nov'72; 22 Jun'72 Unit Magnitude, 13 May'73 Visual Symphony (1)(2J New York City {10} Eyee, 1964

T Quanta Module ◦

Einstein Equation: $E = Me^*$

See Biosphere

Black Body

Broadcast

Center of Radiation

Exporting

Impoundment

Interradiation

Intellect vs. Radiation

Matter vs. Radiation

Otnniradiational

Photon

Photosynthesis

Radiation-gravitation

Ecology Sequence

Energy-as-radiation

Concentration vs. Radiation

Visible Light vs. Electricity

Electromagnetic-photosynthetic Programming

Coining Apart Phase

Islanded Radiation

Celestial Radiation Accumulators

See Chemical Phenomenon, May'72 Colloidal Chemistry, 1938 Curvature: 23 Sep*73* Energy, i960; Apr'68; Jun'66; 18 Mar'65 Frequency, Jun'66 Generalization: Second Degree, 1959* Package, 23 Sep'73 Point: Outbound Point, circa 1948; 23 Sep'73 Star' Dec'72 Star Tetrahedron, 8 Oct*71* Stardust, (2} tetrahedron, 23 Sep'73 Wind Power Sequence (4); (C) Quantum Sequence, (2)* Visual, 22 Feb'77

See Radiational Constant Radiation as Entropy Radiation-gravitation Radiation-gravitation Model Radiational Mensurability Radiation: Minimum Increment of Radiation Radiation: Speed Of Radiation as Information-carrier Radiation vs. Crystal Model

Radical:

See Assumptions, 1946

See World-around Language_t (1)

See Telephone la Not the Information

See Invisible Architecture, (C)

Radio Tuning Crystal:

"The first radio tuning crystal must have been a rhombic dodecahedron."

- Citation and context at Rhombic Dodecahedron, 30 Nov'72

See Ball at the Center

Broadcast

Invisible Operation of Thousands of Radio Programs

Tunability

Radio: Radio Waves:

(2)

See All-acceleration Universe. 20 Jun*66

Ball at the Center. 9 Mar'73

Visual Symphony, (1)

Seeing vs. Hearing 22 Jan'75

Individuality & Degrees of Freedom, (3) Lasso, 1946

Sea Stars: Implosive Forces Of Superatomic Strange Particles

See Now, U Feb'72

(2)

"The micro animal structures, the radiolaria, if you study them, will always show that they are based on either the tetrahedron, the octahedron, or the Icosahedron. This picture (R-4-1) was drawn by English scientists almost a century ago as they looked through a microscope at these micro-sea structures.

"Today I have given you some fundamental structural principles and subsequently shown you their use by nature. I didn't, however, start by studying these structures of nature seeking to understand their logic. The picture of the radiolaria has been available for 100 years, but I didn't happen to see it until after I had produced the geodesic structures from the mathematical sequence of developments which I reviewed with you earlier. In other words I did not copy nature's structural patterns. I did not make arbitrary arrangements for superficial reasons. What really interests me therefore in all these recent geodesic tensegrity findings in nature is that they apparently confirm that I have found the coordinate mathematical system employed in nature's structuring. I began to explore structure and develop it in pure mathematical principle out of which the patterns emerged in pure"

63 58_59_ 10 63

Radiolaria:

(2)

"principle. I then realized those developed structural principles as physical forms, and in due course applied them to practical tasks. The reappearance of these structures as recent scientists' findings at various levels of inquiry are pure coincidence--- but excitingly validating coincidence."

- Cite MEXICO '63, p. 59, 10 Oct '63 - -SfC.

See Invention, J Oct*72; Dec*61

Radionica:

See Universal Vertex Center Model, 29 Apr* 43

Radius;

"It is very easy to be greatly misled when you see two spheres in tangency. There is only one line between the two* This is where you see that unity is two because the line breaks Itself into radii of the two spheres."

- -Cite RBF I .Tpr Dlackntoae Hntnl, Chlrage, 31May 1971, p.37.

- Citation and context at Tanzencv_r 31 May*71

Radius:

"As a chord turns into an arc the radius contracts,"

- For citation and context see Vector Equilibrium: Spheres and Spaces. J1 May¹71

Radius:

"Coniconvergent is the opposite of radius."

~~Berkeley, Florida
7 February 1971~~

- Citation at Omniconvergent_f 7 Feb*71

fIMMB

"Tension tends towards arcs of increasing radius; compression tends towards arcs of decreasing radius.

jif rnnneptn, .lune-19671

- Citation at Tension & Compression. Jun'67

Radius:

In closest packing of sphere "we discover that the number of balls in any one layer, we could call it frequency or radius, because we have found that they are the same words

- Citation at Frequency. 11 Jul*62

Radius:

(1)

See Edge vs. Radius Frequency □ Radius Line Between Two Sphere Centers Local Radius Omnidirectional Radial Unit Radius

See Frequency, 11 Jul'62*

Geometry of Vectors, Aug'71

Omniconvergent, 7 Feb'71*

Powering: One Dimension, 15 Oct*72

Radiation, 8 Mar*73

Rotate, 6 May'48

Tangency. 31 May* 71*

Tension & Compression Jun'67*

Vector Equilibrium: Spheres & Spaces, 31 May'71

"This is one of the geodesic radomes tested for the Arctic. They are made out of polyester fiberglass and the diamond-shaped, panedged pieces are made with bolt holes in their adjacent flanges. All the mathematics must be done very accurately to permit these pieces to be

interchangeably bolted together. We hold our spherical trigonometry calculations to an accuracy of 1/1000 of a second of circular arc. The geodesic radome structures go up in an average of 14 hours each in the Arctic.

"Our Air Force Radomes were installed in the Arctic mostly by Eskimos and others who had never seen them before. The mass production technology made assembly possible at an average rate of 14 hours each. One of these radomes was lent by the U.S.

Air Force to the Museum of Modern Art in New York City for an exhibition of my work in 1959-1960. It took regular building trades skilled labor one month to assemble the dome in New York City.

"American labor fought a great and worthy battle to win the working man's share of the synergetic productivity of industry. Labor's battle proved doubly worthwhile because it inadvertently brought about mass consumption. Without mass consumption you cannot maintain mass production. You cannot have the mass

- Cite RBF photow caption, Fig, 177, dome photos, about 1960.

` ` production of industrialization without an original investment of vast capital effort of work and that original capital came first and long ago from serfdom or outright slavery. In order to bring industrialization to benefit comprehensively emancipated man. you must have mass purchasing power, which in due course will underwrite automation, which In turn will eventually produce so much wealth as to be able to free man»s time for further education and research to increase the wealth long generated by unimpeded automation. American labor will not yield that unimpedement until it is clearly demonstrated that all men will prosper directly by doing so. American labor did bring about the vast purchasing power in industry, but in so doing it established all kinds of rules which inadvertently protected the obsolete inefficiencies of building,

"When the kind of structure which goes up in the Arctic in 14 hours takes a month in New York City, clearly there has been an inordinate shunting of social wealth in a direction in which legitimate value was not added to the product. This is an indirect, illogical, and therefore indefensible way of distributing wealth for it hides the new advantages and therefore retards the growth of those advantages as wealth generators of the"

- Cite RBF photo caption, Fig. 177, dome photos, about 1960.

"commonwealth. We must be very careful in judging the new, high production technology structural experiments so as not to have our fundamental tactical information distorted by ill conceived labor tactics. We have very real social problems which must be solved by realistic acceptance of the facts rather than deferred from realistic consideration of the inherent new wealthgenerating advantages by hiding the new technical advantage under the wing of individually conceived palliatives which are operated by old rules that do not permit the real advantages to be recognized by the labor movement's management. We are going to have to bring industrial mass purchasing ability to all of humanity. But first we are going to have to get labor rates evened up all around the world in order to have every man's raw time worth as much as any other man's time when translated into purchasing power per kilowatts or pounds of specific metal goods. Next we are going to let automation take over after we find ways to pay everyone dividends from its wealth making to keep up purchasing power at a maximum and thereby to regenerate the industrial evolution advance."

- Cite RBF photo caption, Fig. 177> dome photos, about 1960.

"A radome unit provides means for automatically excluding the weather. It must admit the widest electronic wave frequency spectrum. It requires greatest strength with minimum structure and minimum site assembly operations.

"Omnitriangulation is implicit for structural stability. Omniorientation of focal points of structure is at most symmetrical equivalence of interdistancing.

"Light (as a typical wave frequency group) obstruction is greatest where structural components converge (grid photostats' show this as stars at convergent points). A multi-axial or dynamical system cannot have only two triangles around one vertex. It can have three, four, or five equilateral triangles, but cannot have six or more equilateral triangles in a finite system.

"Touch « tex of ver-tex, i.e., converging toward touchability, meaning a' frequency-complex clustering whose frequencies interfere, or tune in, with the frequency array of the molecular complex of the atoms altogether constituting the Galaxy of"

- Cite typescript "Definitions by RBF," Pp.1*,2a,1, 29 Dec'58

"frequencies of our life cell tissues or Milky Way nebulae of locally regenerative frequency, locally recurrent through self-interference patterning.

"Mass is a word of inherently synergetic connotation. It is a behaviorist word popularly mistaken and used as a static word. Mass recognizes an inherent plurality of unique consequences resultant upon any infra- or ultra-sensorial recognizable, i.e., timable, collection of regenerative systems of precessionally self-associative energy-vector events. All the atoms and stars, as well as all the macro-remote astronomical cluster nebulas and remote micro-molecules, are such unique synergetically regenerative, infra-ultra-sensorial, unique multi-atomic mass clusters.

"A system is a man-thinkable, tune-in-able constellation of generalized experience event cluster foci. Energy-cluster foci are starts, or topological ver-texes, which are only the as-yet-nonanalyzed group phenomenon whose energetic point centers of event clustering locals are as yet too remote for the present observer's position. . . Systems are star interrelationship considerations which logically continue to return upon themselves due to the related preoccupying importance of

- Cite typescript "Definitions by RDF," p.1, 29 Dec'50

"locally doming event frequency proximities which altogether function as a fundamental, i.e., simplest or most unique, geometrical set which inherently subdivides the total Universe, The cell-time-man-experienced events fall into two main and clearly distinguishable classes:

- (1) All those relatively too large or macrocosmic events of Universe which must clearly occur outside the presently thought-considered tunable range capabilities and are therefore outside the timable system set; and
- (2) All those relatively too small, negligible, microcosmic clan which occur inherently within and infra to

the tunable frequency and relative size ranging of the considered set.

"We may define structure as a local and finite system of energy events of physical Universe consisting of a patterning of interaimed or intervectorially frequency-synchronized, associative and disassociative interferences omniprecessionally resulting as a pattern-regenerative constellation of system- inward-angled vectors, in dynamically symmetrical, precessional constellar equilibrium."

- Cite Typescript "Definitions of RBF," p.2, 29 Dec'58

"The energy proximity economy of ideal structuring as vectorially interaimed and synchronized energy, ergo energy- balanced interference patterns, comprise system complexes whose discrete angle and frequency modulations art* in turn, tunably controllable by man to provide a local energyenvironment controll means for interference. Shunting of the known, relatively-important-to-man patterning and random local event program and angle patterning of Universe into orderly, man-preferred, locally regenerative program and angle patterns: this is local energetic environment controlling by anticipatory design science.

'•Energy events of structure is a local and finite system of regenerative Universe consisting of a constellar patterning of interaimed and frequency synchronized, associative and dis- associative interferences resulting as a net set of inwardly angled, precessionally interaligned, vectorial resultants. Resultants of SMHBDBM vectorial interaimed events must be to provide a local control of discrete frequency and angle modulation to control local energy--- to be known as local energetic environment controls, i.e. radomes.

- Cite typescript "Definitions of RBF," Pp.2-3, 29 Dec»5H

"Radomes provide means for automatically excluding weather and including local warmth and dryness. They should admit the widest possible spectrum of electronic wave frequencies.

"Omnitriangulation is implicit in the requirement for greatest strength with minimum structure. Omni-orientation of focal points of structure is at the most symmetrical equivalence of interdistancing. The strucrure's vectorial components converge at the vertexes, i.e. points, of the system. The triangular relationship of all points of any system show a constant relative abundance in which, of the total number of points, two are recognized as the poles of the system.

"The principle of constant relative abundance of topological features of all omnitriangulated systems, provides:

$N - 2 \gg$ number of nonpolar vertexes;

$(N - 2)^2 \ll$ number of triangular faces

$N - 2 \approx$ number of diamond faces

tensional vectors

$(N - 2)^3 \approx$ number of edges, i.e., compressional or

- Cite typescript "Definitions of RDF," pp.2A,3, 29 Dec'58

"Whereas compressional functions of structures are inherently the most dense and obstructive of electric wave trapping, convergence should be kept at a minimum with the vector edges leaving the maximum number of wholes. Triangles are minimum

holes. We can however have triangular interconnected hex-pent holes. The frequency of triangular relationships of approximately symmetrical point systems may be elected over a wide range. Therefore we choose a layout of triangles which will provide maximum weather exclusion and nondeterioration of structures and optimal installability. This calls for low frequency tensile integrity and islanded compression with booms which are optimum to site handling gear, in respect to which pneumatic lozenges can be omni-interconnected and applied into a unitary double skin.

"Whenever or wherever compressional functions (or vectors) of structures are inherently most dense and compoundly selfimpending (sic) at second power, or relative proximities in respect to local electromagnetic wave frequency, the geodesic"

- Cite typescript "Definitions of RBF," Pp, 2A,3A,3, + 4, 29 Dec*68

"frequency design traffic should keep compressional compo-
nent and its interconvergence at minimum, i.e., in edge or vector
function leaving a maximum pattern of holes (i.e. hex-pent triangular
faces). ..."

- Cite typescript "Definitions of RDF," p.4f 29 Dec*56

Radome *t*

See Dome entries DEW Line Radomes

Raft:

"The raft is tangent to the sphere at midpoint. The early navigators all knew this. They saw the islands disappearing over the horizon in the distance and they were all very conscious of a spherical world."

- Cite RBF to EJA, Michael Denny & Arthur Morey, at Belmont Stakes restaurant breakfast, NYC, 3 Apr'75

Raft:

"The origins of the raft are simple: take a man standing on the bank of a river. He falls in but he doesn't know how to swim. If he grabs a stone he will sink but if he holds on to a large enough piece of wood it will support him. Next we take a man climbing on to a floating log. He notices that it rolls so he tumbles back into the water. But if it has a big enough branch or a smaller branch that falls across another log, he will be able to stand up.

This is a basic raft. If this raft consists of two logs separated by a distance like an outrigger, the resistance is much less if the wind is blowing on the sides.

Therefore it will move in that course since everything goes in the direction of least resistance."

- Cite KAUn TO THE INVISIBLE BEA, p. 12. 1970

Rafts: Early World Drifting on Rafts:

(1)

"If you were part of the very early world that drifted on rafts. with currents and with the winds, you just rarely came back to anything that you were familiar with. The patterns were very, very large and you just kept sweeping on, and you could say goodbye to those people and you never ever saw them again. Because you were saying goodbye to people and never seeing them again, the phenomena really of life and death--- you are alive and they are alive, but you never see them again--- so life and death to those people did not have the distinction that it had later on. If you never came to anything that you recognised, you would not then recognize any really fundamental pattern. Furthermore, there were some patterns of stars in the sky, but you didn't get the same orientation of them ever again, so you don't tend to recognize that pattern. If you were, however, some of the early people who went offshore and accomplished some of the sailing with the beginning of the ability to navigate, when sailing ships first developed the ability to work to windward, you could retrace your steps, and if you did retrace your steps, you would then begin to get the same star patterns that you had before. You wouldn't have any islands or anything around you, but one thing that would be familiar is that you would get the same

Early World Drifting on Rafts:

(2)

"stars around you. And anyone who does any amount of sailing knows how very familiar those stars become in the different aspects."

- Cite Oregon Lecture #7, pp.251-252, 11 Jul'62

See Death, 1970_n .

Orbital Escape from Critical Proximity, (2)

See Four-dimensional Reality, 30 Apr'77

Railroad Tracks: Great Circle Energy Tracks on the Surface Of A Sphere:

' • The vector equilibrium railroad tracks are trans-world— like being in an airplane; you can go anywhere. But the icosahedron is stuck locally with no way to get to another continent. The vector equilibrium is how you go from one sphere to another, from Earth to Mars."

- Citation and context at Icosahedron As Local Shunting Circuit. 22 Jun'72 — Railroad Tracks; Great Circle Energy Tracks on the Surface of A Sphere;

"Now I have found that nature insists on doing things most economically. We find that energy insists on following the convex surface. It has to follow the great circles. We find the 25 great circles of symmetry of the VE have a very interesting characteristic: every one of them goes through the 12 vertexes. The 12 vertexes are made out of spheres in closest packing, packed 12-around-one. These are the points of tangency of spheres in closest packing. We have here 25 railroad tracks by which energy can go from here to there anywhere in the Universe in the shortest possible way and it is the only way it will go. These are the only possible transfers from here to there. So then if you want to go from here to there in the Universe, you have to follow these surfaces and you have to go through these contact points. So these 25 great circles represent a very special set of events because some of them, for instance the four great Circles go through six vertexes; three great circles only go through four vertexes, etc.; they have different opportunities to peel off. They require different frequencies. I think"

- Cite RBF to Verner Smythe, NYC, Reel 2, pp.8-9, 25 Feb'69

(B)

Railroad Tracks: Great Circle Energy Tracks on the Surface Of a Sphere:

"if you follow different great circles and their frequencies, incidentally, every one of the chemical elements has been identified by four different frequencies which absolutely leads to that chemical element.

"This has all the symmetries there are.

"Now the same sphere could become the icosahedron. . . It has the only great circles we have which don't go through the transfer points. Then they are not in agreement any more.

When they get into an icosahedron you can shut off the energy supply and any waves would start going through the system and vector equilibrium would go through it,"

- Cite RBF to Verner Smythe, NYC, Reel 2, p.9, 25 Feb'69

Railroad Tracks; Great Circle Energy Tracks on the Surface of a Sphere:

"The shortest distance between points on the surface of a sphere are the great circles. They are called the geodesic lines and inasmuch as there is no such thing as a straight line and we are working in some kinds of developing surfaces, the great circles are called geodesic lines. We are now getting into the axes of spin which are inherent in any system. We found that systems could be joined up /See Rubber Tires 7 and they develop axial aspects, but they don't frustrate the rest of the Universe.

"Now we are very interested in the kinds of great circles which are developed by the various spins because they must have some kind of important relationship. We saw that if we had twelve spheres in what we call closest packing--- if you wanted to go the shortest distance between points on the surface of spheres--- supposing you were an electric charge, an electron. We make great copper spheres, the old Van de Graaff generators and so forth, you could build up enormous charges of electricity on the surface of this sphere. "

- Cite Oregon Lecture 7> D. 266. 11 Jul'62
RBF DEFINITIONS (2)

Railroad Tracks: Great Circle Energy Tracks on the Surface of a Sphere:

"The charges never try to go on the concave side of this sphere. They always stay on the convex side. You run into this kind of behavior just in trying the electroplate phenomenon. You will find that you cannot plate the concave side. You automatically electroplate the convex side. The convex side goes into higher tension which means that it is actually thinner and therefore less resistant and therefore the energy tries to follow the convex surfaces. Supposing you were the kind of energy that always follows the convex kind of surfaces and yet, being energy, you always have to do it the shortest way. You want to go from sphere to sphere on the surface of the sphere so you would have to take the great circles at the points where the spheres touch one another and therefore you would take the great circles of them. Therefore those 25 great circles are very important because they are all the possible great circles that carry all the traffic between the twelve points--- they are all the possible geodesic railroads. With that kind of energy which always has to follow surfaces, these are the railroad tracks that you would have to follow. . . "

~ Cite Oregon Lecture #7, pp. 266-267. 11 Jul'62

SYsreHTec- 'isx.03)

HBF DEFINITIONS

flallrQa Trafikg: Great Circle Energy Tracks on the Surface of a Sphere: Convex and Concave:

"Dr Einstein pointed out that you could be the little man in the Universe who always went from sphere to sphere and through the points of tangency. You lived inside the concave surface of a sphere and you could get to the point of tangency in the next sphere, and the next sphere, concavely, and you could go right through the Universe that

way. Or you could be the little man who lived on the outside of the sphere, and always lived convexly, and you came to the same point of tangency and you went on. This is one way of looking at Universe and the sphere is another way of looking at Universe. This is typical of not being fooled by just looking at the spheres--- or just looking at the little triangle locally on the surface of your big sphere where you had your big triangle. This is beginning to give us ways of seeing the complementarity at all times."

- Cite Oregon Lecture #7, p. 258. 11 Jul'62

Railroad Tracks: Great Circle Energy Tracks on the Surface of a Sphere: Foldability:

"This may be pure accident but I could say something to you now categorically that is really very fascinating, that is, I found that you could fold and make all the 25 and 31 great circles. There are no other circles though that I know how to fold and make any other kind of great circle patterns on spheres. They and they alone seem to be foldable into these conditions. This seems to be a very strange kind of control because if they did they all relate they are the ways of the grand central station and all the shortest, most economical railroad tracks between all the points in Universe--- flying either concave or convex."

- Cite Oregon Lecture #7, p. 271. 11 Jul'62

Railroad Tracks; Triangular Systems of Energy Networks.

"In any network high energy charges refuse to take the long way round to their opposite pole. They tend to push through, the separating space, striving to 'short.' Thus energy will automatically triangulate via a diagonal of a square, or via the triangulating diagonals of any

other polygon to which the force is applied. Triangular systems represent the shortest, most economical energy networks. . The triangle is the basic unit of energy configurations, whether occurring as free energy or as structure."

- Cite R.W. PARKS, p. 43. 1960

SYSTeM-

RaliX2a±J±asfcs: Creat Circle Energy Tracks on the Surface:

flf a Sphere:

(1)

See Foldability of Great Circles Frequency: Alternate Wavelength
Frequency Grand Central Station of Universe Holding Circuit Kissing
Point: K: Tensegrlty: Vertexial Connections Vector Equilibrium: Great
Circles Of

Railroad Tracks: Great Circle Energy Tracka on the Surface
of a Sphere: (2}

See Allspace Filling: Octa & VE 1967

Gravitational Constant (1) (2)

Omnidirectional Typewriter (2)-(4)

MUXSBAJ: .Railroad Tracks:

See Airplanes vs. Railroads

See Dymaxion Airocean ./orld,(I)

Convergent ve. Parallel Perception, 13 Hoy'75

Hallway Trains: Loosely Counled:

See Diesel Ship at Sea, May¹72

RdF DEFINITIONS

Rain:

"Earth's biospheric inventory of water is radially dispersed outwardly by vaporisation and omnilocally condensed as inwardly 'falling' drops of rain, which are gravitationally and convergently collected as ocean.*

- Citation &. context at Islanded Radiation fc Tensions! PQDftrAncy, 11 Feb'76

Hain as Radial:

See Cosmic ve. Terrestrial Accounting. (3) Ecology, 16 Feb'73 Pre-cession, (I) Rain, 11 Feb'76

See **Ecological Pattern**. 19 Sep'64

Ecology Sequence, la)

Radiation Sequence, (2)

Trespassing. (1J

Water, May'o5

Wind Power Sequence, 15)

Islanded Radiation k Tensional Constancy, 11 Feb*76

Rainbow:

See **Optical Rainbow Range**

RBF DEFINITIONS

Raiaon d*Etre;

"The illogically developed stigma* Which misinforms millions today Is being swiftly eradicated As its championship raison d'etre Is manifest in world athletics."

R8F DEFINITIONS

Raison d'Etre:

"Environment is the whole raison d'etre of man's existence. , . This is why I became preoccupied with environment: how do we protect the infant, being born a genius, from being de-genlused by his environment."

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- Citation at Environment. 22 Jul'71

See **Superstition**, May'49

Ignorance, 11) (2)

Raison d'Etre of Going Mravneae:

See Repulsion, 7 Feb'71

Ralaon d'etre:

Rfilcon

12)

See DNA, 31 May'71

Environment, 22 Jul'71*

More With Less: Sea Technology, 14)

Building Industry, (12)

Propaganda, 29 Mar'77

Ramify:

"Unlike Siddhartha . . I decided to ramify the ramifiable."

- Cite RBF to EJA, Governor House Motel, Bethesda, 28 April 1971 after reading Herman Hesse's "Siddhartha" the night before, given him by Mary Cohen,

Ramify the Idealistic:

See Now, 14 Feb'72

Ramify;

(1J

See Multiramifications

See Capabilities, 20 Apr'72

Thinking, <3) Dymaxion Airocean World Map,(5)

See Entropy

Expanding Physical Universe Thermodynamics: Second Law Of

See Antientropy, 10 Oct'63

Man as a Function of Universe, (B) Sorting, May*65 Stardust, May'65

Elggjzai:

(D

See Inadvertence - Sanden Element

See Inadvertence, 1933

Man as a Function of Universe. (B) Profess: Profession, 22 Apr*bl
Stardust, May'65 Wow: The Last Wow, 22 Apr'71

R*nd9mncM

"All stars radiate energy in a random manner. Randomness begets
increasing disorder which is self-expansive."

- Citation and context at Boltzmann Sequence (5), Dec'72

Randomness;

"Randomness of lines automatically works back to a set of interactions and a set of proximities which begin to triangulate themselves. . . . The most comfortable condition of triangles is equilateral so there will be a tendency for them to try to become equilateral. ... This effect goes on in depth and in to the tetrahedra or octahedra."

- Citr _gnrhnda1r Hrafr-

Natural-s Coo&d4jwMjan p

- Cite Ledgmont Lab, p.20, 15 Oct*64

Randomneaa:

"Entropy la not random: it la always one negative tetrahedron."

-JiU* -OMNUHRECTIONAir HALO, p, 1\$?, i960

- Citation at Entropy_r i960

See Brouwer, L.E.J:

H)

Coincidental Articulation Sequence Intercept the Random Event Om-
nirandooness Order Underlying Randomness: Principle Of

Probability

Rearrange Random Receipts

Entropy Randomness

Happen: Happening: Happenstance

See Boltzmann Sequence (5)* Entropy, 1960* Nebula, 29 Oct*72
Space Technology (7) Triangle, 8 Oct'64 Biological Life, 11) Thinking,
6 Nov'73 Light on Scratched Metal, 9 Nov'73

"Dual personality.♦♦ provides two viewpoints... equivalent to the eyes
of a range finder, an instrument which mechanically widens the dis-
tance between the two human eyes..."

- Citation and context at Qeniua. 1933

RBF DEFINITIONS Ranee Finder: Ranee Finding:

See Convergent va. Parallel Perception, 13 Nov'75

Rate:

"Rate occur* only when there is terminal. Rate ie a modulation between terminal*. With termination, a system'* integrity is brought about by the individually covarying magnitude* and the omnidirectional experience pulls on thqfeystem."

- Cite SYNERGETICS text at Sec. 411.37; gRlloy rewrite, 2 Nov'73

Rate;

"You don't get rate until there is terminal. Rate is a modulation between terminals. With termination of a system's integrity is brought about by the individually covarying magnitudes and the omnidirectional experience pulls on the system.

- Cite RBF to EJA, 3200 Idaho, incorporated in SYNERGETICS draft At Sec. 411.M. 9 Nov*72

bi]

Rate;

"...Rate being the inseparable relationship of time and space.

- Citation and context at Conscious World, 1938

Hate:

"Spedd 1b a unit of rate which le an integrated ratio of both time and space and no greater rate of speed than that provided by its cause, which is pure energy, latent or radiant, la attainable."

- Citation 4 context at Einstein Equation: Telegram to Npgucahi

See Fast & Slow

Big & Little

Universal Integrity: Second-power Congruence of Gravitational & Radiational Constants

Frequency i Magnitude

Slower & Closer vs. Faster & Far Apart

Seo Integration, 29 Aug*64

Shunt, Jun*66

Tetrahedron: Coordinate Symmetry, 15 Oct'64

Time, 23 May` 72

Time-energy Economics, 15 Jun'74

Pollution Control (2)

Gravity: Circumferential Leverage, (4) Historical Event Cognition, 2 Mar*68 Vector Equilibrium, 3 Jan'75 Periodic Experience, (9) Intellect: Equation Of, Hyperbolic Paraboloid. 14 May'75 Structural Sequence, (0)

Frequency Islands of Perception, 13 Nov'75 Flywheels, 11 Dec'75 Gestation Rate, 1 Mar'77

Bate *it* Terminal:

See Rate, 2 Nov'73

Rato & Terminal

See Terminal Rate

See Degree of Freedom Rate

Expansion-contraction System Accumulating Rates Frequency Lag Rates

Melting: Rate Of

Rates & Magnitudes

Tetrahedron: Dissimilar Rate of Change Accomodation

Terminal Rate

Omnidifferentiated Rates

Third-power Rate of Variation Model

Nuclear Propagation Rate

Recall Rates

Point Growth Rate

Shell Growth Rate

See Change, 9 Not'72 Comprehensive, 1960 Conscious World, 193#*
Future of Synergetics, 22 Apr¹68 Good 4. Evil Sequence, (1) Pythagoras,
(1) Subset, i960 Synergetics. 26 May¹72 Tidal. May'72 Calculus,
Mar'71 Individuality i Degrees of Freedom, (1) Life, 25 Mar'71 Machines
vs. Structures, 13 Nov¹75

BATIOS: CHECKLIST

(D

See Volume-energy Ratios Volume-number Ratios Volume-quanta
Ratios Volume-surface Ratios Volume-weight Ratios Twentyness in
Mass Ratio of Electron & Proton Universal Integrity: Vector Equilibrium
i Icosahedron Vector Equilibrium: Ratio of Volume to Quantum
Gravitational Constant Quantum Values: Potential Ratio of Volume to
Realized Quantum Values

Universal Integrity: Manifest Ratios &. Potential Ratios

Slenderness Ratio Length-to-girth Ratio Coordinate Abundance Ratios
Surface-mass Ratios

See Cartilage vs. Bone, Dec*61 Efficiency, 22 Jan'75 Greater Intellect.
(2) Inverse, 11 Jul*62 Trigonometry: Spherical Trigonometry,
(1);

11 Jul»62

frtlonftl Action in a .Rational World:

Sea Dynaxion, 1967

Nationality by Complementation:

See Icosahedron 4 Vector-edged Cube

See Unified Operational Field, 30 Dec'73

See Module.: A & B Quanta Modules

See Vector Bquillbrius Field, 20 Dec¹?!

national - Relational:

See Reason, Aug'73

See Propaganda, 29 Mar'77

News & Evolution, (3)

Technology: Enchantment vs. Disenchantment, (3)(4)

HRHHHMHI Rational Whole Numbers:

"Rational values « • . pan be expressed as a ratio of a whole number.
. • . Nowehere in" Synergetics "is it necessary to introduce irrational
numbers such as £i, (3.U159..+)."

* Cite MARKS, pp 47-48, i960

Asymmetry: Plus 4. Minus Magnitudes as Rational Fractions

See Low Order Prime Numbers

Prime Rational Integer Characteristica

Single Integer Differentials

See Simplex. 1965

Vector Equilibrium (1)

Twelve Universal Degrees of Freedom, Dec'61

Energy Has Shape, 24 Sep*73

Absolute Network, 10 Nov'74

Omnihalo, Nov'71

Module: A Quanta Module: Introduction Of, 22 Feb»77

Multiplication by Division, 20 Jan'77 Kites &. Quarks as Basic Notes,
(1)-<3> Trigonometry, 26 Sep'77

KaiAanal'

(D

Sea Omnirationality

Prime Rational Integer Characteristic®

Reason

Nuclear Geometrical Limit of Rational Differentiation

See Cosmic Accounting. 20 Dec'73

Dymaxion, 1967; 1960

Oscillation. 21 Dec'71

Powering: Second Powering, 21 Dec'71

Vector Equilibrium, (1)(2J Triacontrahedron. 3 May'77 Min-nax Limits, 8 Aug'77

Rationalization Sequence : ₍₁₎

"Upon the premise that the sumtotal human desire to survive is dominant over the sumtotal OHB of the impulse to destroy this book is designed. It does not seek to provide a formula' to attainment. To do so would develop dogma and nullify the process of individual rationalization that is utterly essential for growth.

"Rationalization is an act similar to walking through a half-frozen, marshy, unexplored country to mark out a trail that others may eventually follow, it involves not only the familiar one-two progression of shifting the weight and balance from one foot to the other, but an unknown quantity progression of selective testing to avoid treacherous ground before putting full weight upon the forward foot.

".Rationalization is a time-word to replace 'thinking,* which is an ancient, mystically evolved word tentatively signifying an attempt to force the power of god into one's self. Rationalization connotes a constant, selective balancing of relative values, gained from experience, for the purpose of harmonious, inclusive recomposition and subsequent extension,

- Cite KIME CHA 1Kb TO THE UON, p. ix, 1938

Rationalization Sequence; (2)

"It is central to my philosophy that everything in the Universe is constantly in motion, atomically if not visibly,

and that opposing forces throughout this kinetic picture are always in neat balance; furthermore, that everything invariably moves in the direction of least resistance.

"The history of man's creative effort is the story of his struggle to control 'direction' by the elinfoation of known resistances.

"To, the degree that the direction of least resistance is controlled by vacuumizing the advance and de-vacuumizing the wake, the course of society can be progressively better charted and eventually determinable with a high degree of certainty.

"The creative control, or streamlining*© society/tiy the scientific-minded (the right-makes-migrftst) is in direct contrasts to attempts by scheming matter-over-mindlsts (the might-makes-nghtist) to control society by increasing, instead of lessening, resistance to natural flows through such devices as laws, tariffs, prohibitions, armaments, and the cultivation of popular fear.

- Cite NiNE CHAINS TO THE KUUN, p.x, 1938

Nationalization Sequence; (3)

"By controlling direction it becomes possible , scientifically, to increase the probability that specific events will 'happen'.¹

"Preparation of the material herein set forth dates from the very beginning of my experience. Up to a point in that experience I lived by the common code of loyalty and good fellowship with all of its convincing and romantic 'tradition.' Then, through my own particular quota of important slaps in the face, it became apparent that in 'tradition' lies fallacy, and that to be guided in conduct and thought by blind adherence to tenets of tradition is, as said in slang, bravely to 'stick the neck out.' I realized that experience is the vital factor, and that, since one can think and feel consciously only in terms of experience, one can be hurt only in terms of experience. When one is hurt, then somewhere in the linkage of his experience can be discovered the parting of the strands that led to the hurt. Therefore it follows that strict adherence to rationalization. within the limits of self-experience, will

provide corrections to performance obviating not only for one's self, but for others, the pitfalls that occasion self-hurt. By cultivating the ability to rationalize in the absolute, one acquires the power of so ordering experience that truths are"

- Cite Nlttli UHAXNb TO THE LUUN, p.x, 1y38
KHF UhFIMTluNS

"clarified and susceptibility to self-hurt is diminished to the point of negligibility. Through rationalizations anyone may evolve solutions for any situations that may arise, and by the attainment of this ability through experience one obtains his license to be of service to mankind.

"nationalization alone, however, is not sufficient. It is not an end in itself, it must be carried through to an objective state and materialize into a completely depersonalized instrument--- a 'pencil'.¹ (Who knows who made the first pencil? Certainly not Eberhard Faber or 'Venus.') The pencil not only facilitates communication between men, by making thought specific and objective, but also enables men cooperatively, to plan and realize the building of a house, oxygen tent, flat iron, or an x-ray cabinet by virtue of the pencil's availability. The inventor, alive or dead, is extraneous and unimportant; it is the 'pencil' that carries over. Abstract thought dies with the thinker, but the mechanism was building for a long time before the moment of recognized invention.

"The substance of this book develops my conviction of these truths, in a final chapter 1 have recorded certain thought-

- Cite NINE CHAINS TO THE KUUN, pp.X~xi, 138
nationalization Sequence; (5)

"processes and results of abstract intuitive thinking which would be obscure without reading the preceding sections. The reason for exposing myself to possible suspicion of 'mysticism'¹ is to show how important it is to transcribe the faint thought messages coming into our personal cosmos at the time of occurrence--- sketchy and puzzling though they may be--- because time, if well served, will turn them into monkey-wrenches and gas torches.

"The title 'Nine Chains to the Moon' was chosen to encourage and stimulate the broadest attitude toward thought. Simultaneously, it emphasizes the littleness of our Universe from the mind viewpoint. A statistical cartoon would show that if, in imagination, all of the people of the world were to stand upon one another's shoulders, they would make nine complete chains between the Earth and the Moon. If it is not so far to the Moon, then it is not so far to the limits--- whatever, whenever, or wherever they may be.

"Limits are what we have feared. So much has been done to make us conscious of our infinite physical smallness that the time has come to dare to include the complete Universe in our"

- Cite NINE CHAINS TO THE MOON, p.xl,

Rationalization Sequence: (6)

"rationalizing. It is no longer practical to gaze at the surfaces of 'named' phenomena within the range of vision of the smoking car of the 5,15 with no deeper analysis of their portent than is nQgQS-BKSSGHMI derivable from a superficial exchange of complexed opinion-notions with fellow-commuters.

•'After all,' Jeans said, 'it is man who asked the question.* The question is survival, and the answer, which is unit, lies in the progressive sumtotaling of man's evolving knowledge. Individual survival is identifiable with the whole--- as extension or extinction. There is no good country doctor on Mars to revive those who, through mental inertia, are streamlining into extinction."

- Cite NINE CHAINS TO THE >WuN, p.xi, 1938

See Political Mandates: Inventory Of, 27 Dec'73

Selfishness, 20 Sep'76 '

Razor:

"... The blade of a razor is a randomly dumped breakwater of spherical rubble."

- Cite SYNERGETICS draft at Sec. 1009.41, 10 Feb'73

See Vector Equilibrium: Unarticulated VE, 2 Nov¹73

See Radiation: Speed Of, 30 Nov*72 Vector Equilibrium: Unarticulated Ve, 2 Nov*73

See Limit Reach

Radial Reach

Radiant Valvability of IVM-defined wavelength Sweepout

See leotroplc Vector Matrix. 30 Nov'72 Point, 16 Nov'72 Time, 30 Nov'72

RftapUgfl-

"While the human's actions are antientropic, his reactions are entropic, ergo unpredictable."

- Citation and context at Individuality, May'65

- Illi 11 Hill In Mil I _ —JI I H_L

Reaction:

(1)

See Action

Action-reaction-resultant Resultant Z Cobras

See Sixty Degreeeenees, 8 Dec*72

Reading:

"We don't know how we retrieve information from our brain.

The conscious part does some triggering; it acts as a valve; it can be a brake or it can be an accelerator. But the conscious part is less than one-millionth of the retrieval process. The rest is subconscious. There is an automatic process. When we can't remember a name the brain doesn't forget we asked the question, although maybe we have forgotten. But the lags are variable, and therefore the feedbacks are not orderly. The only conscious part is the holding back of irrelevancies. And this is true of reading, too."

_ Cite RBF in tape interview with Mike Handler, Wash. Post, "Portrait of a Man Reading," 3200 Idaho, Wash DC, 29 May'72

Reading: (1)

Q. "Mr. Fuller, you're quite a traveler. Where do you find the time and the places to read?"

k. "Obviously airplanes and airports are great places, as are hotel rooms very late at night. I'm convinced you can't put out if you don't put in. In other words, thinking does come from experience. Reading increases the number of experiences from which you may gradually

adduce generalized principles. I am now fairly aware of what my conscious part is in this very complex system called thinking. That conscious part, which is only one-millionth of the picture, can do some triggering, can be a brake or an accelerator, a valve that can shut off or turn off a process.

"We experience different rates of retrieval of information. Even in my vocabulary and in my reading, there are lags, and when people talk about speed reading, it's really just a means of diminishing the lag. I'm not interested in speedreading, but rather in content and understanding. But I find the subconscious is very powerful.

"During 1938-1940 I was consultant in science and technology to the editor of Fortune magazine, and my function was to emphasize the science foundations of great industry.

- Cite Michael Bandler Interview, BOOK WEEK, 11 Jun'72

Reading:

"I read 'Patent Gazette,' and I could literally spin the pages, and when my eyes saw something I wasn't familiar with they would stop me. They recognized absolutely everything I wasn't familiar with. So when I read today I don't have to process the material. I know my subconscious will stop me when I'm not familiar with something. Everybody has that capacity, but not everyone uses it."

- Cite "Books and Buckminster Fuller," Interview by Michael J. Bandler, BOOK WEEK, 11 Jun'72

Reading: Escapist Reading:

Q: "What do you do in the way of what might be called escapist reading?"

A: "I have nothing to escape. I'm really so fascinated with life."

- Cite query from Mike Handler, Wash. Post, "Portrait of a Man Reading," to RBF in tape interview, 3200 Idaho, 29 May*72

Read aloud:

"We read all of Dickens out loud. In reading out loud your eye really goes several lines ahead and you can anticipate the meaning and inflections. Out loud reading went right on through the time of World War I, but it went out just like that when popular radio came in."

- Cite RBF in tape interview with Mike Bandler, Wash. Post., "Portrait of a Man Reading," 3200 Idaho, Wash DC, 29 May'72

Reader? Reading:

See Child Sequence, (3)

Fuller, H.B: Books Read in His Youth, 1971 Semantics, 20 Feb'73

Real:

"... Vectors being the product of physical energy constituents, are 'real,' having velocity multiplied by mass operating in a specific direction; velocity being a product of time and size modules; and mass being a volume-weight relationship."

- Citation at Vectors. 27 May*72

See Ideal vs. Real Realm: Real: Royal Real Models of Reality Real Universe

Real:

(2)

See Principle. May*49 Vector, 2? May*72*

Real Estate:

"Big money has left all the sovereignly locked-in, local property-game players holding the unmovable bags of real estate...."

- Citation & context at Transnational Capitalism & Export Of Know-how. (1); 20 Sep¹76

Real Estate Development:

"We find that generally speaking the geographically larger the physical task to be done, the duller the conceptual brain is brought to bear upon the technically realised applications."

UBS' queued by Hal Signer, in Helliag - Stonr, 10 June—4W-1

- Citation and context at Politics. 10 Jun¹71

H_eaJ, £8tat? = iteQ Ptv»lgBa*nt

See Building Business Realm: Real: Royal Whitehead's Dilemma Land Exploitation Deed: (Property Deed) Miniature Castle Building

(1)

~~BMI Sfitatff?~~ ftgal Egmg PsYcloppient;

(2)

See New York City (12)

Transnational Capitalism i. Export of Know-how, (1)* Houses i Infrastructure, 20 Sep*76

Realistic. •

Synergetics draft at Sec. 1001.14, 16 Feb'73

Reality:

"The reality is always orbital."

- Citation & context at Orbit - Circuit, 10 Sep'74

Reality:

"Reality is always indeterminate."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 5 May*74

Reality:

"Nature modulates probability and the degrees of freedom, frequency and angle, leads to the tensegrity sphere; which leads to the pneumatic bag; all of which are the same kind of reality as the three autongtobiles."

- Citation and context at Sphericity of Whole Svateaa. 26 Sep'73

Reality:

"• . . What we call reality is always a positive or negative set of the whole. ⁿ

(This is in the context of a description of zero vector equilibrium.)

- Citation 4 context at Vector Equilibrium Zaro Tatmy-onl >

- Otte Carbondale DiafV- Nature'-a faaordl nation, p, VIr45

- Cite Oregon Lecture #7, p. 236. 11 Jul '62

Incorporated in SYNERGETICS draft at Sec. 441.23, 9 Jun'72

^{Sa®} rowrite on galley at Sec. 441.23, cited at Phveical

Reality, 4 Nov'73 —' *

Reality;

"What the mathematicians have been calling abstraction is reality. When they are inadequate in their abstraction then they are irrelevant to reality. The mathematicians feel they can do anything they want with their abstraction because they dotf't relate it to reality. And of course, they can really do anything they want with their abstractions butlike ^{0143turbat}ion, it is irrelevant to the propagation

` The only reality is the abstraction of the principles, the eternal generalised principles. . . Most people talk of reality as what are just the after-image effects--- the realization lags, which register superficially and are asymmetric and off center. (The principles themselves have different lag rates and different interferences.) When we get to reality it's absolutely eternal.

"The inherent inaccuracy is what people call the reality. Man's way of apprehending is always slow: ergo the superficial and erroneous impressions of solids and things, which can actually be explained only in principle."

~ f*; 'p 111 * ' 'u - fllllll. III?--

- Citation at Abstraction 24 Feb'72

Reality:

"The principle is more of a reality than the qualities they produce."

- Oitx-RDF be TUA; JQQO Idaho, DG_r 22 Feb »?2
- Citation and context at Principle_r 22 Feb'72

Reality:

There is no straight line; only the wave coincides with reality."

Reality:

"Th® nonsimultaneity and dissimilarity Of the complementary inter-pattermings Produce what we sense to be reality.

Otherwise they would cancel one another And there would be no sensoriality,"

- Citation at Senses. 1971

Reality:

”• • • Not until we have size, not until we have energetic
i.e., not until we have reality, do
expert enc4abS.it y,
we have structural stabilization of the nuclear 12 /“balls
of the vector equilibrium-/.”

- Citation t context at Vector Equilibrium, 23 Aug*71

Reality:

”Conceptuality is metaphysical and weightless.

”Reality Is physical.”

- fUtrzJtWF lu- RJAi fUBtFUML-

• Citation & context at Conceptuality & Reality. 22 Apr'71

fHHHMMI MHHNMHMBHMMHI Reality:

"All of the weightless metaphysical thoughts concerning reality are mentally understandable independently of any special-case physical sense experience. All such weightless thoughts can be imaginatively described by one person either to himself or to another person by weightless conceptions.

Such weightless thinking--- independent of physical sensing--- plus our scientific discovery of the great infra- and ultra- to-human-sense-ranging of physical energy's electromagnetic spectrum regularities altogether combine to both establish and confirm that less than one-millionth of reality is now directly apprehensible by the human senses."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. I50, Dec. '69

Reality:

"The wellspring of reality is the family of weightless generalised principles."

- Cite NEHRU SPEECH, p.41, 13 Nov»69

Reality:

"Every chemical element has its unique frequencies. That became the way that you know, this is what you mean by that, mathematically and scientifically this is the element, this is the reality. Copper is real, and copper was those frequencies. . . "

- Cite RBF Address THE HABITABLE CITY, 14 Oct '69.

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Re-UIW

"...Everything we know as reality has to be 'either a positive or negative condition."

- Citation and context at Nature. Jun'66

Reality;

"Pure science events represent openings of windows through the wall of ignorance and fiction, to reveal the only reality--- the behavior of the naked Universe that always was, is, and will be. True it is that the first glimpses may be hazy and imperfect, but the behavior itself is absolute and progressively clarified. . .

- Citation and context at Science, p.13, 1947

Reality: Faller's ^ReflltY Y3« ^PQPU1QF ^R?alltY:

"1 really very clearly differentiate today what I call reality and what most people call reality. Their reality is that you have got to make money and you have got to pay your bills. I consider that really a game. So it is part of my reality that man is hooked with a game, which makes it very inconvenient for me where they are not dealing with reality. The game Includes social standings, reputation... that there is a place called Chicago... because In my reality there are probably no names.**

- Citation k context at Interrelatedness va. Namea, (1); 20 Feb'77

Reality: Fuller¹a Reality,ya. Popular Reality:

See Earning a Living

` ` There are a lot of different realities* That is the difference between reality and generalisation. There is only one generalization."

- Citation & context at Individuality ft. Degrees of Freedom, (3) 17 Jun'75

TEXT CITATIONS

Reality.

6543.05

Reality as Structural Interaction of Principles:

"The relative abundances of reciprocally patterning principles everywhere constitute the so far discovered inventory of finally complex, ergo fundamentally differentiable structurally regenerative universal governance. The complex of interactively accommodating principles and their relative abundance accommodation are reality--- the only reality. What man, In his sensorially preoccupied misapprehending, has termed •abstract,* In contradistinction to sensorial, as well as that which man has designated as metaphysical in contradistinction to physical, are altogether one reality. The fact of meagerness of the experience-generated knowledge of man in respect to the omniregenerative structure of reality' and the observational facts taken in the twilight zones between the meager known and the as-yet -unexperienced, in no way alters the unitary integrity of the utter interaccomodation of complex structural interaction of the principles as so far sum totally inventoried by the faithfully reported experiences of man."

- Cite led, DOMES, p. 14?. 1963

Reality as Structural Interaction of Principles:

See Universe (p.13¹) 1960 Airplane, Kay'49 Periodic Experience, (7)

Reality: Structurings as the Only and Inescapable Reality: "The mathematical patterning and intertransformability of nature's geometrical structurings are the only reality of Universe. The infinitely regenerative dynamism, always potential in the fundamental relationship of the principles in itself constitutes the intellectually tunable and ever inescapable reality.^{1*}

- Cite I&I, DOMES, p. 147. 1963

Reality * Unreality;

See Dynamic Equilibrium, 24 Apr¹76

See Co ninon Sense Reality Conceptuality 4 Reality Cosmetry Earth:
Let's Get Dow to Earth Game of Reality Geometry of Reality Ideal vs.
Real Invisible Reality Local Reality Mind as Reality Minimum Reality
Nonreality Official Reality Perceptual Peephole Physical Reality
Residual Reality A Priori Four-dimensional Reality Mind-over-matter
Reality Temporality ~ Tempo-reality - Time-reality

See Sensorial Identification of Reality Spherical Reality Superficial
Reality Wellspring of Reality Vectors Are Real Four-dirr.enslonal
Reality Momentary Reality

See Abstraction, 24 Feb*72* Apprehending, 22 Nov*73 Benday
Screen, 28 Oct*72 Conceptuality f Reality, 22 Apr'?1* Dream, 1968
God, May'68 Invisible Colors, 4 Mar*69 Imaginary Universe vs. This
Universe, 22 Feb'?2 Magic, 18 Nov'72

Mother: Infant Nursing at Mother's Breasts, 18 Nov'72 Nature.
Jun'66 One, 20 Dec'73 Now. 14 Feb'72*

Positive k Negative, 11 Jul'62

Principle, 22 Feb'72*

Quantum Mechanics, Jun'66 Responsibility, 14 Oct'69 Science,
1947*

Sphericity of Whole Systems, 26 Sep'73*

See Vector Equilibrium, 23 Aug'71*; ¹ May* 71

Vector Equilibrium: Zero Tetrahedron (3)*

Velocity, 12 Jul*62

Senses, 1971*

Orbit - Circuit, 10 Sep'74*

Principle. 6 Apr*75

Thought, May*49

In. Out & Around, Nov'71

Multidimensional Accommodation, 11 Dec'75

Life & Death, 26 Jan'76

Me, 18 Dec'76

Life is Not Physical 20 Feb'77

Conceptual Limits, 22 Jun'77

See Reality: Fuller's Reality vs. Popular Reality Reality vs. General-
ization

Reality as Structural Interaction of Principles

Reality: Structurings as the Only & Inescapable

Reality

Reality « Unreality

Realizable:

"Physical interferences of our sensibilities are alike true and real, or
realizable, only in principle."

- Citation and context at Principle. May*49

Realization:

"...All physical realisations are always diaequilibria."

- Citation and context at Basic Triangle: Basic Dialectic
120 pp. Triangle, 20 Dec

Realization:

"A vector is a partial generalization being either metaphysically theoretical or physically realized, and in either sense, an abstraction of a special case. . .

- Citation and context at Vector. 26 May*72

κBF UoFBUTiufd

Realization:

"Realizations are always imperfect."

- Citation and context at Physical is Always the Imperfect. 14 Feb •72

‘ ‘ iTTr IT-TIP I jnalán nr iirolea □Faring reality □p---

44 Feb. —

Realization:

"Potential lines are metaphysically straight, all physically realized relationships are geodesic and curved trajectories."

- Citation at Metaphysical & Physical. 1971

Realization:

"Realization is objective integrity."

- Cite in, PRIME DESIGN, p. 245. May'60

Realization:

"The new reliable understanding of meaning. . . requires the revision not only of semantics but also of their complex aspect as thought habits employed to describe experience with accuracy, such as . . . the substitution of the word 'realization' for the very inaccurate use of the verb 'to create.' Man creates naught. If he comprehends in principle, he rearranges locally in Universe by realization of the interactions of principles."



- Citation *k* context at Meaning, May*49

R3F DEFINITIONS

"Where all the local vectors are approximately equal we have a potentially local isotropic vector equilibrium, but the operative vector complex has the inherent qualities of both proximity and remoteness in respect to any locally initiated action, ergo, a complex of relative velocities of realization lags."

- Citation at Proximity. Oct*59

4 Cite SYNERGETICS, Corollaries, Sec. 240. 1971)

Realization Lage:

See Abstraction, 24 Feb'72

Local Vector Equilibrium, 2 Nov*73

Metaphysical, 14 Feb'72

Proximity, Oct'59* Time, 23 May'72

See After-image

Conceptual Genesis

Creativity Cyclic Realization Discovery Potential vs. Realized Pulsivity of Realizations Regenerative Design: Law Of Quantum Values

Self-realization

Time-somethingness Systematic Realization Operational Realizations Comprehensive Realizer Operational `` Physically Realized Temporary Realizations

See Basic Triangle: Batic Disequilibrium 120 I£D

Triangle. 20 Dec'73*

Conceptuality & Reality, Jun'66

Experience, 1960

Four, 26 Jan'73

Frame of Reference. 4 Oct'72

Interference, May'49

Isotropic Vector Matrix, 6 Mar'73

Isotropic-vector-matrix Field, 20 Dec'73

Meaning, May'49*

Metaphysical t Physical, 1971*

Physical Is Always the Imperfect, 14 Feb'72*

Principle, May'49*J 7 Oct'75

Space Nothingness & Time Somethingness, 28 Dec'73

Timeless, 1 Apr'72

Time-sizing, 30 Nov'72

Vector, 26 Kay'72*

Wavilinear, 28 Oct'73

Radial Depth, 20 Feb'74

See Special Case, 27 Dec'74

Scenario vs. Absolute Symmetry, 11 Dec'75

Children as Only Pure Scientists, 26 Apr'77

"All of us really carry on much on a really safe basis, going back again to people with swords and farming the land We go back to somebody with weapons more powerful than other people saying, 'I claim this and don't anybody say No If nobody said 'No' then you called your officers to write the deeds,.. We have our deedings going back to whoever is the sovereign of that land. The word real in Spanish is the word royal or our word real--- coming from is it valid to the king... Our real estate going back to royalty's estate. Valid to the king--- comes back to the deeds of the king. Then we have man monopolizing the physical. Fanatic laws we have protecting the land and almost no laws protecting man's ideas, the metaphysical. We protect the physical. It is the underlying financing of the building in terms of the land. This land exploitation is very dominant in the building world, making the equities of land more and more, not thinking at all about the fundamentals of how do you really serve man."

(Edited and slightly rearranged.)

- Cite Transcript Univ, of Alaska Address, p.2, 20 Apr '72

KBF DEFihlTIUNb

"The great pirates came into the various lands and picked the strongest man in each to be their local head man. He became their general manager of the local realm (realm - real-m). Real (pronounced re-al) means royal in Spanish. Hol means king (French}. Roy means grand ruler (India). All are derived from Ra or He: Thu sun gods of India, China, Mesopotamia, and Egypt, From this come# ` the

real thing,' realisation. and reality, i.e., the commonly recognized experience--- ergo, real estate which was certified under royal deeds issued by the original sovereign claimant of the land. There is an official reality which is sometimes unnatural."

- Cite ENVlttuNiXNT AND CHANGE, Ed. W.tt. Ewald. P. 350.

Above passage omitted from UPeKATING paNUAL FbR bPAUE* SHIP EARTH text at P. 28. 1968

See Black Holes 4 Synergetics, 1 Mar*77

Realm:

OF reame. reeme. L. regimen. later becoming realm reiaume (roy-aume under influence of real royal. Mod. form, later influencing pronunc.. is due to influence of ME real, royal, usual early forms being reame. reme.

Real:

Adj. F. reej, Late L., realis. from res, thing.

As trade description perh. influenced by ME real, rial (royal) stock epithet for superior merchandise.

See Religion: Related to'Reglia *

or Rule

Real Mpdelat of Reality:

See Grand Central Station of Universe local Vector Equilibrium

Railroad Tracks: Great Circle Energy Tracks The Surface of a Sphere

See Graphable, 27 May*72

See Real World

See Graphable, 27 May'72

Probability, (1)

RdF DEFINITIONS

Reftl ^{WjQZld>}

"The real world is a special case."

- 1RBF confirmed his authorship of above bumper sticker by leaping out of EJA car on 34th Street in Georgetown en route to a State Dept. Meeting, RBF chatted with woman driver of DC license it 16O-5S5; she also attributed statement to RBF; 12 May'75

Rearrange Elemental Order:

"Energy is the capability or the capacity to rearrange elemental order."

- Citation <L context at energy. 1y67

I`m experienced in going from original conceptions, i.e. inventions--- ergo, unknown to others--- to altering the enXronmgnt in a complex of ways which are omni-considerate of all side effects on the altered environment. I am accustomed to starting from primitive conditions, where as far as one can see no MB other man has explored, I have learned how to rearrange the environment in such a way that it does various things for our society that we could not do before, such as building a dam which in turn produces a pond.,."

- Cite RBF Introduction to Victor Papanek's "Design for the Real World," 9 Apr»?1

Rearrange the Environment:

See Success, May'72

Wealth, 8 Dec'75

See Furniture

Rearrange the Landscape:

"It is only the metaphysical that can rearrange the physical landscape to human advantage."

- Cite Nehru Speech, pp.46-47, 13 Nov'69

See Comprehension "Rearrange Locally

See Hammering Sheet Metal, (1)

Realization, May'49

See Entropy. (A) (B)

Earth, Jun'06

"To date, we have gained vast inventories Of trial-and-error experience

From all of which information we have developed A family of generalized scientific principles Which are weightless pattern concepts. Being weightless they are metaphysical. From the metaphysics

We have in turn designed

Rearrangements of the physical behavior constituents

Of our omnikinetic environment scenery.

We have rearranged the scenery

**In the pattern of world-around occurring power-driven tool networks
All of which teleologic process**

Has produced an ever-increasing survival advantage for humanity."

- Cite BIN * MIND, p.92 May '72

"I'd like to answer one more sort of challenge we had a little earlier, and that is that I've learned not only this grand strategy of not trying to reform the individual; to assume that the Individual can concentrate entirely on rearranging the scenery in permitted ways to make it

more favorable for life--- to demonstrate its capabilities. I have also learned that where you see things that need to be done--- you can see the scenery can be rearranged. Tour experience tells you that scenery can be rearranged to a higher advantage for man, . . And there's nobody to tell you to do it. , . You will try to do something about it, to rearrange it, and then he says, 'What have you done?' And then you explain what you've done and how it works, and then he says 'Well, that's very interesting,' but then goes right on about his regular business. Then I find that there's always an emergency, when you have to have something waiting there. So my whole strategy is--- and I've been able to live now on the frontier without anybody guaranteeing me anything, or telling me what to do--- taking the economic initiative and trying to find out what nature needs to be done."

- Cite RBF to World Game at NT Studio School 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part 3, pp. 68-69.

"When you can't go any further with one thing, then you look over to another one that needs attending to, and you keep shifting from one to the other. So, at any rate, I've learned how to survive there. One of the things I do is never try to persuade anybody. I don't try to sell anything. You see what needs to be done and you do it. And you wait until a man says "What is that?" and then you tell him what it is. For instance, I've learned that there's no use going around with pulmotors door-to-door like a Fuller Brush man and say 'I'd like to sell pulmotors.' But all of a sudden there's some suffocation and you have to have a pulmotor in a hurry, and then it's lucky you did it. So I find that society has its emergencies. . . So you have what I call emergence by emergency And that's what is really going on at this ta-

ble with the individuals really beginning to find out how you do do it. That's the thing, not talking about it theoretically, but just really looking at what can be done--- and more than just getting the figures. This then leads to design: 'What are the things that need designing?'

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn film transcript, Sound 2, Part 3, pp. 69-71

See Environment: Altering the Environment Furniture entries Individual Economic Initiative

Reform of Environment Rather than Reform of Man

See Biosphere Inventory, 15 Nov'74

Copper, (1); (A)

Leonardo Type, 13 Nov'69

Man as a Function of Universe, Jun'69 Comprehensive Realizer, May'49

See Hammering Sheet Metal, (1) Invention. 2? Dec'73 Pattern, 3 Oct'72 Windows of Nothingness, (2)

(3)

See Rearrange Elemental Order

Rearrange the Environment

Rearranging the Environmental Furniture

Rearrange the Furniture

Rearrange the Landscape

Rearrange Locally

Rearrange Random Receipts

Rearrange the Scenery

Reacon?

"Reason / Cause. (See Introduction to "Nine Chains to the Moon".)*

"Rational • Relational."

j/~*N.B. - Passage from Introduction to NINE CHAINS

TO THE MOON cited in this file as Rationalization

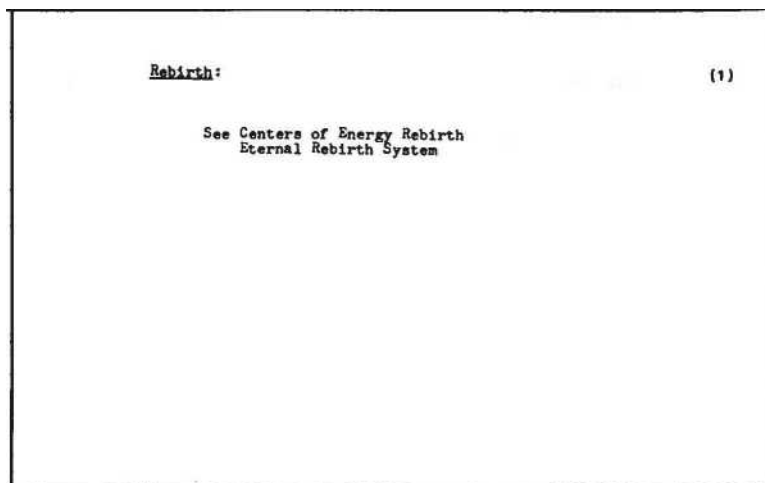
Sequence (1)-(6). J

- Cite RBF marginalia at Foundations of Physics. Vol. 1, No.4, '971, pp.2-36j, D. Bohm: "Quantum Theory as an Indication of a New Order in Physics."

See Reason, Aug¹73

Reaeon: Reaeonable: Reaeoning:

See Faculty: Conceptual & Reaeoning Facultyee Knowing vs. Reasoning



Rebirth:

(2)

See Eternal Slowdown, 12)

Isotropic Vector Katrix, 16 Nov*72

Time-site, 20 Dec'73

Rebonding:

See Unbonding-rebonding

|0

**"The whole of Universe is a consequence of our not seeing instantly.
As a result of the recall lags the physical is always imperfect.***

- Ggta-Jhf Lq Wuntr Bt?, g6 yi7a=

(Citation and context at Equanimity Mnd.l, 26 May'72)

"Again reviewing for recall momentum...'"

**- Cite RBF marginalia on SYNERGETICS galley at Sec. 954.55 28
Dec'73**

Recall Playbacka-

See Brain's TV Studio, (2)

Recall Set:

"Brains differentially correlate the succession of special case informations coirmu-
nicated to the brain by the plurality of senses. The brain distinguishes the new,
first-time-event special case experiences only by their comparison with the set of all
its recalled prior cognitions."

- Cite SYNERGETICS 2 draft at Sec.

100.015; as Apr* 77

Recall Set:

See Set, 5 Jul'62

R?c»H= PtC»U. JAM:

(1)

See Afterimage

Double Take

Experience Recalls

Physical Experience Recalls Memory Call-ups

See Brain, 5 Jun'75

Equanimity Model, 26 May*72*

Frequency Islands of Perception, 13 Nov'75

Happening Patterns, 6 Nov*73

Life, 25 Mar*71

Metaphysical & Physical Tetrahedral Quanta,
25 Har'71

Pattern, Jun*66

Thinking, (A)(B); 22 Oct'72; 7 Nov` 73

Thought, 31 May'71

Unitary Conceptuality, 22 Oct'72

| | |
|--------------|---------------------|
| <u>Recal</u> | 1: Recall Lags: (3) |
| | See Recall Lags |
| | Recall Momentum |
| | Recall Playbacks |
| | Recall Set |

Recede:

' 'The external crossing points of the system continually
recede.'

- Cite RBF 1t> Feb citation Surface as re-written 17 Feb *72 (Q.V.)

Rocentering;

See Structure, 3 Oct'72

RBF DEFINITIONS

Reciprocal:

'•It is very interesting to consider ... a total inventory of the relative abundance of different patterns remembering that the patterns are reciprocal.

—ecture #5

- Citation at Pattern. 9 Jul*62

Reciprocal:

"Since universe is the minimum perpetual notion therefore there is a minimum set of patterns that is a consequence of this set of patterns reacting with that set of patterns."

- 4>lte OREGON—University Lecture p, 9 Jul*62

- Citation and context at Minimum Set. 9 Jul'62

See Paired Congruency

Sleeping in the Same Bed

See Simplicity, 1954

HaalBrasa.18 st. Pernisalble Viewpoints:

See Pattern, 1954-59

See Omnidirectional, 1954

Zoneness: System Zoneness, 8 Jan*55

See Cosmic Accounting Sequence, (4)

See Relativity, May*49

Reciprocating Torue Model:

See Rubber Tiree, 24 Jan*75

Reciprocity. (1)

"But as we come to explore for the fundamental principles of inter-potentials and interactions called atoms, we find that , despite the astronomical number of aspects and events, only a few principles of behavior pervade the whole of Universe as, for instance, 92 tendencies to self-impoundment of energy; a fundamental inwardness and

outwardness relative only to the 'system* center of observation; the corollary principles of inherent first tendencies to inward-outward pulsations and to precession, and the principles of insideouting--- convergence-divergence, spin and counterspin, torque and counter-torque tension and pressure, the biological reciprocals of Universe (and diaphragm!ng).

'Relativity leads us toward fundamental classification of our experience and observation, in the terms of a few hierarchies of dynamic interactions and principle transformations of an all-energy, continuous-discontinuous, synchronous dissynchoponus Universe tensionally cohered, precessionaj of local compressive spherical energetic collections--- as (Suns) stars or planets or moons or asteroids or meteorites; and the progression of within-ward sub-sets of events of interactions at planet crust, MR etc., and inward to "

- Cite TOTAL THINKING, Itl, pp.235-236, May*49

"the 92 common principles of atomic convergence of energy in principle, and the pervasive sets of dynamic associations by contractions, expansion, spin, orbit, torque, push, and pull, and precession. This all brings us by progressive collections of thoughts into a fundamental twoness of dynamic reciprocities which, internally paired, ultimately become one with outwardly paired principles of reciprocity.

"The becoming one of both the finity inward with the finity outward indicates a sensibility of experience preoccupying man as a superficial reality which only occurs at middling dimensions of Universe and appears schematically as a magnetic field. Its flux patterns, like two tangent balls, include every size of particle, as their hour-glass-like tangentially linked inwardness, displays both

inwardly and outwardly mingled sets of fountain and reverse fountain flows--- concurrently at both ends--- and through the middle. Periodically, the whole double-bulbed dynamic flux contracts axially, as the two bulbs of dynamic flow merge progressively, and then merge completely, and again separate axially. It is obvious that inasmuch as the whole system was always in flow, that the new bulbs of flux are of necessity

- Cite TOTAL THINKING, I&I, p.2}6, ray*49

'•new and are therefore only identifiable in principle with the previous comprehensive duality of shapes. The system has inherent yet empty twoness.

'The reality is real--- or realized--- in principle only by events of relative interaction transpiring only in principle. The whole of the above pulsive-waveful-dynamic-duality is schematic, and is in principle clarifying only, for, though it progressively groups all-energy Universe into an oscillating binary system, it must be understood that MaMHB the whole scheme cancels out by virtue of a super paradox which finds that the infinity inward and the infinity outward of an infinite plurality of centers must be identical, and one with the infinity inward, of an infinita plurality of centers, and that: in comprehensive Universe, dimension drops out and conceptual principle remains. Physical interferences of our sensibilities are alike true and real, or realizable, only in principle. Potive and negative cancel as the principle zero,

"It is discovered in principle that proballlity probing of physical Universe on a statistical basis is now becoming of"

- Cite TOTAL THINKING, I&I, PP.\$36-237, Kay»49

"necessity frustrated while, probing in empty conceptual principle could be instituted and accelerated for further advancement or fundamental information. Exploration in principle is re-rewarding,

"It is necessary that the comprehensive designer explore in principle for verification of this significance of relativity, whereby it is discovered that in the consciously realizable comprehensive binary, truth may not be dealt with as isolated, but only as relative relationships interaction governing in principles the interactions of specially non-simultaneous sets of dynamic principles. The comprehensive realizer thus will come, with acceleration, to competence in rearranging forwardly anticipated events, measured in principle, and forwardly projected, in associated principles of reciprocal interaction and juxtaposition to the anticipated energetic magnitudes of variable stresses and flows. These interactions are known as structures and mechanics.

"Thus it is discerned how the comprehensive realizer of relativity may become competent as an integrator of the until-then- threatening chaotic dissipation of common"

- Cite TOTAL THINKING, I&I, p. 2)7, J-iaay»49

Reciprocity:

"advantage of men in Universe brought about by runaway.

diametric preoccupations of specializations. The comprehensive realizer becomes a synergist."

- Cite TOTAL THINKING, I&I, p.236, May'49

See Axes of Corotation

Design Reciprocity-

Energetic Functions

Gear Train: Locking & Blocking
Motion Reciprocity
Reality as Structural Interaction of Principles
Structural Functions
Twoness of Dynamic Reciprocities
Complementary & Reciprocal
Alternate: Alternative
Mutual: Mutuality
Bicycle Wheel Model
See Automation, 4 Far*69
Intellect, 16 Aug'50
Minimum Set, 9 Jul'62*
Pattern. 1954; 9 Jul'62*
Prime Dichotomy (2)
Simplicity, 1954
Spaceship, 26 Sep'65
Technology, 12 May'39
Tidal, Dec ` 61

Hierarchy of Patterns, 1954

Zoneness: System Zoneness, 3 Jan*55
Simplicity, 1954
Ninety-two Elements, 15 Jun'74
Jitterbug, 1 Dec'65

Synergetics Constant, 10 Dec'75

Fourth Dimension: VE as Fourth-dimension Model

22 Jun'77

See Reciprocal Involvement of Experiences *it* Principles

Reciprocals of Permissible Viewpoints

Reciprocal Self-precessors

Reciprocating Engine

Reciprocating Subsets

Reciprocity

RefCirculation

See Ecological Balance Metals: Recirculation Of Roundtrip Scrap
Sorting & Mongering Recycling

Recognition:

"Everything that you have ever recognized in Universe as a pattern is re-cognized as the same pattern you have seen before. Because only the triangle persists as a constant pattern, any recognized patterns are inherently recognizable only by virtue of their triangularly structured pattern integrities. Recognition is as dependent on triangulation as is original cognition...."

- Citation 4 context at Omnitriangulation; 3 Oct'72

Recognition:

"We have an expression, something we say very often, 'I recognize that.' Recognition means that you have seen that pattern before. You have probably seen its several time before you say, 'I recognize it.' Recognizability of pattern would depend upon the stability of the pattern; it would have to have some fundamental shape. Only a triangle has any reliability of pattern. So I say <□□□! everything and anything that you and I ever say 'I recognize,' must go back to a triangle. Only triangle is structure."

- Cite RDF Address at National Bonference for Philosophy of Creativity
at SIU, Carbondale, Ill., 16 Oct. '69. - p. 6/.

Recognition:

"Everything that you have' ever recognized in the

Universe as a pattern is re-cognited as the same pattern you have
seen before. Because only the triangle persists as a constant pattern
any recognized patterns must be recognizable only by virtue of being
a triangle or a complex of triangles. This is the only possible basis of
recognition."

- Cite NASA Speech, p. 54. Jun*66

Recognition 1**9:

See Mind, 24 Feb'72 Tunability, 24 Apr'?6

Recognizability:

"Everything you say you recognize, means that you recognize a pat-
tern. The recognizability of the

pattern must go back to some triangles.'

- Cite RBF at SIMS Seminar, U. Mass., Amherst, 22 July '71 Transcript
p. 18

See Pattern Cognition: Pattern Cognizance Unrecognized Cognition
vb. Recognition

72

(2)

Recognition: Recognizable:

See Experience, 1971 Mass, 29 Dec*58 Thinkable You (1) Triangle,
25 Feb'69 Understanding, i960 Minimum Awareness, <1) Identity, 2
Jul^T75 Local System, Jun'bb Omnitriaagulation, 3 Oct

See Design Covariablee: Principle Of, 1959 Words, 2 Jul'62 Concep-
tual Systems, 27 May*75

See Metaphysical & Physical Tetrahedral Quanta

Thought, 31 May*71 Conscious 4 Subconscious, i960 In, Out &
Around, Nov*71 Nonsimultaneity, 7 Nov'?3

Record: Off the Record;

See Fuller, R.B: His Modus Operand!, 15 Jun'74

Recourse:

See Survival Recourse

Rectification;

See Social Adjustment, Feb*72

Rectilinear Frame;

"A vectorial evolvement in no way conforms to a rigid rectilinear frame
of the XYZ coordinate analysis which arbitrarily shuns most econom-
ical directness and time realizations--- by virtue of which calculus is
able only awkwardly to define positions rectllinearly moving only as
the chessman's knight. Nature uses rectilinear patterns only preces-
sionally; and precession brings about orbits and not straight lines."

Rectilinear Grid Systems: Rectilinear:

(1J

See Grid: Crisscross, Right-angle Grid in Civil 4

Agrarian Law

Local Squareness

Ninety Degreeness

Two-way Rectilinear Grid

XYZ Coordinate System

Right Angle

Square

Two-way Crisscross

Rectilinear • Rectilinear Grid Systems:

(2)

See Air Space, hJay'65

Frame of Reference, 27 Feb'72

General Systems Theory, 8 Nov'73

Nucleus, 11J

Spherical Triangle: Equator as Square. {J}

Twelve Universal Degrees of Freedom: General
Systems, (III)

Recyclings:

"... The integrity of Scenario Universe'8

Never exactly identical recyclings."

- Citation and context at Metaphysical. p.152 May '72

(i)

See Junkyard Metabolic Flow Recirculation Spiral

Sscycling!

(2)

See Time, circa 1970

Redemonstrable t

See Children as Only Pure Scientists, 28 Ape*77

Kgdoalgn. Cyslffi

See Energy i Intellect, Nay*49 Improvement, May'49 Periodic Experience, (6)

"The deliberately nonstraight line of synergetics employs the mathematicians' own invention for dealing with great dilemmas: the strategy of reductio ad absurdum. Having moments of great frustration, the mathematician learned to forsake looking for local logic; he learned to go in the opposite direction and deliberately to choose the most absurd. And then, by progressively eliminating the degrees of absurdity, he could work back to the not too absurd. In hunting terms, we call this quarrying his objective. Thus he is able at least to learn where his quarry is within a small area."

- Cite SYNERGETICS text at Sec. 522.03; Nov' V

"Having demonstrated to the mathematician that his imaginary straight line gets worse and worse--- every time he gives me an example, I am going to employ the mathematician's own strategy of dealing with the great dilemmas as invented by Boole--- the reductio ad absurdum. ./here X now a deliberately Non-Straight Line j_ q.v. ./

"the mathematician having moments of great frustrations learned to forsake looking for local logic by going in the opposite direction and .choosing the most absurd, and then progressively eliminating the degrees of absurdity and working back to the not too absurd. And he is liable to be able at least to learn the quarry, where his quarry is a small area, ./hat we call quarrying is objective.

These are hunting terms."

1 June 1971.

- Cite Tape transcript HBF to EJA and BO'R, Chicago,
RgfottlO ad-AhJMTdW:

"When scientists and mathematicians fail to find positive clues leading towards solution of their problems, they sometimes reverse their frontal strategies and employ reductio ad absurdum, which by a process of eliminating all the impossibles and improbables, leaves a residue of least absurd, ergo most plausible solutions, which may be reduced, by physically testing to unequivocal answers."

- Cite RBF foreword to Samuel Rosenberg's "The Come As You Are Masquerade Party." 1970

See Boole

Absurd

Boolean Algebra

Twenty Questions

Reduction By Bits:

See Bits: Bitting

See Fractionating the Whole

See Metaphysical & Physica;, Jun'66

Reduction tQ-ErAGtice:

"There is no use talking about bright ideas. Everyone has bright ideas. But there is no use talking about the artifact until we reduce it to practice, until we see whether nature permits it, whether society permits it--- including worldwide distribution,"

- Cite RBF at Penn Bell videotaping, Philadelphia, 29 Jan'75 ' 'Back in 1932 then, thinking that I would commit myself to only alterations of the environment— not to 'multidisciplines' and so forth. I must never then 'talk about' anything. Whatever ideas I have I must find out how to translate them into some effect on the environment, in principle, and I must not talk about them until I have reduced them into practice and have discovered advantage for man. And I've really been able to prove to

myself— I find that bright ideas are so profuse-- but they don't get reduced to practice, you don't really know what the interactions are with the times and other environmental events. ... So I would never talk about it until I have reduced it to practice: something physical. And somebody would say: What is that? And then I'd have the responsibility of telling them what it was. But I mustn't even ask them to look at it. I've really held very tightly to these disciplines, because I was interested in what the individual could do on behalf of his fellow man. . . . even in a very few years."

- Cite RBF lecture at Wistar Inst, U. of Penn. tJA transcript pp 8-9, 19 Feb'73

"A trim tab is a physical environmental control device in a Universe where change, motion, and evolution are inexorable You must not just have a theoretical idea but reduce it to practice. That is my strategy."

- Citation at Trim Tab. 22 Jul'71
Science-Technology-Industry-Economics-Politics
See Development

Sequence

Prototype

Artifact

See Dome: Rationale for the Big Dome (A)

Generalized Principle, 5 Jul'62

Intuition of the Child (3)

Inventability Sequence (2)

Invention Sequence (B)(C)

Omnidirectional: Physical Existence Environment

Surrounds (2)

Philosophy, 21 May'28; 1946

Surfing; Surfboarding, 5 Jul'62

Trim Tab, 22 Jul'71* Design Science (A) Navy Sequence (2) Artifacts,
1? Sep*74 Icosahedron: Subtriangulation, (2)

See Norm: Tetrahedron aa Norm, 15 May*72

RBF DEFINITIONS

Redundancy;

"Edges and vertexes do not come together as the same number system. You can describe the world both ways and not be redundant. The world as seen by a child and the world as seen by an old man could not be redundant descriptions."

- Ctts RDF ts Cj AUgva
- Citation at Peacrlntlnn 25 Aug'71

Redundancy:

"... Redundancy being a temporal consequence of brain lagged dullness of comprehension and ignorance."

- Citation and context at Differentiation, 2? May'72

Redundancy:

"Redundancy cannot be determined by energetic observation of behaviors of single struts, (beams or columns) or any chain-linkage of same which are less than six in number, or less than tetrahedron.*1

Citation 4 context at Strut. 1950's

- Cd noiograpU-jjmjj

RgdMn4ancY: RrtucfrlQD °f

"In the Greek temple each column carries its share of the stone on top of it. Figuring the ultimate compressive weight of the stone as 50,000 psi--- which equals 25 tons--- the result is that each column can carry 1000 tons when it only has to carry 25 tons. The rest of the column is unnecessary except for stability. We can make it a cone or a tripod, like a camera tripod.

"We find the only thing holding upreek column was a tetrahedron....
The thorns and buds of trees are tetrahedra: concentric cones--- the
wing roots of the limbs. Goethe spoke of trees as waves.

"Only t he tetrahedron can become visible and invisible. This is life:
life is male k female, visible and invisible, but immortal.

"Hydraulics, mechanics, and the wave connection cofunction as the
bio-connection: bio-logic. (A nice name.)"

- Cite composite of RBF holographs drawn for EJA at Somerset Club,
Boston, 22 Apr'71

See Necklace

Nonredundance

Safety Factor

See Antipathy. 15 May'72

Cube, (1)

Description, 25 Aug*71*

Differentiation, 2? May'72» Knot: Square Knot, 20 Oct'72 Strut,
1y50's* Tensegrity: Unlimited Frequency of Geodesic

Tensegrities, (9)

Triangular Topology Integrity, 15 May'72

Minimum System: Minimum Structural System, No>'71

Beef:

See Coral Reef

See Fish: Playing the Fish on a Reel

See Hole in the Vlctrola Disc

See Axis of Spin, (1)(2)

See Obverse

See Brouwer*a Theorem, 1 Jan*75

See Axis of Reference Cyclic Reference Frame of Reference Scheme
of Reference Sphere of Reference

Reference: (2)

See Size, 22 Jun'72

See Electronic Referendum

See Relativity, May'49 Truth, 10 Nov'72

Reflection:

"... It is possible

To conserve energies by reflection

As well as to reach

Great distance by beaming. .

- Citation & context at Eve-beamed Thought (I), Fay'72

Reflection Sequence: toifi: (1)

*1 IM an, aPRlff.

"The light of the Sun is reflected from the surface of an apple, after the occurrence of the spectroscopic action of light segregation through the medium of crystals on the surface of the apple.

"Not all of the energy ray tones are reflected, however. Those that are useful to the apple are absorbed by it, while the remainder, i.e., the non-useful, or nondigestible, or, more specifically, non-chemically combinable ray tones are reflected from the surface of the apple through the air to and through the lens of the human eye, where they are analysed by the retina and telephotographed to the brain of the beholder.

"Incidentally the light that the apple gives off is a negative, that is, the opposite of the light complementary to the growth phenomenon 'apple.* It is not one of the chemical apple's actual constituents. This is something like the phenomenon of the camera film negative except that the latter is more honest than the eye's for the eye reverses light and shadow instead of properly appraising them as does the camera. In printing,"

- Cite NINE CHAINS TO THE MOON, pp.42-43, 1938

Reflection Sequence: Apple: (2)

"the black and white of the film have to be reversed in order to represent the illusion of the apple as the eye sees it. Many apples are probably blue, having taken blue from the spectrum, but the eye, taking up the rejected red, 'sees' the apple as red,

"Whether or not the eye sees a negative or a positive of the apple, light absorption and reflection are mechanical considerations because neither life nor mind activity is involved until the essence of the picture has been articulated in the 'brain*' and has been automatically referred to the memory filing department (the system of which is even more complicated than the worldwide Bertillon system of finger-print identification) for comparison with all of the apple experiences of the 'see-er.' The new picture of 'apple' is laid out on the table for comparison with the whole reference file by the executive officer 'brain,' who never sees the phantom captain although under his permanent orders to lay out the file in the captain's outer study. Then 'brain' retires through the front door, closes it behind him, and the phantom captain enters from his inner sanctum to peruse the exhibit.

- Cite NINE CHAINS TO THE MOON, p.43, 1938

Reflection Sequence; Apple:

(3)

"If interested at all--- generally he is not--- the captain considers the progression of apple phenomena®, as indicated by the pictures in the file, and decides that the latest addition is a better or worse apple, i.e., it is an apple that would, or would not be useful as fuel for his ship, in the cleansing process of his machinery, or as bait. Having decided 'yes' or 'no,' he leaves a message for 'brain' beside the exposed file and retires.*"

- Cite NINE CHAINS TO THE MOON, pp.43-44, 1938

Reflecting Lake Waters;

See Invisible Pneumatice, 27 Dec'73

$H_{eq} < U_m =$

(1)

See Beamable: Beaming

Bounce Patterns of Energy

Focal: Focus Interference

Light on Scratched Metal

Radar Reflector

fttfimiaip (2)

See Broadcast, 1-lay'72

Eye-beamed Thoughts, (I)*

Interference, (2) Radiation, (pp.158-9) May'72 Sight, 1 Apr'49

Vertexial Spheres, 8 Apr'75

Cloud Chamber, Nov'71

Octahedron: Eight-octahedra, (3)(4) Visual, 22 Feb'77

RBF WINITIGNS

Reflexes:

"In 1927 when I was starting to re-educate myself, trying to unlearn all the things that I'd been taught to be so, that I had proven not to be so, I tried to get my reflexes disconnected from the false reactions or the unfavorable and the hard reactions and try to become sensitive again."

- Cite Museums Keynote Address Denver, p. 6. 2 Jun'71

Reflexes:

"... The designing capability , . .of human organisms

... to offset the gamut of non-thinking conditioned reflexes of all biological systems.^w

- Cite Museums Keynote Address, p. 14, 2 Jun*71

Reflexes;

• 'Probably our most polluted resource is that of the tactical information to which humanity spontaneously reflexes.'

• Citation at Information; Tactical Information. 13 Nov'69

• ~n Hu»'69-

See Automatics

Bias on One Side of the Line Common Sense: Official News Conditioning

Conditioned Reflexes

Decondition My Subconscious Reflexing Feedback Ignorance Knowledge as Reflexes Mine: That's Mine Nonthinking Muscle & Reflex Jobs Planar Reflex Sensoriql Reflex Structure vs. Reflexes Quickness

Habit Reflexes

Mind vs. Reflex

Crowd-reflexing

Proclivities: Basic vs. Secondary

See Antithinking, 2 Jun*71

Awareness, Feb*50

Computer, (B)

Ecology Sequence, (H)(1)

Envilament Events Hierachy, (2)

Fighting, 7 Nov'67

Gross World Product Sequence, (1)

Information: Tactical Information, 13 Nov'69*

Intuition, 22 Jun'72

Fuller, R.B: Crisi of 1927.(2)

Life Is Not Physical, 13 Jul*74

Mind, 26 Nov*72

Poverty, May*72

Spaceship, (D)

Space Technology, (2)

Survival Sequence: Love, (1)

Telepathy, 29 Jun*72

War: Official k Unofficial, (1)

Semantics, 20 Feb*73

Death, 29 Mar'77

Reform of Environment Rather than Reform of Man:

"My discipline is to reform the environment in ways favorable to the success of all humanity with confidence that propitious environmental circumstances induce spontaneously pro-social behaviors.'*

- Citation and context at Design Science (1), 29 Jun*73

"I developed a fundamental philosophic concept in 1927 which was that it is possible, instead of trying to reform man, to reform the physical patterns--- to reform the environment in such a way as to make the physical environment patterning more favorable to the new life being born into it. It seemed possible that the new human generation, born into the streamlined environment, might quickly react by re-employing the newly designed advantages, and in so doing might establish a new level of integrity of human response to environmental stimuli whereby society might come to act in creative spontaneity to continually convert the highest knowledge born of the cumulative experience of man toward the direct enhancement of the life processes, instead of, as at present, leaving the prime social initiative for the weaponry exploiters who derive their mandate only from the negative fears born of ignorance, and the congealing inertia of that ignorant fear."

- Cite MEXICO '63, p.18, 10 Oct »63

See Blind Date with Principle

Design Revolution

Design Science

Fuller, R.B: Crisis of 1927

Fuller, R.B: His Decision that he Must not be a Persuader but a Doer

Fuller, R.B: What I Am Trying To Do

Individual Economic Initiative

Inventions as Lifeways of Human Behaviors

Leonardo Type

Rearrange the Scenery

See Artifacts (1)(2) ; 17 Sep'74

Bridge, 13 Nov'69

Design Science, (1); 29 Jun*73; (A)

Environment, toy'65

Trim Tab, 8 Jan'66

Fuller, R.B: I am Apolitical, 15 May*75

Mni s fitters *

See Trim Tab Sequence, (1) Political Revolution, 10 Oct*63 Success,
10 Sep'75

See Interference

Manifest: Two

Color Spectrum: Red, Orange, Yellow, Green, Blue, Violet

See Boltzmann Sequence, (5) Interference, (2) Radiation Sequence,
(2) Sweepout: Spherical Sweepout, (1) Van Allen Belt, May'72 Bend-
ings, 23 Jun'75 Wind Stress & Houses, (9)(10) Cloud Chamber, Hov'7J
Halo Concept, Jun'71

R«rrt«ral9p:

See More With Lose: Sea Technology, (3)(4) Human Unaettlenent, (2)

"The significance of Einstein's electromagnetic radiation'0 top speed
unfettered in vacuo is that there is a cosmic limit accommodation
point of complete regeneration by which Universe is the only and
minimum perpetually self-regenerative system."

- Citation at MBHI Absolute Velocity. JO Oct'73

Regeneration:

"The Universe is
The min-max, self-regenerative organism.
The regeneration is
A nonsimultaneous sequence
Of only partially overlapping
Physical transformation events—
Occurring in a vast range
Of ever-and-again, synchronising,
Pulsative frequencies
With associative concentrations
Here and there
Nonsimultaneously accommodating

Disassociative dispersals In other heres and theres--- Like the 'high'
and 'low' interalternations Of the forever changing atmosphere's
Meatier.*"

- Cite---Drayfus Preface-, Decease -Of Meaning.* 28- April-1973 1 -
2.

- Citation & context at Universe, 28 Apr'71

Regeneration:

"Universe is the minimum as well as the maximum closed system of
omni-interacting, precessionally transforming, complementary
transactions of synergetic regeneration. . . "

- Citation & context at Universe, 1960

Regenerative:

The isotropic vector matrix 'coordinate system is ever regenerative
in respect to the nuclear centers all of which are rationally accounted
for by synergetics.

Citation and context at Omnisynergeticm. 30 Jan*73

Regenerative;

"Regenerative means local energy-pattern conservation

- Cite SYNERGETICS text at Sec. 600.04, 3 Oct'72

Regenerative:

"Regenerative means local energy pattern conservation.

**"Regenerative means local conservation of energy events interpat-
tarning.**

"Structures are pattern conservations."

- Cite RBF to EJ£, Beverly Hotel, NYC, 15 Mar'71

Regenerative;

"I U?e.3h u £^{erra} regenerative because in an all-mot ion universe (which Einstein posited and the physicists in due course found to be true), all the patterns of the universe are continually but non-simultaneously affecting all the other patterns of Universe in varying degrees and are continually reduplicating themselves in unique local configurations.

"These patterns may be described as constellar because their component events stand dynamically together like star groupings, and any event patternings which become locally regenerative are constellar patterns. It is a tendency for patterns either to repeat themselves locally or for their parts to separate-out to join severally or singly with other patterns or to form new constellations."

- Citation and context at Structure Sequence (1)(2), 1965

"Universe... a closed system of regenerative, that is, adequate complementary patterns that is to itself..."

- Citation and context at Chess:

Game of Universe. 9 Jul'62

Regenerative:

"Regenerative means multiorbital, cyclic, pre-cessionally concentric,

"Regenerative means the ability to display one form, then another, in a gamut of phases; each phase, however, like a tree ring, or a wave generated by a stone thrown into water, has its own orbit; and the various orbits progress outward or inward in concentric circles or shells.

"A seed is regenerative. A crystal is regenerative. Energy itself is an ever-regenerative patterning entity. Its forms are protean. It can appear as the breath of a hawk or coign of a cliff. It can cloak itself as radiation, as mass, as design, and as the wellspring of work. And since by fundamental law, energy can neither be created nor destroyed, its fate in the cosmic scheme is to meander through eternity in persistent, regenerative bliss."

-Cite MARKS, F. 8 f 1960.

AC

iwF DrfNITiNS

KeRegenerative;

"If the spheres* are close packed" to form a vector equilibrium, "and the center sphere is removed or compressed, the remaining spheres close in to form a 20-sided 'solid,' the icosahedron. From this it follows that a vector equilibrium can be translated into an icosahedron and vice versa, they are close relatives. Each has twelve vertexes and the same number of surface-defining spheres. And each is a model of symmetrical regularities. Each, in fact, has a place in a family of relationships which is capable of cycling through a sequence of phases, hence . . . tive."

- Cite MARKS, p. 41, 1960

Regenerative Birth:

See Duality of Universe, May*49

Regenerative Design: Uw_Of: (D

' ` The prime eternal law governing design science as thus-far accrued to that of the cosmic law of generalised design science exploration, is realizability and relative magnitude of reproducibility which might be called the law of regenerative design; which is, that the relative physical time magnitude of reproducibility is proportional to the order of magnitude of generalizability. Because the higher the order of generalization the more embracing and simple its statement, only the highest orders can embracingly satisfy the plurality of low-order inter-accommodation conditions.

"There are several corollaries to the prime law of regenerative design durability and amplitude of reproducibility. Corollary A is: The simpler, the more enduringly reproducible. Corollary B: The special-case realizations of a given design complex correlate as: the more symmetrical, the more reproducible. Corollary C: There being limit cases of optimum symmetry and simplicity, there are simplicities of conceptual realization. The most enduringly reproducible design entities of Universe are those occurring at the min-max limits of simplicity and symmetry."

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS at Secs. W6-7, 13 f'-ar'73

Regenerative Design: Law Of: {2}

"Corollary D: There being unique minimum-maximum system limits governing the transformation of conceptual entities in Universe which differentiate the conceptually unique entities of Universe into those exceptions occurring exclusively outside the systems considered and all of the Universe inside of the conceptual entity, together with the structural pattern integrity system separating the inside from the outside, there being a minimum limited set of structural and operating principles eternally producing and reproducing recognizable pattern

integrity. And there are likewise a minimum set of principles which interact to transform already orderly patterns into other structured patterns, and there being minimum constituent patterns which involved the complex intertransformings and structural formings of symmetrical orders and various magnitudes of asymmetrical deviations tolerated by the principles complexedly involved. There are scientifically discoverable nuclear aggregates of primary design integrity as well as complex symmetrical reassociabilities of the nuclear primary integrities and deliberately employable relationships of nuclear simplexes which designedly impose a symmetrical-symmetrical pul.^{sat}iV8 periodicities

- Cite RBF draft Ltr. to Karan Singh incorporated
in SYNERGETICS text at Sec. 168, 13 Ear'73
Dwlim • Law Of; (3)

"Corollary E: The more symmetrical and simple and nuclear, the more frequently employable; ergo more frequently occurring in eternally regenerative Universe transformative problem solutions,

"Corollary F: The smaller and simpler, more symmetrical, frequently-occurring in Universe and the larger and more complex, less-frequently originally occurring, and periodically re-occurring: for example, the hydrogen limit minimum simplex constituting not only nine-tenths of physical Universe but most frequently and most omnipresent in Universe; with asymmetrical terrestrial battleships (fortunately) least frequently and compatibly recurrent throughout the as-yet known cosmos, being found only on one minor planet in one typical galaxy of one hundred billion stars amongst already-discovered billion galaxies, there having been only a few score of such manmade battleships recurrent in the split-second history of humans on infinitesimally minor Earth,"

- Cite RBF draft Ltr. to Karan Singh incorporated in Synergetics text at
Secs. 169, 170, 13 Mar⁷³

Regenerative Design of

See Reproducibility: Law Of

Regenerative Basis: Jaj_01

(2)

See Design, 1938

Regenerative Economic Sustenance:

See Money: Making Sanaa vs. Making Money, 22 Jun⁷⁷

Regenerative Intersupport: Equation Of: "Precession + ecology - re-
generative intersupport."

- Cite RBF to State Dept. Senior Seminar, Rosalyn, Va., 22 Dec⁷⁴

Regenerative Intersupport: Equation Of:

See Equation: Philosophical Equations

Hagancretive Organics:

See Gonads, 22 Sep⁷¹

Regenerative Precession;

See Spiralinearity, Nov⁷¹

Regenerative Stimulations:

See Discovery, 20 Dec⁷¹

Regenerative System Integrity:

See Organic, 26 May⁷²

Regenerativity:

"The regeneration may be that of a complete new baby or the local
regeneration of cell# in an ongoing organism. Rebirth is continual.
The overall growth and refinement of information and comprehension
by continuous humanity transcends the separate generations of life
and steadies toward eternal unalterability; the special case physical

experiences and the identification of their significance in the overall scheme of eternal cosmic regenerativity ever accelerate as the information bits multiply exponentially; wherefore the overall rate of gain of metaphysical comprehension of the physical behavior in general accelerates exponentially in respect to such arithmetical periodicities as that of the celestial cycles of the solar system."

(31052.67)

- Cite RBF rewrite of SYNERGETICS, 2nd. Ed. at Sec. 1052.67; 17 Jan»75

See Automation of Metabolic k Regenerative Processes

Biologicals

Center of System Regeneration

Epigenetic Landscape

Integrity Coherence

Local Regeneration

Metabolic Regeneration

Minimum Regenerative Set

Ninety-two Elements

Rganic Model

Origin

Primitive Regeneration

Procreation

Rebirth

Self-regenerative

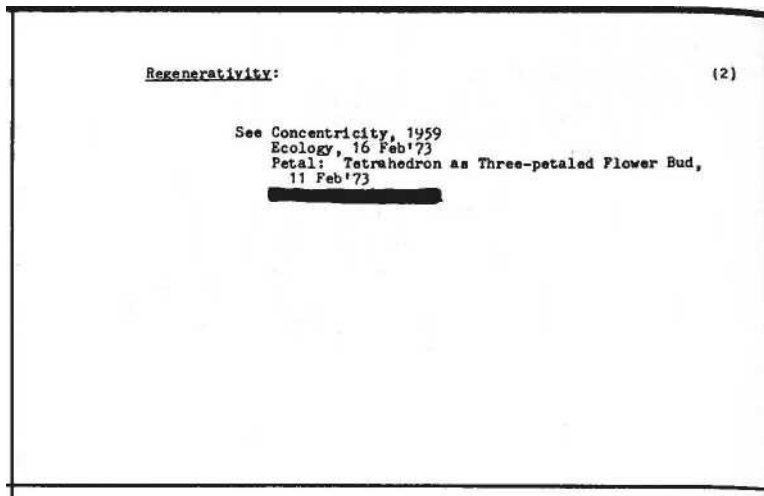
Cosmic Regeneration

Nuclear - Regenerative

Eternally Regenerative

Infinite `` Eternally Regenerative

Syntropy



Ssjjsamsiaa: RsKtusrailxs:

<2*)

See Absolute Velocity, 30 Oct'73* Chess: Game of Universe, 9 Jul'62* Cosmic Accounting Sequence, (1) God. 26 May'72 Infinite, 15 Oct*72 Intertransformation, 22 Jul*71 Isotropic Vector Matrix, 30 Nov'72 Metaphysical & Physical. 2 Jun'74 Monkey Wrench, 30 Oct'73 Nuclear t Nebular Zonal Waves, 1955 Octet Truss, 1955 Omnisynergetic, 30 Jan'73* Principle, (1) Push=pull, 22 Feb'73 Spaceship, 26 Sep'68 Star, Dec'72 Structure Sequence. (1)(2)• Tactile Sequence, (2) Universe, 28 Apr'71*; i960* Wow: The Last Wow, 22 Apr'71

Hgcenaratlon ' Heeenerative:

(2B)

See Technology, 20 Jan'75

Quantum Mechanics: Grand Strategy, 10 Apr*75 Conatellar, May*71
Aesthetics of Uniformity, (1) Cosmic &. Local, 3 Oct*75 Object, 9
Nov*71 Great Circles, May*44 Self-discipline, 28 Mar*77 Electron,
12 May*77 Identity, 16 Feb'78

See Regenerative Design: Law Of
Regenerativity
Regenerative Organice
Regenerative Stimulation
Regenerative System Integrity
Regenerative Intersupport: Equation Of
Regenerative Birth
Regenerative Precession
Regenerative Economic Sustenance
KBF DEFINITIONS

Regeneratjvjty;

"I've been looking for the word to take the place of creativity and it*8
rerenerativity ... it suggests not the creation of something new but
simply the reorganization of something that was always there."

- Cite RBF to EJA, 3200 Idaho, DC, 1Z, Feb '72
.RggfinemlYUY;

See Creativity Feedback Rebirth

Regenius;

"Man shows synergetic regenius inferior to nature's regeneration.

- Citation k context at Charting Alternating Experience, of Man k Na-
ture (1), May»4y

Ptg»Klsn=

See Progression t Regression

Regularity:

"Regularity is eternal. But the regularities are eternally omni-interaccosinodative, permitting approximately limitless freedoms of selectable alternative developments involving & vast plurality of time-dimensioned frequency involvements."

- Cite SYNERGETICS draft at Sec. 780.SY, 2 HOT'72

Regular Polyhedra:

(1)

See Mites Make All Regular Polyhedra

fiPKMlqr PQLYhera:

(2)

See Planck*a Constant, (A)

Subvlsible Discontinuity, 19 Oct'72

"The four obtuse central angles of convergence of the four perpendiculars of the regular tetrahedron pass convergently through the center of the MMiMHI tetrahedr *al volume at $109^{\circ} 28'$,"

fei)

- Cite SYNERGETICS draft at Sec. 966.2X, 29 Hov'72

HBF DEFINITIONS

Regular ** Uniangular:

'•The regular---regular means absolutely uniangular--tetrahedron is absolute and generalized, and thus never physically realized."

(Sec. 532.13, 2nd. Ed.)

-Citation & context at Crystallography. 11 Dec*75

See Harmonic: Harmony Ninety-two Elements: Periodic Heguiarities
Of Reproducible

Rgfiular; RflolarUx-

(2)

See Conceptions, Dec¹69 Cryogenics, 28 Oct'72 Einstein: Cosmic Religious Sense, (2) Environment Controls. (1) Solid State, 13 Kay*73 Eyes, 1964

Bjahnrorcad Concrete:

See Prestreased Concrete

ReIntegratlve:

See Heree &. Therea, 4 Jun'72

"The most Incredible thing is that in the areas where all the people are there is no power or food. » . Tou need food so everything comes back to electrical power.

These figures on the Dymaxion Airocean World Map projection , Each of the people have their hands raised and they have a number of fingers on each hand indicating how much of their time is reinvestable and how much they have to devote to survival needs. The people in this area have no time: their hands are in their fists. In the areas in the United States they have all their fingers up: they have their whole life to reinvest in the way they want to reinvest it. . .

So it begins all of a sudden . . . just thinking about mobile areas and politics, you begin to see a whole Earth at once and how man is doing on whole Earth."

- Cite RBF to World Game at NT Studio School. 12 Jun-J1 Jul'69 from Saturn Film transcript, Sound 1, Take 1, pp.24-26.

See Electable: Elective

Lifetime: Personal Lifetime Experience for Elective Experience

Relationships:

"I am not sure that there are relationships; maybe there are only interrelationships."

- Cite RBF to EJA, 3200 Idaho, Wash, DC; 24 Apr'76

Relationship:

"A point is not a relationship. A line is the simplest relationship. .

- Citation and context at Line. 7 Nov'72

Relationship;

"Relationships are local to pattern. Patterns are comprehensive to relationships,"

- ~~Q±te=Bftf"-to-EJA, LiLiU. KveT-~~

- Citation at Pattern, 20 Dec¹71

R01^at J.QD8hLDg;

"We have relationships— but not space.

atiAUwghipg;

"We have time relationships but not static space relationships.

- Citation & context at Space, May'71

Relationship;

"Abstractions may be stated in pure principle of relationship."

- Citation & context at Abstractly, 1971

Relationships:

"I have two events and they have one relationship. I have three events and they have three relationships.. . Four events and we have six relationships. And five events, we have ten relationships. Six. it will be fifteen relationships. So the numbers of relationships are not the same as the numbers of events at all. They are a different progression. ... Of course these events can be in any kind of an array and need not be simultaneous, yetii they will have their relationships. . .

'You will find that the relationships are triangular. . . look at the stars ... You will find that every one of the sets of relationships will always be triangulatable. There is no case where they are not."

- Cite LEDGE-iEljr LAB. Lecture, 15 Oct. '64, pp 14, 15

Relationships:

"In a nonsimultaneous Universe all the relationships are geodesic."

- Cite Oregon Lecture #3, p. 112. 5 Jul<62

Relationships:

"Generalized systematic conceptuality's omnidirectional relationships are only angularly configured and are independent of size or dimension."

- Cite OMNIDIRECTIONAL HALO, p. 135, 1960

Relationships:

"Relationships which have definite integrity and independence of size are conceptual principles of abstract thought independent of physical realization."

- Cite OMNIDIRECTIONAL HALO, p. 146, 1960

Relationships:

"The whole of Universe is the optimum consideration and the relationship of its regenerative subsystem functionings are alone elementary."

- Citation and context at University. 15 Apr '55

Relationship:

"There are no empty sets but only generalized group or system synergetical relationship characteristics."

- Cite RBF Synergetics notes, Feb'50

HatoU9,n?hLP Analysis: (1)

"If we look at the stars and they look very random scattered throughout the sky. I will tell you then that the numbers of relationships between all the stars is always N²

- N and

this chart tells you quite clearly and simply that I am mathematically justified in doing so. This will give you a personal sense of the power of the Infinitely tiny human's mind in the presence of that vast array of stars whose distances and occurrences can only be identified in terms of millions and billions and higher numbers of years and miles away.

"This relationship analysis discloses the omniuniversal orderliness that scientific man finds to be always underlying all superficial randomness of experience. This tells us that the seeming disorder of physical entropy is only superficial and explains why metaphysical thought can always find the orderliness that engulfs the disorderliness. Disorderliness is nonthinking. Brain, which stores the memories of all specialise experiences, does not find the relationship any more than a library in itself can find or does find the interrelationships of the data that it houses. Only mind, the great metaphysical, patternseeking function, has demonstrated to us the capability to**

- Cite Nasa Speech, pp.94-95, Jun'66

Relationship Analysis:

(2)

"interconnect the experiences and to find the generalised patterns and orderly principles underlying all our randomly encountered experiences."

- Cite Nasa Speech, p.95, Jun'66

See Connections and Relatedness Order Underlying Randomness
Number: Tetrahedral Number Process Relationships

See Absolute Relationship Arelational Behavioral Relationships Con-
nections it Relatedness Envelopmental relationship Epistemological
Stepping Stones Nonrelationship Order Underlying Randomness
Number: Tetrahedral Number Process Relationships Omniinterrela-
tionships Rational - Relational Interrelationships

See Abstraction. 1971* Constants, z6 Sep*73 Line, 7 Nov'72*;
9 J_un»75 Pattern, 20 Dec*71* Potential, 1963* Reason, Aug'73*
Space, Nov'71* Thinkable You, (1) Time & Space. Kay *71* Univer-
sity, 15 Apr'55* Twoness, 2? May'72 Threeness, 2? May'72 Human
beings k Complex Universe, (1)

Relative Abundance;

"I began to play a game of looking at relative total abundances
of various patterns in various systems and looking at a daisy and
looking at a tortoise and looking at a waste basket, I find that the
relative abundance of the fundamental patterns called chemical
elements vary quite greatly. I sort of began to play a game of relative
abundance because this is a nice 100 per cent game and that is the
kind of game that the physicist learned to do so ably as a synergetic
capability because he was always dealing in 100 per cent. Remember
that when he had an unknown percentage showing in an experiment,
that is what gave him his clue to meson or whatever it might be. I
found it very interesting to look at the total pattern man.

Cite OREGON Lecture y/5 - p. 168, 9 Jul*62

See Constant Relative Abundance

Euler

Kan: Relative Abundance of Chemical Elements In fcan & Universe

See Gravity: Circumferential Leverage, (3)

Reality as Structural Interaction of Principles, 1963

Sweepout: Spherical Sweepout, (2}

See Atom as Solar System

**Astro & Nucleic Interpositioning Invisibility of Macro- and Micro- Res-
olutions Nuclear & Nebular: Nucleus & Galaxies**

See Gravity: Circumferential Leverage, (2) Radiation: Speed Of, (C)(0)

See Orbiting Magnitudes

Aarapigtry Sflmncg; (

"Observing that there is a fundamental complementarity, and that the complementations are rarely mirror images of one another, we find that the physical Universe is always locally entropic--- that is, it is always giving off energy in one way or another. Because each local system has its own orbiting, and its own frequencies and so forth, the ways in which they give them off are not synchronised with the others. Therefore, as they're given off, they're relatively disorderly. . . . And actually calculably disorderly; they're not infinitely disorderly at all. They're not something we might call chaos. It may look disorderly to you as you look at the turbulence of a waterfall, and the water's going down there, But I've become very fascinated with the fact that I'm beginning now to understand what the different turbulences are. I can begin to see what the vortex is and all the interprecessional effects.

"It's no longer looking quite as disorderly to me as it used to look. Our word 'disorder' is a relative matter: it gets to be relatively asymmetrical. Relative to the symmetry of equilibrium it gets to be relatively asymmetrical, and I find that it goes to a maximum asymmetry and then comes back"

- Cite RBF to World Game, Jun-Jul'60

"to symmetry again.

"I think this is why we might have something we call octaves in music. There are sort of octaves in our thinking. We think octavely. . . . We say the atom has its nuclear arrangement, has its own synergetics, which is how they associate to form molecules and the molecules associate to form cells and how the cells associate to form living organisms, and so forth."

- Cite RBF to World Game at New York Studio School, 12 Jun- 31 Jul'69, from Saturn Film transcript, #327, pp.3-4.

See Asymmetric Pulsation

12 J

See Entropy, Jan'72

RCIRXITC vcluiairlc. J.re.ganiisY t interval:

See Mass, 12 May'77

(1)

See Constant Relative Abundance Relative Abundance Shunting: Relative Motion Patterns

See Avogadro: Generalized Avogadro System, 1959 Description. Jun'66 Epigenetic Landscape, May'49 Functions, 26 lay'72 Synergetics, undated Unique Frequencies, 9 Jul'62

Relativity:

"Lines are relativity. A line is the first order of relativity: the basic sixness of minimum system and cosmically constant sixness of relationship identifies lines as the relativity in the formula - M."

- Citation and context at Line, 7 Nov'72

Relativity;

"Size is where relativity becomes generated. The eternality of synergetics is conceptually experienciable independent of the successive experiences of relativity of time and size."

- Citation and context at Size. 22 Jun'72

KsWIUty:

"I have a railroad train going west through the desert and a man leans out the window and drops a flaming apple. He sees it go East. He has a sextant and a stopwatch with him and measures the angle and the amount of time, and so forth. But he sees that he himself is standing still. He is like all of the people standing on the surface of the Earth not realizing that the Earth is going around the Sun at 60 000 miles per hour. And so for him the apple seems to go in an easterly direction.

"Another man standing at a great distance simply sees the apple descend toward the Earth.

"Then a man standing very much to the north sees the apple go west--- with the motion of the train,

"All these different observers then come out with different results concerning the same experiment."

- Cite HBF to BO'R, Kent, Ohio, 23 May '72

Relativity:

"It is always special case relativity."

- Citation and context at Is, 24 Apr '72

Relativity;

"We cannot have relativity

Without at least two phenomena to be differentially related

There is also the word complementarity.

We cannot have one phenomenon complemented

By less than one other phenomenon.

The words complementarity and relativity

Do not identify identical physical phenomena.

We need to discover

'Whether there exists a generalized concept

Which embraces both phenomena,

And we find that the ponderable physical energy Universe

**That is, physical Universe, In contradistinction to the Universe¹s
'Weightless, metaphysical aspects,**

Does embrace both complementarity and relativity."

- Cite BRAIN i MIND, p.135 May '72

Relativity:

"Time, relativity and consciousness

Are always and only coexistent functions

Of an a priori Universe. . . ”

- Citation and context at Consciousness, p. 12, May *72

Relativity:

"... What Einstein realised has not as yet been comprehended in any important way except that of developing the atomic bomb. . . ”

"Einstein intuited from scientific observations, such as that of the Brownian Movement in water, and black body radiation, that the physical universe is always transforming complexly. Natively twisted, the geology of our Spaceship Earth's crust makes clear how severe have been the great transformings of its history."

~ UNESCO TIFLIS 1968, p. 9

RglatITAW

"The theory of functions holds for Universe itself. Universe consists at minimum of both the metaphysical and the physical. The fundamental twoness of physical Universe was embraced in Einstein's one word, 'relativity,* and in a more specific and experimental way in the physicists* concept of complementarity."

~~gpturn to ModLlahilltyv-w-r~~

Cite NASA Speech, p.68, Jun'66

Relativity:

"Time can be expressed only as

relativity¹ in the terms of relative frequency of reoccurrence of any constantly recycling behavior of any chosen sub-system of universe."

~~--OH.ilHAGA.W-->~~

- Citation at Time. Jun*66

Relativity:

"Science states that the entire physical universe is energy. $E = mc^2$."

- Cite HOW TO MAINTAIN MAH AS A SUCCESS, p. 228 , Mar*65

Relativity;

"Relativity leads us toward fundamental classification of our experience and observation, in terms of a few hierarchies of dynamic interactions and principle transformations of an all-energy, continuous-discontinuous, synchronous- dissynchronous Universe tensionally cohered, processional of local compressive spherical energetic collections--- as (Suns) stars or planets or moons or asteroids or meteorites; and the progression of within-ward sub-sets of events of interactions at planet crust, etc., and inward to the 92 common principles of atomic convergence of energy in principle, and the pervasive sets of dynamic associations by contraction, expansion, spin, orbit, torque, push, and pull, and precession. This all brings us by progressive collections of thoughts into a fundamental twoness of dynamic reciprocities which, internally paired, ultimately become one with outwardly paired principles of reciprocity.*

- Citation and context at Reciprocity (1) + (2), May*49

Relativity:

"The concept of relativity involves high frequency of reestablished awareness, and progressively integrating con- siderat ionMIBMtBB of the respective, and also integrated, dynamic complexities of the moving and transforming frame of reference and of the integrated dynamic complexities of the observed, as well as of the series of integrated sub-dynamic complexities, in respect to each of the major categories of the relatively moving frames of reference of the observer and the observed. It also involves constant reference of all the reciprocating sub-sets of the comprehensive totality of nonsimultaneous Universe, from which naught may be lost.'*

- Citation and context at

Dynamic Frame of Reference (5)_f May'49

Relativity;

"Relativity treats with concepts in principle; therefore, it can be treated in words as well as in mathematical phrasing. Relativity is inherently convergent, though convergent toward a plurality of centers of abstract truths. Degrees of accuracy are only degrees of refinement, and magnitude in no way affects the fundamental reliability, which refers, as directional or angular sense, toward centralized truths. Truth is a relationship."

- Mua TOrrt-JHTNXINCy- TfcX-,
- Citation i. context at Words. May'49

Relativity:

"The invisible structure was $E = mc^2$."

- Cite PREVIEWS, 141, p. 211 , 1 Apr»49

Selfttlvltxi ferriage of Social k Natural Law:

See Air Space, May'65

RfilajJxUx: Special Theory of Relativity:

'•The Special Theory of Relativity states that (1) the laws of physical phenomena are the same for all inertial systems, and (2) the velocity of light in any given inertial system is independent of the velocity of that system."

- Cite RBF Glossary of terms bound with "The Live Book Squad," '967.
(RaconXlmed by RBF, 3200 Idaho, Waah DC, 15 Jul>73.)

See Dynamic Frame of Reference

Einstein

Generalisation: Fourth Degree Generalizations Reduced to One Word
Synergy: Metaphysical Synergy Stars as Live Shows Billions of Years
Ago

fialatlvltv: (2)

See Complementarity, Jun'66 Consciousness, May*72* Dynamic
Frame of Reference, <5)> Is, 24 Apr'72* Line, 7 Nov'72* Reciprocity,
(1)(2J* Size, 22 Jun'72* Tetrahedral Dynamics, (1J Time, 23 toy*72;
toy'72; Jun'66* Words, toy'49* Time-angle-size Aspects, 30 Apr'77
toss, 12 May*77

Relax: .Relaxed:

See Hexagon, 30 Dec'73

See Noninterference Relaying

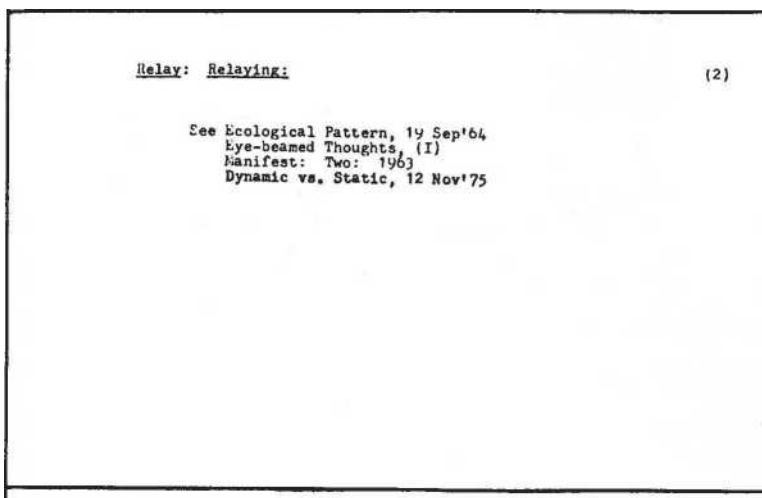
Precessionally Shunted Pattern Relay

Social-industrial Relay

Substitutional Relaying

Telemationi Satellite-relayed

Interference-noninterference Relaying Valvability



Relevanc e: "Relevance is systematic; a relatedness; something going on around
the intertriangulation of the six vectors. (What is the structure involved?)"

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun'72

Relevant: Almost Relevant;

See Twilight Zone

. All irrelevancies fall into two main categories or 'bits,' One set embraces all the events which are irrelevant because they are too large in magnitude and too delayed in rate of reoccurrence to have any effect on the set of relationships we are considering. The other set of irrelevancies embraces all the events 90 that are too small and too frequent to be differentially resolved at the wave length we are tuned in at . . in any discernible way to alter the interrelationship values of the set of experience relationships we are considering. Having dismissed the two classes of irrelevances there remains the lucidly relevant set to be studied."

- Cite NASA Speech, p. 40 t Jun'66

COfiSiasXMLF SGr- -5EX

Relevant. Lucidly Relevant Set:

"Thinking is a momentary dismissal of irrelevancies.

. . . There is a twilight zone of tantalizingly almost relevant. There are two such twilight zones--- the macro and the micro--- tantalizingly almost relevant. Between them there is always a set of extraordinarily lucid items of relevance."

puitiiX]

QC** 6?

- Citation at Thinking. Oct*65

"Thinking consists . . of a self-disciplined deferment of conscious consideration of any incoming information traffic other than that which is lucidly relevant to the experience intuited quest for comprehension of the significance of the emergent pattern under immediate priority of consideration."

Cite OMNIDIRECTIONAL HALO, p. 136, 1960

Sol! 04)

Relevant System Potential:

See Vector as 1/12th of Relevant Syatem Potential

See Corelevant

Bite: Biting Irrelevancies: Dismissal Of Irrelevancy Stark

Thought `` Relevant Set OmnilInterrelevant Exterior Relevante Interior Relevants Star Events Zone of Lucidity Interrelevant

See Part, May'72 Powering: One Dimension, 15 Oct*72 Stark. 29 May*72 Thinking, Oct'65* Repetition, (1) Halo Concept, Nov*71 Om-nihalo, Nov'71 Pronouns: I » We - Us (2} Human Beings, 22 Jun*77

fellable: Eternal Reliability:

See A Priori Mystery, 22 Jul'71 Integrity, 25 Jan'72 Inherent, 3 Oct'72

Religion:

"I do not want to inaugurate another religion and persuade people to believe in a set of rules. I an convinced that the Alnight does not need anybody to promote God."

. Citation *it.* context at God. May'65

Religion: (1)

"...Another young lady came to me and said was I going to talk some more about these religious ideas. I really had talked a whole lot about it to you but... I had never really used the word religion. I knew what she was talking about because she spoke about some kind of faith, some confidence in an integrity and a meaning in our experience of life... The word really is `religio.* They had come out of a set of rules of

dogma, interpretations at second-, third, and fourth-handings, sometimes very remote, a thousandfold secondariness of experiences of others and thought which have occurred spontaneously to original explorers.

"I myself am quite confident that the more we know about who specifically inspired religions--- Christ, Mohamed, Buddha, and Confucius--- these may be generalized characters, but there was one or several men who at various times in history tended to have the kinds of experiences that are accounted for word by word, mouth by mouth, word of mouth. These experiences are experiences of individuals who have extreme confidence in the integrity of the invention man and the invention Universe, who in every instance find this integrity to have great power, to be a priori to human intellect."

- Cite Oregon Lecture //5, p. 160, 9 Jul'62

Rgllfian: (2)

"None of them ever account experiencing a god in the image of man. That is one thing that Einstein was talking about in his nonanthropomorphic concept of the scientists. At any rate, they are people who experience an a priori integrity, a comprehensive anticipatory intellectual integrity greater than that of man. And they have enormous confidence in it, great faith in it, and try to help others to understand the success that they have experienced through their confidence in that integrity. At any rate, apparently these people have had such success as to have excited people by various patterns of experiences that have occurred. There are many then who in their day were excited, really very blindly and superstitiously, into subscribing to what was going on. This man was a man of powers without their trying to understand what those powers were, 'When they die then there were those who do better than others and they tend to become the authorities; and while they are alive they then are asked to make various

recordings of what they think had been said and what the rules were. Gradually this gets thinner and thinner and we have official custodians of the information and interpretations and that is the way our religions have developed.*

- Cite Orgeon Lecture #5, p.161, 9 Jul*62

Religion:

"As these individual explorers of the sciences went off into their laboratory and went down with their blinders on, men of enormous integrity, they said they never found anything in that particular area that seemed to confirm any of the given religions. Therefore, atheism began to develop, not as something you profess--- but there was sort of a double life. These men tended to honor their forebears, honor the literature, honor the humanism, and they would say probably the trouble is that I am such a narrow person from being in such a narrow field, that I just don't understand your other things. But there is nothing that I am doing experimentally here that seems to tell me that what the people have said about how the Universe was put together and the way it works, particularly from a religious point* viewpoint, that really seems to be valid. I think these people over here are dear muddleheaded people, but I am just going to have to leave them alone for my own professional part. So what has been thought of as an atheism is really just an evasion. It wasn't a declaration of againstness, and was not something against religion, but there seemed to be nothing to take its place."

- Cite Oregon Lecture #4, p. 130. 6 Jul'62

"... The enormous credit and physical investment of local undertakings in the most transcendental class as mystical insurance for eternal equanimity as built into the great religious edifices by the local communities, as representing the most generalized problem treatment and infinite range planning known to man's history."

- Citation and context at Ships (1), 1954-59

See Permanent Symbolic Communications Devices

See Synergetics, Apr*72

KBF DfcFil.ITluhb

HgllKlOIM Kelated to >Keglio» or Huiet "1 personally interpret the word religion aa being related to ¹regllo' or rule. You begin with the assumption that everyone is very ignorant, and somebody much wiser comes along and says, "Darling, you're not old enough to understand. 1 do understand however, and 1 want you to beleive every word 1 say." And you say, "All right, father, 1 Know you love me and wouldn't mislead me or cause me harm, So 1 believe you. There you have an exchange that I'd call religious, it is built on subscription to dogma. You're told wnat to believe and you learn how to repeat it."

Feb'72

- Cite KBF in Barry Farrel Playboy interview Transcript, Pp. !y-20

ETYMOLOGICAL DICTIONARY (WEEKLEY)

Religion:

F«, L. religio-n. from religens. careful, opposite of negligens. and prob. cogn. with diligens.

Religions

Oregon Lecture #5 - pp. 160-163 - 9 Jul¹62

203.KJ #531.05

1056.20 (24)

See Catholic Church

Christian Legend & Philosophy Einstein: Cosmic Religious Sense Faith
God

Belief

See A Priori Mystery. Kay*72 Child Sequence, (1) Modelability, b) Synergetics, 19 Jun¹71 Thinking, (1) Iceland, 7 Oct*75

Word Trends, May*44 Belief, 20 Feb'77 Greater Intellect, (2)
Remember:

"To be remembered, it must first be membered, to be membered it must be structured, to be structured it must be triangulated."

- Cite RBF to 00'R, 3200 Idaho, DC, 20 Feb '72

See Member, 9 Nov

Dodecahedron,

Remembering Names:

See Subconscious, Jun'66

Rqpgflibgrflg Numbers:

"When nature gives us a number we can remember, she is putting us on notice that the cosmic communications circuits are open: you are connected through to many sublime truths!"

_ Galley at s*o: 1231_02

See SSRCD

Scheherazade Number

See Prime Number, Oct'71

Remembered:

"Experience* remembered by none are, in effect, nonexistent may never have occurred."

- Citation and context at Experience_f 1968

See Memory

Pattern Cognizance

Trail Making & Trail Remembering furniture of Remembered Experiences Unremembered - Nonexistent

See Model, 22 Jan'75 Universe, May'72 Minimum Awareness, (1) Environment, (B)

Remergent Synchronisation:

See Hot Line of Intuition, 15 Aug'72

Remote:

"The remote aspect of a spiral is a wave because there are no planes

- Citation & context at Spiralinearity. Nov'71

Remote - Intellectual:

"The more remote the function the more intellectual the perspective we have on it and the greater the speed with which we accelerate its adaptability into our economic life,"

- Citation & context at Intellectual Perspective_f 1 Jul'62

R«aot» - Intellectual:

See Largest Pattern

See Maximum Remoteness Proximity & Remoteness Remote `` Intellectual Cosmic & Local

See Energy, 6 May'46 Physical, 2? Dec*74 Splrallnearity. Nov»71*
Structure, 15 Oct*64

See Mobile Rentability vs. Immobile Purchasing Service Industry

See Service Industry. 15 May'73

Mobile Homes, (1)(2) Dome House Grand Strategy: 1927-1977, (3)

Building Industry, (8)

Energy Environment-harvesting Machines, 27 Jan'77

Soo Cycle: If You Wait Long Enough the Cycles All Reoccur

Reoccur: Rooccurronco:

(2)

Seo Entropy, 16 May*72

Haorranlie:

See Rearrange

Reorientation:

See Toole of Reorientation

Re-origin: Re-orleinatable:

See Origin

Regenerative

Repelling Fields:

See Domains of Actions, 9 Jul'62; 21 Dec¹71

Black Holes & Synergetics, 1 Mar¹77

Repetition:

"In a recent study of the use of repetition in literature, Bruce F. Kavin observes that 'Events whose repetition is not extraordinary do not seem worth recording, in fact, hardly seem worth noticing,'¹ This statement is very close to what has been the strategy of my life. This is what it means to dare to be naive. The preoccupied search for the extraordinary pattern cannot fail to obscure the larger and more obvious ordinary patterns--- so obvious that they always seemed to be missed."

- Cite SYNERGETICS, 2nd. Ed. front matter, Author's Note on Rationale for Repetition in This Work, p.xxi, 2 Jul»75

Repetition:

"Le Corbusier told the whole story on the first page. And then he told it again in a few pages. And then he told it again in the whole book. And that's the only way people can really understand it. You have to keep retelling it. This is the way Le Corbusier did it in his book called

... and everyone loved it that way.

"This gives me another metaphor.... It is all part of the grand strategy. You know how a pole vaulter can't do it all the first time. He has to run over the same cinder path hundreds and hundreds of times before he gets to his new record. And that's the way we should tell it in the book."

- Cite RBF to EJA_t by telephone from Philadelphia, 8 Mar*75

Repetition: (1)

"It is the writer's experience that new degrees of comprehension are always and only consequent to ever-renewed review of the spontaneously rearranged inventory of significant factors. This awareness of the processes leading to new degrees of comprehension spontaneously motivates the writer to describe over and over again what---

to the careless listener or reader-- might seem to be tireless repetition, but to the successful explorer is known to be essential mustering of operational strategies from which alone new thrusts of comprehension can be successfully accomplished.

"To the careless reader seeking only entertainment the repetition will bring about swift disconnect. To those experienced with the writer and motivated by personal experience with mental discoveries--- co-experiencing comprehensive breakthroughs with the writer--- are not dismayed by the seeming necessity to start all over again inventorying the now seemingly lucidly relevant.

"Universe factors intuitively integrating to attain new perspective and effectively demonstrated logic of new degrees of comprehension-- that's the point! I have not forgotten that

- SYNERGETICS front papers; RBF to EJA, ./.ash. DC, 30 Oct'72
ftfipetAUon* (2)

"I have talked about these things before. It is part of the personal discipline, no matter how formidable the re-invent- oring may seem, to coimit myself to that task when inspired by intuitive glimpses of important new relationships--- inspired overpoweringly because of the realized human potential of successful escape from ignorance."

- Cite SYNERGETICS front papers, ' ` Author's note on Rationale for Repetition in this Work." p. xxi, from notes of RBF to EJA, 3200 Idaho, Wash., DC, 30 Oct'72

Repetition:

"Of course it can be abused, like cast iron souvenir statues of Q.I.'s. where the motive and integrity is so low the effect is cloying. But repetition has a very high function."

- Citation & context at Reproducible 30 May'72
.RfpCUUYfP

Metaphor la repetetlve. Wave function and frequency are inherently repetitive. Sight, the awareness of all the electromagnetic!c-spectrum reality, Is Identified only by its unique frequencies of reliable repetition. Identity results only from a family of uniquely repetitive frequencies."

- Cite RBF to EJA and RBF marginalia in Bruce F. awln, "Tell Ing It Again and Again," p.5; 28 May'75

See Reproduciblnees Standardization Nonidentically Repetitive Pole Vaulter

See Interval, 6 May*48
Reproducible, 30 May'72
Generalised Principle, (1)
Scenario, 2 Jun'71
Harmonic Interval, May'49
Identity, 2 Jul*75
Metaphor, 2 Jul*75
Aesthetics of Uniformity, (1)
Repreceaeion:

See Regenerative Precession

See Two Kinde of Twonees, (B)
Reproducible;

'•The more symmetrical; the more reproducible. The more asymmetrical, the less it fits Universe. The most successful design in Universe is the hydrogen atom. The more adequate the prototype, the better it fits Universe

There is an unfortunate tendency to abhorrence of the plastic.

Our fingernails are plastic. Our eyes are plastic. Of course it can be abused, like cast iron souvenir statues of G.I.'s, where the motive and integrity is so low the effect is cloying. But repetition has a very high function."

- Cite RBF to Bill Whitehead, 3200 Itfaho, Wash DC, 30 May '72

Reproducible;

"...The Sun energy impounding functions of the billions times billions of blades of grass around its spherical surface are essential to the regeneration of life aboard Spaceship Earth, ergo Whitman's 'Blades of Grass' are almost infinitely reproducible."

- Cite GENERALIZED LAWS OF DESIGN, pp.2-3, 22 Apr '68

Reproducible:

"It seems to be a law of nature that the more fundamentally simple and biologically propitious an evolutionary growth may be, the more aesthetically satisfying and lastingly acceptable is its multireproduction, e.g., roses, stars, and blades of grass."

- Cite ARCHITECTURE: THE PRESENT SCENE, Newsweek, 1968

Reproducibility: Law Of:

See Harmonic, 22 Apr '68

Reproducible: Reproducibility:

See Aesthetics of Uniformity

Kaa# Production

Prototype

Regenerative Design; Law Of

Simplicity

Standardization

See Procreation

Sex

Survival Sequence: Love

Tactile Sequence

Aesthetics of Reproduction

See Reproducible. 1968

Aesthetics or Uniformity, (1)

Repro-shelter Industry:

See Industrial Hypocrisy, Kay'32

Repulsion:

When humans "repel one another physically

The least strong is rocketed

Into remote system orbit."

- * Citation and context at Precession: Analogy..Of PrcCgasIPB and Social Behavior. May `72

ReDuleion:

"Repulsion, or the reason d'etre of going awayness.

- Citation and context at Gravity (1), 7 Feb*71

RBF DEFINITIONS

Repulsion:

In the kinetics of gas under pressure "there are critical proximities tensionally and critical proximities compressionally, that is, there are repellings. . . as we would find out in electromagnetics so there are domains of actions. . . "

- ~~Cite ORSON Lecture #5~~ p. 126, 9 Jul'62

- Citation & context at Domains of Actions, 9 Jul'62

Repulsion:

(1)

See Repel: Repelling

See Domains of Actions, 9 Jul'62*

Geometry of Vectors, Aug*71

Gravity (1)*

Precession: Analogy of Precession & Social Behavior
May'72*

Structure, Nov'71

Require: Rgqulrgraentfl;

See Need: Necessity

Universal Requirements of a Dwelling Advantage

Rq-rewardIng;

"Exploration in principle ie rerewarding."

- Citation and context at Probability. May¹49

Research; n)

"We must break a barrier in the kind of thinking we've been doing about the word 'research.' You have to have search before you can have research. The word research came into use in industry and business during the '20*s. They started going over the things they were throwing away. They began to apply new technologies. So you searched once and exploited your findings; then you researched what you'd done and exploited it again. It was very spottily done between 1900 and World War I; research really begins in 1929. Today it covers all kinds of things. When we talk about research in a university, that's new too. The research professor is something very new. You had large corporations paying for a chair in the chemistry department and it was really a racket because what it meant was that you had a large number of people, graduate students working for you for nothing. You had a research professor giving your company very special benefits. The ulterior motives are frequently visible.

"A researcher is always someone who goes over things again. He is a technician staying in one area to see what he can find. Research is very different from pure science exploration and invention. Research can just be processing and refining without*

- RBF to Barry Farrell; Bear Island, Tape #7, Side A, Transcript p.4, 18 Aug'70

"initiating anything. I don't expect people to initiate very much, very often. The whole technique is to find what are the first things first in Universe."

- RBF to Barry Farrell; Bear Island, Tape #7, Side A; transcript p.4, 18 Aug'70

See Fellowships: Life Fellowships in Research & Development Prototype Buggy Industry Could Never Invent Automobile Adoption of the New Only as Last Resort Dome House Grand Strategy

See E ph generalization, 1 Jun*49 Invention Sequence (A)->(D) ; (b) Everybody's Business, (1)

See Fellowships: Life Fellowships in ft t D

See Fuller, R.B: Personal Resaerch File Colors Search vs. Research

Soo Labor: American Labor, I960

Reserve: Reserves:

See Complementarity Reserves

See Cosmic Reservoir

fiCflCFYOl:

(2)

See Shunt, Jun*66

"There will always be residual error to surprise man.

The integration of all possibilities of the complementary alternates, though confinable, inherently defies exact identity because the minimum is pattern and not isolated integer. All pattern has inherent plurality of viewable aspects, which are the reciprocals of pluralities of permissible viewpoints, for instance, from within or from without a system. All treatable pattern is a subdivision of Universe, and disposes, in its first generalization, of the macrocosmic and microcosmic irrelevancies. Ergo, thought identification and communication to self or others musttune in a zone® system, with inherent center-of-zone, equilibrium 'sphere,' and therefore possessed of inherent wave propagative inward-outward tendency between the unstable variable limits, or infra-ultra twilights confining the clearly tunable mean interior-exterior zone limits occurring between the ultra-tunable macrocosmos and the intra-tunable microcosmos,"

- Cite RBF draft Ltr. to Jia (Fitzgibbon?), Raleigh, NC, 1954-59
See Observing & Articulating, 4 Aug'75

Cybernetics, 7 Nov'75

`` Only residual ignorance of temporality dulls the growing comprehension and allows fear to corrupt the child's innately absolute trust in love."

- Citation and context at Death, 11 Sep'73

PM14W1 lenoranfig

See Under#tending, 1 Anr'49

Residual Reality:

See Specialization, Dec'69

Residuals

See Truth as Progressive Diminution of Residual Error

See Exactitude, May*72

Historical, 1971

See Residual Error

Keeidual Ignorance of Temporality Residual Reality

See Bend: Bending

Rigidity vs. Resilience

See Least Resistance

Passive Resistance

Precessionally Shunted Pattern Relay

(2)

See Tunability, i960

RDF DEFINITIONS

^Reg01UtlfID:

"Things in parallel never get resolved. Convergent things get beautifully resolved; they get exactly... they get nature into a corner."

- Citation A context at Convergence & Divergence, 1 May*77

Resolution:

"...Th® resolution is not linear nor planar; it is omnidirectional; it is hierarchical in ascending or descending hierarchies.*¹

- Citation 4 context at Minimum Limit C_ase. 12 Jy'75

RBF DEFINITIONS

{f_iSUif_iU Resolution:

"Vectors are not abstractions: they are resolutions."

- Citation at Vector. 21 Dec*71

__ 2TDec.-<?1.

fHBB Resolution:

"Points are complex but nondifferentiably resolvable to superficial inspection.*

- Beverly Hotel, New York, 19 June 1971.
- Citation 4 context at Point. 19 Jun*71

RBF DEFINITIONS

"A star is something you cannot resolve. We call it a point, playing Euler's game of crossings. One star does not have an outside and an inside. It is

a point because you cannot resolve it."

- &1X«W=WA, Carbondale, 2 April 1971-

- Citation & context at Point. 2 Apr'71

Resolution:

"... Think about some of the limits of thinking of what we call resolution. Just look at this ruler . . . it is divided into centimeters and it is down to tenths of centimeters. . . Or if you take an engineers' rule and get down to hundredths of an inch a good eye can see and resolve the black from the white, but beyond that you stop operating and you see gray. These are frequencies. From now on we really get into the phenomena of frequency--- and then you see pink and yellow. I want you to realize you are seeing something to do with frequencies, where you do not have resolution of separation and this is not at all mysterious. We realize how very limited we are, and then when we begin to see things superficially--- they are tactile--- we don't realize how much confusion we are having on an extraordinary set of frequencies."

- Cite Oregon Lecture J/3, pp. JB-100. 5 Jul'62
g.SSolyabUUy Limits:

"The visual limits of ' now-you-see-it-now-you-don't,' yes-no-yes-no, something-nothing-something-nothing, dot-dash- dot-dash are relative size-scale discernabilities spoken of technically as resolution. These resolvability limits of the human eye may be pictured as follows:



"The finest 'smooth' surface, intercolor-crossblending, continuum photogravure printing is accomplished with a benday screen which employs 200 unique color dots per each square inch of printed surface."

- Cite SYNERGETICS 2 draft at Sec. 100.031; 30 Apr'77

See Benday Screen

Differentiation

Point

Tunability

Abstraction vs. Resolution

Unresolvable

Frequency Islands of Perception

Invisibility of Macro- and Micro Resolution

Conceptual Genesis

See Female Leg, Aug'64

Point, 6 Nov'73; 19 Jun»71*; 2 Apr'71*

Prime Otherness, 24 Sep*73

Tetrahedron as Conceptual !-'<odel, Nov'71

Vector, 21 Dec'71*

Clusters, 7 Nov'73

Minimum Limit C_{ase} , 12 May'75* Convergence & Divergence, 1
May'77* Six Motion Freedoms 4 Degrees of Freedom,

(1)(2)

Resonance:

"... Lines® are always curvilinearly realised because of universal resonance, spinning, and orbiting."

- Citation and context at Line. 7 Nov"72

"I'm talking about physics and the waves of the periodic table... its unique frequencies would interact... and what the permutations would be mathematically--- And I found this highly suggestive that the octave with its characteristically flat resonance really governing the interactions of frequenciesThe resonances are the key to much of modern physical exploration.¹

- Citation and context at IPythagoras (2), 18 Jun¹71
RBF DEFIL.xrluNS
Resonance Field;

"...Employing as a resonance field all the intertransforming spheres and between-sphere spaces; and employing the myriadly selectable, noninterfering frequencies of such propagatable intertransformation resonance,.."

- Citation and context at Atomic Computer Complex (fl), 13 May'73
See Feedback

Omniinterresonated

Oscillation Pulsation Synchro-resonance Tidal Zone of Neutral Resonance Omniresonant Heard & Unheard Resonances Wavelength, Frequency i. Resonance Harmonic: Harmony Tensed String Chords & Notes

See Integer. 15 Oct'72

Isotropic Vector Matrix, 16 Nov'72; 30 Nov'72 Line, 7 Nov'72* Music, 4 Mar'69

Observing vs. Articulating, Mar'71

Octave, 16 Jun'71

Point, 16 Nov'72

Pythagoras, (2)«

Synergetics Calculation, 30 Oct'72

Time-sise, 20 Dec'73

Tunability, 19 Oct'72; 16 Nov'72 Radiation-gravitation: Harmonics,
3 Jan'75 Womb of Permitted Ignorance, 13 Dec'73 Metaphysical &
Physical Tetrahedral Quanta.

25 Mar'71

Energy Involvement of 92 Elements, (1) Metaphysical & Physical, 13
Nov'75 Aural, 22 Feb'7?

Olfactoral, 22 Feb'77

Mites & Quarks as baste Notes, (3)

Resources;

"If there's so little of it, it must be used in a broad sense.

I must never have helium in a retail pub; it must be in the tools that
serve the tools....

"I want to really do something, but I don't want to sell boron on the
street-corner to use for toothpicks. I want to see that everything is
used where it's meant to be used."

1st. Para - Cite Scrap Sorting & Mongering (3), 15 Jun'74

2nd. Para - Cite Tape transcript, p.4; RBF to W. Wolf, 2 Jun*74

BfiOfurctfg'

"...All the 'cream rich' initial discoveries of original resource geography
lodes become exhausted..."

- Citation and context at Womb of Permitted Ignorance. 13 Dec'73

Resources:

"• • • Spaceship Earth's prime resources belong to everybody

- Citation and context at Young World (1|, 4 Jul*72

See Industrial Man, 10 Oct*63

Revolution by Inadvertence, 10 Oct*63

PWMFWai Freeh ve, Waste:

(1)

See Outbound Packaging of Human Food Waste

Raaesuxea¹ Fresh vs. *ast«:

(2)

See Biological Life, (2)

Resource Inadequacy:

"I also realise intuitively

That the elimination

Of the condition of resource inadequacy

And thereby the elimination of human want

May probably eliminate war

— Or quick death—

Which is always consequent to the overlong protraction

Of the slow and more anguished poverty's

Slow dying

As brought about by lethal ignorance

In respect to the design revolution potentials

As society takes its only known recourse

In political actions..."

- Cite INTUITION, pp.63-64 Kay '72

See Inadequacy of Life Support

Scarcity; Not Enough to Go Around

RflMursj In*tfeflyasys

(2}

See Political Revolution, 10 Oct'63 Selfishness, 22 Jun¹75

Rflflource lift oration?

See Leaders: Take Away the Leaders, 4 Jul*72

See Satellite: World Satellite Sensing

Rg fl Qiu?£fl__ invent or Ying'

(2)

See Biosphere, (1) Problem: Statement Of_t Aug*72

Resource & Principle?

"Inventions are extemporaneous. They represent trial balances of resource and principle drawn off in the light of shifting needs."

- Citation & context at Inventions. 1947

£?.as>nrgg= IWWCM

(1)

See Pollution Control Wilderness Resources

See Biological Life, (1)

Biosphere, (1)(2)

Leaders: Take Away the Leadere, 4 Jul'72 Miniature Earth, 28 Apr'74
Wealth 1947 5 20 Sep'76

Womb of Permitted Ignorance, 13 Dec'73* World Game: Grand Strategy, 2 Jun*74 Young World 4 Jul` 72* Intellect, 21 Jun'77

See Resource Effectiveness Resource Inadequacy Resource Integration Resource Inventorying Resource & Principle

Responsible:

"We have to take the responsibility of being responsible. So far we have not been very responsible. You don't say to a new child, 'You'd better go back in there, you're not very responsible...' They're just using words--- foxes and daisies... I say: What might I do that made it logical for man not to do these things? That's what I'm caring about. That's what design science is."

- Citation and context at Spaceship (C), Feb'73

Responsibility:

'•Our history of social customs indicates that until very recently, when Freud offered evidence to the contrary, man thought of his awake self as being utterly conscious. The laws held people absolutely responsible for all their awake acts. Reality was what could be seen, smelled, touched, tasted, and heard. There was no popular awareness of sub- or ultra-visible reality. There were beliefs of invisible gods or demons playing tricks on the humans."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 149, Dec. '69
RespanaibXXXix:

"We are all equally responsible not only for the big complementary surface areas which we develop on systems by our every act. . . . We are inherently responsible for the transformation of Universe, inwardly, outwardly, and all around every system which we alter."

- Citation and context at Spherical Triangle (4), 13 Nov*69

Responsibility:

Up to the nineteenth century, or the beginning of the twentieth century, what we could smell, see, hear, and touch was what he meant by reality. I think to many in our society today that is still what you mean by reality. Freud and Keener shook society's concept of this kind of reality, because man up to this time had been saying, because that is reality, every human being knows just what he is doing. If he is of sound mind, when he is awake, then he knows just what he is doing. Therefore, he must be entirely responsible for his every act. So as we developed laws, we made man utterly responsible for his every act. But Freud and Kestner, through their hypnotism, were able to disclose behaviors of human beings for which the human being was not

responsible at all. So this shook the idea of the courts, and we have had to have psychiatrists and others come in to bring you a reconsideration of the responsibilities of human beings. Now, what has really not been paid attention to in our society, again because we are all so specialized, is that there is almost no tendency to look at the whole and to really understand the whole,"

See Man's Conscious Participation in Evolution Doing What Needs to Be Done Everybody's Business

faapQnalfrilitY?

(2)

See Design Scientist, JO Jan'75 Publishing, 30 Jan'75 Success, 10 Sep'75

Rast: At Rest;

"The words 'at rest,' artificial, and failure are all meaningless

- Citation and context at Meaningless. Oct*66

See Immobility

Instant Universe

Newton's Cosmic Nora of "At Rest"

No Change

No Speed

Static

See Norm of Elnein aa Absolute Speed. Jun'56 Radiation: Speed Of
(C) Future: Man Backed into His Future. May'49 Dynamic Equilibrium,
24 Apr'76

Reatleaaneaa:

See Energetic Functions, 8 Aug'77

Rest of the Universe:

"The complementarity of the octahedron with the vector equilibrium permits us to get down to the local and not be afraid of missing the rest of the Universe, because we know the fundamental complementations of macro tetra and micro tetra. We were always looking at the XYZ quadrant focusing on the quadrant at the center of the octahedron, rather than on the functioning of the covariations."

- Citation and context at Trigonometric Limit, 22 Jun¹72
- fYNkRnffTTM TTMFT fFf, THU ?1.

KBF DEFINITIONS

Kgat of the Universe:

"• . . You and 1 are matched by the rest of the Universe. There xs an invisible hole--- a matrix of you and I sitting in the Universe. So it really isn't annihilated, but it is nonlocally identifiable. . . ⁿ

- Citation and context at invisible Hole. 16 Jun'72

Bm the UnlYgrflg:

"The Platonic Solids do not stand in a vacuum of Universe* They are in Universe and if you change that thing you change the rest of Universe. Nothing can change locally without changing everything else."ⁿ

- Citation at Platonic Solids, 12 Jul*62

Rest of Universe Other than Earth:

See Spherical Triangle Sequence, (lil)

(1)

See Local Change

Motion Freedom from Kent of Universe

Nonconceptuality

See Allspace Filling: Octahedron & Ve, 22 Jun'72 Eternity: Equation Of, 2? May*72 Event, 1968 Invisible Hole, 16 Jun'72 Local Entity, 1960 Nonmirror Image, 13 Jun'74 Orbiting, 5 Jun'73 Key-keyhole Sequence. (1)(2) Platonic Solids 12 Jul'62* Plus One, 9 Jul'62 Rubber Tires, (4) Sphere, (1) Tetrahedron: Coordinate Symmetry, 10 Jul*62 Thinkable System Takeout, (2) Thinking, (1) Trigonometric Limit, 22 Jun'72*

See Universal Joint: Tetrahedron, 9 Nov'73

Minimum Sphere, Aug*?1

Quantum Sequence, (5)

Time ie Only Now, 1y Jul'76 In, Out & Around, 17 May'77 Human Bel-
nge t Complex Universe, (4)

Reatrainta:

"Six restraints are essential to structure and pattern stability."

- Cite RBF marginalia to SYNERGETICS 2 draft at Sec. 400.664} S
Aug'77

Restraints:

"Nothing stands in a vacuum of Universe. Nothing can change locally without changing everything else. We have to look for conditions where there is permitted transformability and where there is some really great unanimity of degrees of freedom. We see that certain kinds of patterns accrue from certain numbers of restraints. You could see how planar things could happen as a consequence of two restraints and how linear things could happen as a consequence of three restraints. (See Sec. 401, Twelve Vectors of Restraint Define minimum System.) We see, then, that we are in a Universe where there is a

certain limited number of permitted freedoms. Synergetics discovers that whatever is rigidly related to anything else discloses 12 restraints. There are a minimum of 12 restraints in developing anything we might call a rigidly related set of events."

- Cite SYNERGETICS text at Sec. 537.01; RBF modified and deleted much of text on galley, 7 Nov'73, but EJA reinstated text to conform to manuscript of Dec*71.

Restraints: (1;

` `I've got a way of checking degrees of freedom. I said there is myself and the universe, and I see a hole in the stars. I try to shoot out through the stars. I go I wake the Pleiades; the stars get closer and closer together} I seem to be very far. All the stars in the rest of the universe are in one huddle, and I am over here. . . ` `

"I can't get away from the universe: one tension restraint. I can do as a tetherball; you hit it and make any kind of a spherical form that you want. . . I give myself now two restraints, I only had one restraint, now I have two restraints, not as if I were a ball in the middle of a music string. I can still move but I can only move in a plane. I give myself a third restraint: I am in a drumhead;

can still move, but only in a line. Then I give myself a fourth restraint and first I am pulling the drumhead in one direction and I seem to be immobilized. ... I found that even though semi-immobilized, you could put a monkey wrench on it and it would contort. . .

"I had to get each one of the four restraints; they had to be three-folded and come in tangentially, making a total of 12.

There would be six positive and six negative, corresponding
SEC Mo?-J fl+3*1 - Cite Ledge mont Lab, Lecture, p.52, 15 Oct*64
Restraints:

"to the six edges of the tetrahedron, negative and positive... They keep showing up in these models.

"You are trying to make a wire wheel. How many spokes does it take? You have to have three out this way and three out that way to keep the hub from shimmying. You have to take care of the rotation and the torque-- that way and this way--- we had six... multiply each of these VESSSSSSSB* by two... comes 12. You cannot have a wire wheel with less than 12 spokes."

- Cite Ledge mont Lab. lecture, p.53, 25 Oct*64

Restraints:

"The Platonic Solids do not stand

Emmngrtju in a vacuum of Universe. Nothing can change locally without changing everything else. We have to look for conditions where there is permitted transformability and where there is some really great unanimity and I have been looking for degrees of freedom--- ways in which this could happen, the kinds of patterns that accrue to one restraint, two restraints and so forth. You could see how linear things could happen as the consequence of three restraints and how planar things could happen as the consequence of two restraint and so forth. We then get into a Universe of a certain number of permitted freedoms and I have discovered that nothing was--- you might say--- rigidly related to anything else unless there were twelve restraints so there was a minimum of twelve restraints to develop anything we might call rigidly related set of events."

- Cite Oregon Lecture #8, p. 285. 12 Jul'62

Tx PettttS FKEEPSK- Stc. 537. 0|1

trains -

"Haro are those degrees of freedom that I spoke about and illustrated where we hare the single ball able to move to all kinds of patterns, but when there are two restraints they can only move in a plane, when there are three restraints they can only move in a line, and with four restraints it stays fixed, but it can rotate locally."

- Cite OREGON Lecture #6, p. 206,10 Jul'62

Restraint Focus:

See Aberration, 1y Dec'73

See Degrees of Freedom

Inventions which Decrease the Degrees of Freedom

Mast in the Earth Me flail Otherness Restraints Vectors / Restraints

See Lifetime: Personal Lifetime Experience for
Elective Investment, 31 May'74

Ellipse, 20 Jan'75

Restructurings:

See Unstructurings & Restructurings

Resultant:

"The resultant was not recognised until it was realised that light had a speed."

- Cite RBF at Penn Bell videotaping session. Philadelphia. PA 20 Jan'75

KBF UbFXMXIUhS

liesuitant:

"Now, up to the speed of light measurement, engineers spoke of every action as having a reaction and it was thought by the engineers--- because the public didn't understand-* that every action had a reaction. Little man is so small, and Earth is so big, he doesn't realize that when he steps this way, he's pushing the Earth the other way. But you can feel it in an automobile when it accelerates rapidly, shoving the pebbles in the opposite direction. Now with the speed of light measurements, we discover while the speed of light is very great, say 700 million miles an hour. . . . 'bible, That's very fast} it is very slow in contrast to no time at all. And the engineers have not updated their thinking since the speed of light. They hadn't realized the speed of light had anything to do with their action and reaction. But because there is now no instantaneity, no simultaneity, there is always some energy lag, and time is involved here. Therefore every action not only has a reaction but it has its resultant. and the resultant and the reaction are not the same, so we now realize that every energy event is characterized not only by a reaction but also by a resultant.

- Cite RUF at SIHS, U.I-ass, Amherst 22 July '71, pp 19-20

Resultant as Disturbance Diminishing:

See Precession <k Degrees of Freedom, (1)

See Action

Action-reaction-reeultant Interference

Reaction

Z Cobras Integrated Vectorial Resultant Vectorial Model of Interference

Resultant:

See In, Out & Around, Nov*71

Retirement =

"Retirement was invented by the insurance companies.

There are 9,000 Ph.D.'s in physics today and only 2,000 of them have jobs."

- Cite REF at Penn Bell videotaping, Philadelphia, 28 Jan '75

Retirement; Retiring:

See Squatters, (1 } (2) Building Industry, (2)



KBF DriFIKITIONHS

IteturninK Upon Itself: Systems Return Upon Themselves:

*»¥o be able to return upon itself is a chracteriStic of all systems. A plane would go on to infinity, so to form a system you would have to take an angle out."

- Cite RBF at Students International Meditation Seminar, U. Mass., Amherst, 22 Jult '71, p. 10

SySTert- SEC. MdO.

Returning Ucon Itself: Systems Return Upon Themeelvee: (1)

bee Closed System

Embracement

Finite

Geometrical Integrity

Nature Always Comes Back on Itself

Patterns of Experience Return Upon Themselves in All Directions

Wave Returns Upon Itself

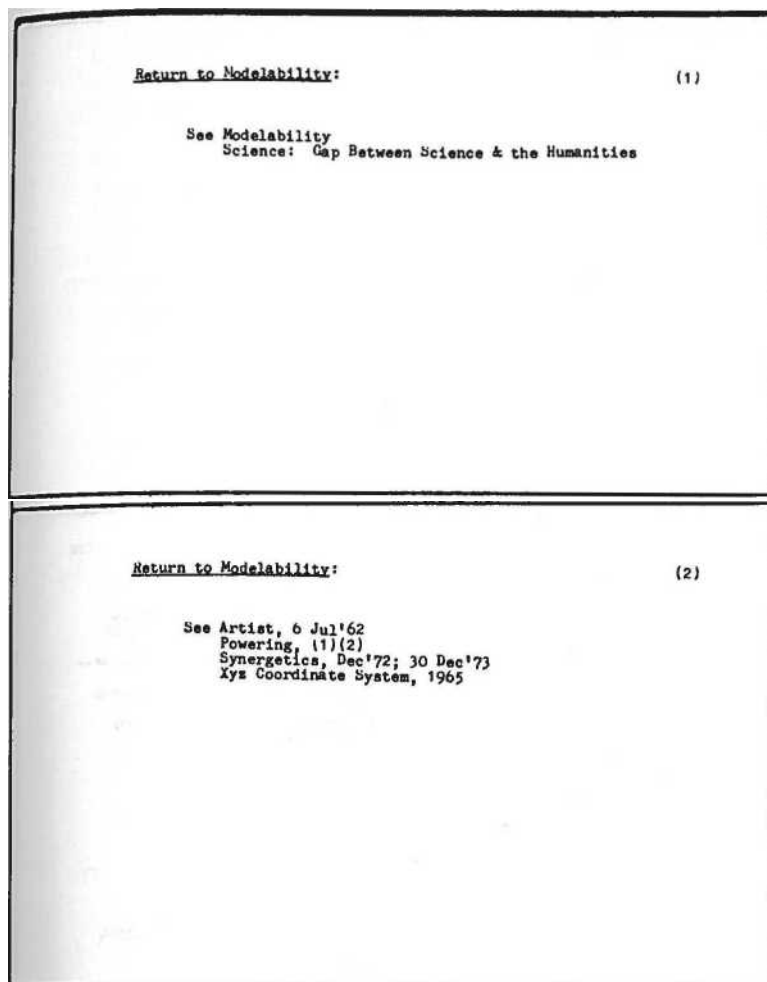
Hawnlng Upon Itself: Systems Return Upon Themselves: (2A)

See Closed System, 26 Fay*72
Comprehension, Dec*61
Congruence, 25 Jan'72
Considerable Set, 1959
Finite, 13 Nov*69
Gears, 7 Nov*73
Geometrical Integrity, 25 Fay*72
Infinity &. Finity, Jun'66
Interference, 15 Oct'64
Motion, 4 Feb*68
Omnidirectional, 23 Sep*73
Polygon, Jun'66
Prime Structural Systems, 11 Jul*62 ; 3 Nov'73
Radiation: Speed Of 22 Jun'72
Simultaneous, 5 Jul*o2
System, (1)(2)
Thinkability, 1 lay*71
Triangle, 5 Jul'62

Returning Upon Itself: Systems Return Upon Themselvee:
(2B)

See Vector, 25 May'72
Vectors Are Real, 2J May*72

Vertexes, Faces & Lines, 1 Jan'75 Plane, 19 Feb*72; 13 Nov'69 General Systems Theory, (A)



See Unknown: All the Unknown, 13 Fay* 73

Reverse Atomics:

Maybe we ought to try to capture lightning in electrostatic generators underground: build up charge of lightning and then release it later.

"We might really reverse our atomics: instead of learning how to release atomic energy we could learn how to make the atoms and how to employ the exponential increase of their gravitational energy as their components are allowed to self-assemble themselves . • *

“ C_t® P® transcript, DSI Project; RBF to W. Wolf. pp. 10-11, 28 Apr'74; as rewritten by RBF at 3200 Idaho, 10 Sep'74

See Electrostatic Generating

See Lightning & Atoms, 28 Apr'74

Reverse Fountain Flow:

See Wind Stress *k* Houses, (9)

"Optimism is usually thought of as constituting a mildly unwarranted hopefulness in respect to the future. But there is a reverse projection of optimism in the nostalgigenerated myths that recall only the rare and sublime moments of yesterday. Forgetting the negative, reverse optimism overemphasizes, thus deliberately shuts its eyes to reality, and is therefore unable to see the values immediately present.

"I am convinced that we are swiftly emerging from the abysmal conformities of yesterday's illiterate, spit-punctuated profanity and monosyllabic verbalism, in which rags, filth, diseased bodies, prevalent stenches, devastating superstition, and local bias reigned supreme

(Compare with Conformity. 10 Oct'63 - EJA

- Cite THE PROSPECT FOR HUMANITY, WDSB Doc. 3, p.74, Aug'64

Reversibility:

"... The syntropic vector equilibrium's reversibility--- inwardly-outwardly--- is the basis for the gravitationally maintained integrity of Universe."

- Citation at Star Tetrahedron. 8 Oct*71
- Ant it etrahedron," 8 Oct. '71, p. 8.

Reversibility:

"Each vector is reversible having its negative alternate.

-C±serftWmGETICS_ 'Corallaria₇ See. 240. 1970

- Citation & context at Vector_f Oct*59

Reversibility:

See Inward & Outwardness

Irreversibility

Obverse & Reverse

Opposite: Opposition

Moving Picture Run Backwards

Negative

Future: Man Back Into His Future

Mirror Reversal

Darwin: Evolution May Be Going the Other Way

Enantiodromia

See **Energy**, 16 Sep'67

Star Tetrahedron, 8 Oct'71*

Star Tetrahedron Jt VE, 9 Nov'73

Vector, Oct'59*

Vector Equilibrium, (I); 8 Oct'71

Implosion- explosion, Jun'66

Octa he iron as Conservation i Annihilation Model.

23 May*75 *

Error, 30 May'75

Review:

See View & Review

Revolution:

"The revolution is not being effected by pulling the top down. It is being effected by pulling the bottom up. It is being effected by doing more with ever less in such a manner as to take care of all without taking away the functional capabilities and fundamental advantages of any. The surprise.

constantly doing vastly more with ever fewer physical resources per function--- is our legacy from the millenia-long armaments struggle to do more with less in a world where a pea-size transistor now does more than an army of yesterday and a fistful of atomic fuel takes a large ship around the Earth."

- Cite THE PROSPECT FOR HUMANITY, WDSO Doc. 3, P. 65, Aug'64

Revolution: Design Science Revolution vs. Global Political Revolution:

See Monteeal Expo*67 Dome, (B)

Revolution: Hard Revolution + Soft Revolution: (1)

"The exponentially accelerating rate of a new world order realisation is irreversibly emergent

through chain reaction emergencies

transpiring as a primarily invisible

soft revolution

As omni humanity's critical thoughts

breakW8 out as news events,

with the break-outs too swiftly shifting

their geography

and too frequently multiplying and altering

their run-off routes

to develop any local power clotures

and consequent burst-out bores

of sufficient local magnitude
to detonate full scale hard world revolution_t
yet so far out-performing hard revolutions
in omni egalitarian social advancement—
by elevating the bottom
instead of deoressing the top—
Thereby arriving at a world's socio-economic ocean
which levels spherically

to contain any magnitude of local energy outbursts as storms or volcanoes

Revolution: -Soft. Revolution + Hard Revolution? (2)

"whose violence is swiftly dissipated by circumferential hydraulic wave displacements. The brimming ocean wave of commonwealth is bound radially by gravity in spherical mantle unity.

Thereafter, the ocean will pulse only in world tidal Integrity as an omniliterate, closed sphere system democracy consciously, spontaneously, instantly rearticulating its responses to world around electro-telepathetic info-waves.

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH, Jan.
»72.

"Each nation has been looking out for itself and each man within the nations has been looking out for himself and his family! Therefore the surprising and continual increase in the proportion of world humanity being served at ever higher industrial standards . . . cannot be attributed in any way to any consciously organized effort of humanity to make the resources go further. It is in no way attributable to charitable gifts.

"Forced to look elsewhere for an explanation, we find that the increase in the world's numbers who are prospering has been brought about entirely by indirection and inadvertence as the consequence of man's earlier heavy and prime subsidy of weapons race evolution."

- Cit MEXICO '63, p.8, 10 Oct '63

iiavoluUan i?T. Jaatortanaa:

(1)

See Evolution by Inadvertence

toalution by inadvmcnen'- 12)

See Economic Accounting System: Human Life-hour

Production, (2)

Geosocial Revolution, (1)

Ignorance, (1)(2)

See Communication Revolution Design Revolution Education Revolution
Geosocial Revolution Political Revolution

See Birth, 22 Dec '74 New 4 Evolution, (3)

Howarding:

See Re-rewarding Operant Psychology

Re-wow:

See Wow: The Last Wow

KBF DEFINITIONS

Rhombic Dodecahedron:

"The total space is 24—with the vector equilibrium's

Eighth Octahedra extraverted to form the rhombic dodecahedron.

"For every space there is always an alternate space: this is where we get the 48-ness of the rhombic dodecahedron as the domain of a sphere.

2A x 8 -20

6x8 « 48

(Incorporated in SYNERGETICS 2 draft at S«c. 1033.184)

- Cite RBF to EJA, 3200 Idaho, ./ash. DC: 12 May'77

Rhombic Dodecahedron:

"The rhombic dodecahedron is the domain of omni-closest- packed spheres; the middle of its diamond face is the control point for the sphere's radius, the unity vector.

a Citation & context at Triacontrahadron as Limit Regular rQlyhddron, 13 Apr'77

Hhombic Dpdecahadnm!

"The rhombic dodecahedron, like the cube, fills all space. It has a volume of six. it is the epitome of the behavior of closest packing. The rhombic dodecahedron is the domain of a sphere □ spheric."

- Citation & context at Vectorial & Vertexial Geometry, (20 27 Jan'75

Rhombic Dodecahedron:

"The rhombic dodecahedron contains the most volume with the least surface of all the allspace-filling geometrical forms, ergo, rhombic dodecahedra are the most economical allspace subdividers of Universe. The rhombic dodecahedra fill and symmetrically subdivide allspace most economically, while simultaneously, symmetrically, and exactly defining the respective domains of each sphere as well as the spaces between the spheres, the respective shares of the inter-closest- packed-sphere interstitial spaces."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 426.21, 2 Nov'73

"The rhombic dodecahedron is the most faceted, identical faceted (diamond) polyhedron and accounts, congruently and symmetrically, for all the isotropic-vector-matrix vertexes in closest packed spheres and their 'tween* spaces. Each rhombic dodecahedron's diamond face is at the long-axis center of each coupler (Vol. » 1) asymmetrical octahedron, with each of the rhombic dodecahedra sharing it 12 omni-adjacent spherics..

- Citation and context at Coupler (1)(2), 22 Mar'73

"The fact that the rhombic dodecahedron can have its 144 modules oriented as either introvert-extrovert, or as three-way circumferential, provides its valvability between broadcasting-transceiving and noninterference relaying. The first radio tuning crystal must have been a rhombic dodecahedron."

- Cite SYNERGETICS draft at Sec. 426.©, 30 Nov'72

"The rhombic dodecahedron symmetrically fill allspace in symmetric consort with the isotropic vector matrix. Each rhombic dodecahedron defines exactly the unique and omnisimilar domain of every radiantly alternate vertex of the isotropic vector matrix as well as the unique and omnisimilar domains of « each and every interior-exterior vertex of any aggregate of closest packed, uniradius spheres whose respective centers will always be congruent with every radiantly alternate vertex of the isotropic vector matrix, with the corresponding set of alternate vertexes always occurring at all the intertangency points of the closest packed spheres."

[zol

- Cite SYNEHCoTICS draft at Sec. 426.30 Nov'72

"The rhombic dodecahedron six is entirely outside, but twelvefold-
edly tangential to, the initial sphere..."

- Citation and context at Constant Relative Abundance. 29 Nov*72

' 'The rhombic dodecahedron can be put together with MITE and so it
is all-space filling.

' 'The symmetrical arrays of the rhombic dodecahedron may explain
the chemical compoundings of periodic atomics.

- Cite RBF to EJA, 3200 Idaho, DC, 25 Feb '72

"Nature always starts over again with the isotropic vector matrix. En-
ergy is not lost; just not available.

"At the heart of the vector equilibrium is the ball in the center of the
rhombic dodecahedron at the core--- the one sphere all by itself. You
put 12 rhombic dodecahedra around one central rhombic dodecahe-
dron and you get the vector equilibrium.

"This is why synergetics can investigate nuclear symmetries: it all
comes out absolutely discretely. And it does have both the A and
B Quanta Modules in it. Look at the picture /` ` MARKS, p. 167, Pl.
L.8._7 which shows the one-half of the rhombic dodecahedron. Of all
the polyhedra nothing really falls into a group so easily as the rhombic
dodecahedron, the most common polyhedron in nature."

- Cite RBF to EJA, 3200 Idaho, Wash., DC, 24 Feb. *72

"The rhombic dodecahedron is fundamentally associative."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 24 Jan '72

Rhombic Dodecahedron:

"Sixth powering is all the perpendiculars to the rhombic dodecahe-
dron which is all the internal truncations of the tetrahedron."

- Citre-fiBfr2fc®_JS»IA_rJSeal Island, 2J August 1971.
- Citation at Powwring: Sixth Powering. 25 Aug'71

Riionble Dpeahgren-

"I employ . . . the icosahedron and the rhombic dodecahedron in almost all the geometrical forms where one or another provides unique economic advantage. I use the rhombic dodecahedron as the hub of my octahedron-tetrahedron truss--- the octet truss. Its twelve facets represent the planes perpendicular to the six fundamental degrees of freedom.*

- Cite RBF Ltr. to Steve Baer, 19 Apr¹66 *ISO T/iofiii. vecraK Mtr-xix - sec. H*
H.OH\

"The rhombic-Dodecahedron" has a volume of "six." The rhombic-Dodecahedron is an all space filler like the cube. . . . This is one of the most common naturally occurring crystals."

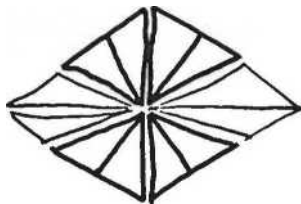
- -Draft⁻¹

- Cite Oregon # , p.224, 11^dul*62

RBF DEFINITIONS

Rhombic Dodecahedron #1: United Sphere:

"In the rhombic dodecahedron #1 there is one sphere integrated at the center. The A and B Quanta Modules as viewed at the peak from above are arrayed around a united sphere. It represents the proton model."



- $r's$

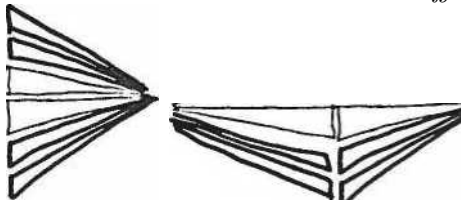
graph.

- Cite RBF to EJA, 3200 Idaho, Mash. DC, 23, Feb '72 + 22 Feb holo

asymmetrical interior aggregations. There is one sphere disintegrated into six symmetrically deployed parts. The A and B Quanta Modules as viewed at the peak from above are arrayed around a fractionated sphere. It represents the neutron model.” ”

Rhombic Dodecahedron ff2: Fractionated Sphere:

”In the rhombic dodecahedron ff2 there are a large variety of



- Cite RBF to EJA, 3200 Idaho, Wash, DC, 24

Feb '72 4 RBF Holograph of 22 Feb '72.

- A^*
- 8S

See Dodecahedron

Spheric

Spheric Domain

Vector Equilibrium Involvement Domain

Minimum Limit Case: Hexagon i Rhombic Dodecahedron

See A Ac B quanta Modules, 10 Jul'62 Constant Relative Abundance, 29 Nov'72* Coupler, 5 Apr'73; 20 Dec'73; (1)(2)* Isotropic Vector Matrix, Feb'72 Octet Truss. 1959 Powering: Sixth Dimension, 9 Nov'73 Powering: Sixth Powering, 25 Aug'71* Vectorial Ac Vertexial Geometry, (2)* Mite: Positive 4 Negative Functions, (1)(2) Domains of Interferences, 7 Nov'73 Domain of a Point, 7 Nov'73 Stable 4 Unstable Structures, 7 Jun'72 Vector Equilibrium Involvement Domain, 11 Dec'75 Quantum Mechanics: Minimum Geometrical Fourness,

Triclinic, 31 Aug'76

Triacontrahedron as Limit Regular Polyhedron 13 Apr'77 *

Quanta Loss by Congruence, (2)

Triacontrahedron, 13 May'77

VefJoEglibrium: Potential 4 Primitive Tetravolumes

See Antirhomblc

(2)

See Tenaegrity: Unlimited Frequency of Geodesic Tenaegritiee, (2)

See Pulse Pattern

**See Montessori Syatem, 1928 Pole Vaultter, 2 Jul*75 Ghana Dome:
Self-chilling Machine, (1)**

See Pattern Strip Wrapability Tetrascroll

See Wealth, (A)(8)

Wealth ae "Know-how", (1)

**See Octahedron as Conservation & Annihilation Model, (4) Octahe-
dron as Photosynthesis Model,(D)**

Richter: Don:

See Curvature: Compound, Aug*72 Triacon, 22 Jun'72

Ri amann, G.F.R;

Robt. W. Mors, p. 44 : 1960

Synergetics : Sec. 522.22

Rjemann, George Friedrich Bernhard: (1826-1866)

See Spherical Triangle Sequence, IV) Geodeeica, (1)(2)

Right:

"Now, what we call thinkable is always outside-out.

What we call apace is just exactly as real, but It is inside-out. There is no such thing as right and left!*

- **Cite Tape transcript RBF to BO'R, Carbondale Dome, 1 May 1971**
- **Citation at Parity, 1 May'71**

Right Angle;

"The Greeks knew a right angle, but they never called it 90 degrees,"

See Ninety Degree-ness

Rectilinear

Roads Turn at Right Angles No Right Angles in Nature

See Tidal, 15 Oct¹64

Model of Toothpicks & Semi-dried Peas, (1}

See Earning A Living

See Fuller, R.B; Crisis of 127, 26 Sep»68

Superstition of Social Superiority, 1946

"Great historical leaders have always hoped that we may be trending from 'might makes right' to 'right makes might' dominance, which means from a rooted, programmed creature, a 'specialist'--- Just going after its own honey and stinging others who interfere with its program--- to an ecologically cognizant, spontaneously synergetic, omni-integration of cosmic functioning. ..."

- Citation and context at Ecology Sequence (G), 5 Jun'73

See Individual Rights

Lincoln

Metabijical Cord

Might Makes Right

Mind-over-Matter

Mind-over-Muscle

Metaphysical Transcendent of the Physical

See Continuous Man (5)

Design Revolution, 6 Mar*74

Ephemeralization, 1938

Rationalization Sequence (2)(3) Society: Control Of, 1938 Superstition of Social Superiority, 1946

See Doing Right things for Wrong Reasons Left k Right

Rigid;

"Rigid means 'sized'-- arbitrarily sized. 'Rigid¹ is always special case."

- Citation and context at Scheme of Reference_r 24 Sep'73

Rigidity:

D. Bohm, Foundations of Physics _r Vol. 1, No.4, 1971, p.369:

"The new order and measure introduced in relativity theory implies new notions of structure, in which the idea of a rigid body can no longer play a key role."

RBF Comment:

"Generalisation of tetrahedra utterly independent of rigidity

- Cite RBF marginalia at QUANTUM THEORY AS INDICATION OF NEW ORDER IN PHYSICS, p.369, done Aug`73

Rigidity:

"This /"thirty strut tensegrity dome_7is made out of

steel turnbuckles and could be tightened into a very tight structure. As you tighten it up it W simply means that the frequencies increase, it gets higher and higher pitched and finally gets to a point where you don't seem to have any audible tone at all and you call it rigid. In other words then, what we call the rigid structures are not because they are redundant in nature, the atoms, but because they are at a non-aurally tunable frequency.**

- Cite OREGON Lecture #5 - p. 181 , 9 Jul'62

Rigidity Ya*, Rgalliens?:

"Rigid structural systems consist of whole or truncated interior tetrahedra. If the truncated tetrahedra are shoal enough and if the frequency of the system is high enough, the surface's structural triangles' edge legs may permit resilient bending which will allow an exterior vertex to dimple inwardly of the structural system."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1071.24, 20 Dec'74

Rigid Sized:

See Scheme of Reference, 24 Sep'73

Rigid:

Rigidity:

See Crystal: Crystalline Inflexibility

Rigidity vs. Resilience Rigid " Sized

See Chemical Bonds, May'72 Rectilinear Frame, 24 Sep'73 Scheme of Reference, 2L Sep*73* Triangle, 8 Oct*64; 1960 Prime Nuclear Structural Systems, 2? Dec*74 Chemical Bonds: Triple Bond, 19 Dec*73 Light on Scratched Metal, 9 Nov*73

"Rings are lines « • . which are all inherently curved and must eventually meet or rejoin their ends."

(2)

- Citation, context, and sketch at Two w, ¹⁰ Jan* 50
See Moebius Strip, 10 Jan'50

Two, (2)'

KIXSQ: Xgft MIXta ^{a9} WeU Jun>P in the R.mr: "... People who like to be prosaic and like to make man feel so small can say everything is just going to turn out to be inanimate chemistry and you are all the consequence of probabilities and you might as well lump in the river."

- Citation and context at Threshold of Life. 0 Jul'b2

See Boats at Anchor Retard the River's Flow Bridge River: You Might as Well Jump in the River

See Lever (II)

Haga, (3)

R<?adq Turn at Right Angles t

See Local Squareness, 9 Jul'62

See Automobile as Only Half the Invention

Freeways

Highways

See Tools: Craft & Industrial, (2)

Robertson, Donald. W;

See Invention Sequence, (A)-(D)

Robin Hood Sequence: (1)

"The chronofile persuaded me ten years after its inception to start my life as nearly new as is humanly possible to do. It persuaded me to dedicate my life to others instead of myself. Not on an altruistic basis but because the chronofile for the first 32 years of my life clearly

demonstrated that I was positively effective in producing wealth only when I was dedicated to others. Further chronofile observations then showed me that the larger the number for whom I worked the more positively effective I became.

"Thus it became obvious through the chronofile that if I worked for all of humanity I would be optimally effective. Setting out to start life all over again, I did not try to make myself a new, or a different, man, another man. I sought only to allow myself to articulate my own innate motivational integrity instead of trying to accommodate everyone else's prefabricated credos, educational theories, romances, and mores that had occurred in my first life.

`` One basic tenet of my new volition was that whatever was to be accomplished for anyone must never be at the cost of another. Robin Hood was a story my father read aloud to me when I was"

- Tape transcript *i/6*. Side A, p.17; RBF to Barry Farrell;

Bear Island, 10 Aug*70

Robin Hood Sequence: (2)

"very young, not long before my father died. Robin Hood became my most influential early years' mythical hero" This meant that in my first life I had improvised methods in general to effect swift moral and romantic justice for those whom I'd found in trouble or danger. Foolishly self-confident in my first life, I had often rushed thoughtlessly to assume responsibilities beyond my physical and legal means. This rashness led me into complex dilemmas, for in an attempt to keep my assumptions of responsibility legal, I inadvertently borrowed from my unwitting family dragging them into preposterous financial sacrifices

"In inaugurating my new life I took away Robin Hood's long bow and staff and gave him only scientific textbooks, microscopes, calculating machines, transits in industrialization and a network of tooling in general: I made him substitute new and inanimate forms for animate

reform. I did not allow Robin any further public relations professionals or managers or agents to promote or sell him. It seemed obvious that if the new tools that the new Robin Hood did develop could provide valid man advantage increases, they would inevitably be adopted by society in general as the inexorable emergencies which dictate the proper rate of regenerative gestation of evolution took place.

- TaffiaJrigKKirMM8 A- PF-1'8; '»P « Barry Farrell;

See Consideration for Others Golden Rule

Rock:

"I begin to look at all these rocks, and it doesn't look like anything. Then I begin to pick them up, and I pick up any rock, and I find it has a beautiful face here, and then another beautiful face, another beautiful face... These are not carelessly done. You begin to study these rocks a little more, and you find face, face, face, face. Their corners have been knocked off...but all of these rocks were once tetrahedrons."

- Cite RBF to Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72

See Youth, Truth & Love, 1 Apr*73 Fuller, R.B: On Christopher Morley,
22 Jun*77

See Pebble Roundness Stone Gibraltar: Rock Of Scenario of the Child

See Artifact, 26 Jan*75

Weather, Feb*73

figgk»t>YC SflfrY:

See Fear, 1938

Rockefeller. David:

See Cosmic Accounting, 2 Jun*74

Rocketable Logietice;

See Airspace Technology, 20 Sep' 76

See Tracer Bullet Sequence

See Locality, May'71 Measurement, Jun'66

See Four Noaimultanaoua Rocket Burat a

**See Buildings ae Machines. (2) Twelve-Inch Steel World Globe, (A)
General Systems Theory, (B)**

Rods •

See Closest Peking of Rods

Rogers, Will:

See funambulist, 1938

Reliability of Polyhedra:

"The more evenly faceted and the more uniform the radii of the respective polygonal members of the hierarchy of symmetrical polyhedra, the more closely they approach rollable sphericity. The four-facet tetrahedron, the six-faceted cube, and the eight-faceted octahedron are not very rollable, but the 12-faceted, one-sphere-containing rhombic dodecahedron, the 14-facted vector equilibrium, and the 14-faceted tetrakaideca- hedron are easily rollable."

- Cite RBF insert at SYNERGETICS galley, Sec. 942.70, 20 Dec'73

Rolls:

"We want to think about production and getting then films and environments under controls, separating from outside to • inside. There is no way man develops such high speed production as in rolling devices that produce sheet steel at fantastic rates coming out from those rollers--- and film which can be such barriers. And the other one is papermaking. You make a number of rollers of paper and you have two

of them coming together and .corrugated ones in between and gluing them together, making the corrugated paper board out of half paper is very good} it has a very high wet tensile strength--- doesn't bother it at all if it gets wet. But as you have something coming out of rolls, the roll going around, and you have another roll, and there's a printing press. So you can get some newspaper coming out. And so you can print information. . . Any kind of shapes you want, any picture. So I find then you can do any complex kind of work you want and print it right out on your paperboard as it comes out at fantastic high speed, and not only print it, you can put a little groove in it. You press the paper down, and that's the way you want it to fold. And paperboard domes can really be produced at a fantastic rate."

- Cite Univ, of Alaska Address, pp.39-40, 20 Apr '72

RBF DJ'INITluNS

follow*;

- 'Of all the materials that man can produce fast the things that come out of rolls are the fastest. Newsprint is the fastest thin he can produce."

- Cite RBF tape of CHAHAS script 14 March 1971

See Cleave-roll Log: Fireplace Log

See Invention Sequence (B)

Evaginating, 22 Jun*75

Tetrabcroll, (1)

Hex-pent Sphere: Transformation into Geodesic

Spiral Tube, (1)(2)

four Intergeared Mobility Freedoms, 2 Nov'73

Membranes, 21 Jun*77

Romance: "There's nothing you have to do that isn't fascinating. Whether you're a plumber's helper and have to wipe a Joint or whatever it is."

- Cite RBF at Penn Bell videotaping, Philadelphia, JO Jan'75

Romance *ot* Hletory in the Maklnr:

See New York City, (5)

Romantic;

"I find that universe has not lost one iota

of its romance for me. I find living now quite as satisfactory as ever."

- KBF to EJA in mid fist stride at corner of 44th and Vanderbilt, New York City fl larch 1971

Romantic:

"Over a very large period of time, I think that the total data recorded by Charles Fort from around the world may prove of great scientific worth. Above all this there is something extremely inspring about Fort's interest in his Universe, His interest is very romantic. It isn't written in romantic terms at all, but man is full of dreams-- dreams of significance. FortfWas in love with the world that jilted him. Fort,ajhumanity was looking for significance in experience. Fort is becoming increasingly popular with the university students who all around the world are looking for significance. Billions of young people are in love with a world whose complexity seems to be trying to jilt them. I don't think their love will be unrequited. Fort's superb humor and tenderness are communicated with economically telling skill is rarely equalled."

- Cite RBF, "Charles Fort Introduction," p. 11. Draft 1969

ft: Romantic:

See Fuller, R.B: Crisis of 1927, 14 Apr'70 Robin Hood Sequence, (1)

Rootless:

"I don't like the word 'rootless' because it shouldn't suggest running away from things. I'm not leaving town.

My backyard is just getting bigger.*

- Cite RBF to Elizabeth Drew, WETA-TV, Wash. DC, 19 Oct '72

Roots:

"Biological life... would be dehydrated were it not osmotically water-cooled by its root-connected hydraulic circuitry of Earth waters' atomization for return into the sky-distributed, fresh-water-regenerating biological support system, which rooting frustrates integral procreation of the vegetation..."

- Citation and context at bumblebee. 6 Nov '72

Roots;

"*At one time people thought of themselves as having roots. Why? Because in order to survive they had to be near the vegetation. And the vegetation had to have roots so it could be water-cooled, and the animals fought the people for it. But now we have the refrigeration which preserves the food, we have the canning and the other processes, and nobody has to be near the roots anymore. They can live anywhere they want. They do have legs and they can go round this world, and the food will be brought to them and none of us has to perish. We can free ourselves from these other kinds of roots just as simply, merely by recognizing that the necessity no longer exists."

- Cite RBF tape transcript for Barry Farrel Playboy Interview Feb '72. Above passage omitted from final text. See transcript p. 61,

Roots:

ⁿAs the prime energy impounder,

The vegetation on the land has to have roots In order to get enough water to cool itself So that it will not be dehydrated

While it photosynthesizes the radiation energy of the Sun Into the beautiful molecular structures

That provide the metabolic energy exchange functions Of terrestrial life support."

- Cite BRAIN & MIND, p.110 May '72

Roots ;

"Man is born with legs, not roots."

- Citation at Legs, 26 Aug*66

- Cite—Higbee-introduction,-26 Aug.—*66," quotun&sRBE

See Good *k*. Evil Sequence (1}

Roots: (Jn Mathematics)

"In synergetics 'square' roots and 'cube' roots are treated as triangular and tetrahedral roots. Therefore we do not lose the radical. The root becomes rational as $\sqrt[n]{k}$, The fractions will come out rationally with triangular and tetrahedral roots."

- Cite RBF to EJA, Beverly Hotel, New York, 14 Sept. 1971

See Roots vs. Blossoms

Trees

Legs: Man Born with Legs not Roots

See Bumblebee, 6 Nov¹⁷²*

Ecology Sequence, (G); (a)

Lage, (1)

Legs. 26 Aug*66*

Manifests (T)

Organic Model, Oct'66

Sovereignty: Elimination Of, 2y Jun*72

United States: One of the Most Diffcoltt Sovereignities

To Break Up, 28 Jun*72

Redundancy: Reduction Of, 22 Apr*71

Human Unsettlement, (4)

Rope:

"There la much within the critical proximity environment which demonstrates the normal--- where the disparate mass relativities are not operating, as, for instance, when a is tensed and reacting at 90° to the direction of the tensing and thus becomes tauter. Compression members precess to bend."

- Citation and context at Normal. 6 Mar'73

Rope:

"To present my scientific differentiation Of brain and mind

I proceed as follows—

First I say:

'I take a piece of rope and tense it.*

As I purposely tense it

I inadvertently make it tauter.

But I was not tensing the rope

For the purpose of making it tauter, I was only trying to eBngate the rope. Its girth is inadvertently contracting and The rope is also inadvertently getting harder.

"In contracting and getting harder

The rope is going into radial compression In a plane at ninety degrees to the axis of My consciously purposeful tensing... "

- Cite BRAIN & MIND, p.124 Hay *72

Rope:

"As recounted before,

Saying, ' Let us take a piece of rope...* To demonstrate the generalized rope concept-- I am drawing on

A multiplicity of special-case rope experiences As a brain-stored resource of that audience, Probably amounting to over a hundred experiences each: With different kinds of pieces of rope, Ergo--- I am drawing upon a memory resource Of more than one hundred thousand experiences With as many different pieces of rope, When I speak to an audience of one thousand."

- Cite BRAIN fc KIND, p.146 May <72

Rope:

"I started out our brain-mind differentiation By saying, 'I take a piece of rope.* I've done thia before many audiences, And no audience has ever said, •You don't have a piece of rope.'

But the fact is I didn't have a piece of rope Nor has anybody ever said, •Is it nylon, manila or cotton?' Or, ' What is its diameter?*

- Cite BRAIN t MIND, p.116 May *72

Rope:

"Each fiber in the rope is randomly spiral. The larger braided strands are also spiral together into three final spiral bundles which, in turn, spiral together as a piece of rope, clearly the rope is an aggregate ten-straight lines of many varieties of spiraling curvature. The design final twisting of the rope, when its ends are spliced together, will expose a unique number of profile humps. If the twist of the rope has 1/16th

inch humps per quarter-inch of rope length, and 64 profile humps per inch, and 768 per foot; then there will be 768 times 64, or 49,152 humps in its total peripheral horizon, inside or outside: that 's a great complex of wavilinear integrations,"

- Cite RBF dictation to Alexandra Snyder, Ashoka Hotel New Delhi, India, Dec. '71

Rope:

"Physicists have never discovered any straight lines in Universe. They have discovered only waves which are inherently curvilinear, that is, they are corkscrew or spiral trceries between covariable events, such as You and Me, with our relationship identified by a rope stretched between us with two reels at each end to pay out as we move independently with varying lags in the rate of the rope's response to other forces acting upon it than thos of our two independent pulls, as for instance the effect of wind on the rope; or the Earth's gravitational heated expansion of the rope; and the lag or inertia of the rope in changing the rope's shapes given it progressively by You, Me, the wind, gravity, Sun, and atoms of which the rope itself is composed, whose behaviors are very directionally discrete in order to give the rope its unique recognizability."

- Cite ROF dictation to Alexandra Snyder, Ashoka Hotel, New Delhi, Dec. *71.

Rope;

"I take a piece of rope and I tense this piece of rope ae vigorously as I know how. And the more I tense it the tauter it becomes. When it becomes taut, it means it is contracting in its girth. This means that while I am purposely tensing it in its linear axis, it is going into compression

at 90 degrees to my purposeful tensing. Compression is occurring, though I am only applying tension. You understand that? The rope is contracting, going into compression, as a consequence of my pulling it.**

- Cite RBF at Students International Meditation Seminar, U, Mass., Amherst, 22 July '70, P. 87/

Rope:

“Parallel lines can be torqued. So may the parallel lines of a cylinder be twisted as we see them in a rope. A rope and a cone are both forms of simple curvature.”

—Cite 111,-p* 217; Preview of Building, 1 Apr'49

- Citation at Torque. 1 Apr'49

RaEff: Knotfi Y3i °Pllg:

See Matter vs. Radiation, 7 Nov*73

TEXT CITATIONS Rope: Univ, of Alaska Address, p.11ff, 20 Apr '72 Approaching th. Benign Environment. 82. 1970 (also p.86-cltd) 506.01-506.15 522.04-522.09 .326,22

640.60 8535.22

644.01 8936.11

711.01-711.04 1005.30 1054.61

See Deliberately Nonstraight Line Dog Pulling on a Belt Funambulist

Generalizations: First Decree Knot

Metaphysical Disconnect Pattern Integrity Waterspout

See Abstraction. 10 Dec'64

Civil War, (2)

Intellect: Equation Of, (1)

Normal 6 liar'73*

Pull, 2 Jul*62

Tension, (1) (2)

Pattern Integrity, 22 Jan'75

Tidal, 1 lay'72

Torque, 1 Apr'49

Ilex-pent Sphere: Transformation into Geodesic

Spiral Tube, (1)

Rose:

"... Packages consist of complexedly interrelated and not as-yet differentially analyzed phenomena which, as initially unit cognitions, are potentially re-experienciable. A rose for instance, grows has thorns, blossoms, and fragrance, but often is stored in the brain only under the single word --- □rose,¹

"As Korzybski, the founder of general semantics, pointed out, the consequence of its single-tagging is that the □rose¹ becomes reflexively considered by man only as a red, white, or pink device for paying tribute to a beautiful girl, a thoughtful hostess, or last night's deceased acquaintance. Thetagging if the complex biological process under the single title 'rose*' tends to detour human curiosity from further differentiation of its integral organic operations as well as consideration of its interecological functionings aboard our planet. We don't know what a rose is, nor what may be its essential and unique cosmic function. Thus for long have we inadvertently deferred potential discovery of the essential roles in Universe which are performed complementarily by many, if not most, of the phenomena we experience

- Cite SYNERGETICS draft. Chronicle, pp.3-4, from Nehru Speech as rewritten by RBF j Jun*72

RBF DEF1biTluHS

Kose:

"Biology, chemistry, and physics can explain some of the characteristics of the mechanics and processes that constitute the composite, constantly changing living-machine rose, but neither Julia nor the scientist could presume to tell little Tim what a rose is."

- Cite NIKE CHAINS TO THE L.UUN, p.10, 1938

Pggtf Pushes;

See Privacy, 22 Apr*61

Roae?

See Brain, 3 Jun'72* .

Design, (1); 1938

Reproducible, 1968

Aesthetics of Uniformity, (1)

Rotate:

"One thing we have learned about all systems when isolated from other systems, is that they have the ability to be rotated or for things to rotate around them."

- Citation and context at Axis of Spin (1), 11 Mar'69

Rotate: >

"Radii must grow from point to surface. . • . therefore, spherical irregular tetrahedra '

(irretetra), therefore as spheres are interacting and spinning and energy is both local and remote as radius expands it, or generates unfolding leaves.... Because man rotates he has fingers and toes, feybe hen rotates around egg with a nuclear gyro."

Rotational Aberrating Limit:

Basic Equilibrium *k6* LCD Triangle,

See Basic Triangle: 17 Dec'73

Rotation of Hight as a Shadow:

See Sleep, 1963

Rotation of Spheres:

"A single sphere is free to rotate in any direction.

"Two spheres although free to rotate in any direction must do so co-operatively, assuming no slippage between the touching spheres.

"Three spheres can only rotate cooperatively about respective axes which are parallel to the edges of the equilateral triangle defined by Joining the sphere centers, that is, each sphere rotates toward the center of the triangle.

"Four spheres lock together. No rotation is possible, making the minimum stable system: the tetrahedron."

(See Illustration 8.)

Cite SYNERGETICS ILLUSTRATIONS caption #8 , 1967

gotatlye s_Y at ema-

See Agsociability_t 21 Far'73

See Axis of Inherent Rotatability

Co-rotation

Wind Power: Effect of Earth's Rotation

Vertex-vortex Rotations

Rotation: Rotatabillty:

Seo Axis of Spin, (1)*

Omnidirectional, 2 Jul'62 Radiation: Speed Of, (D) Cybernetics, 7
Nov'75

RSF DEFINITIONS

Roundness:

Imagination "means man's communication of what hekhinks it is that he thinks his brain is doing with the objects of his experience. His discovery of general conceptual principles characterizing all of his several experiences --- as the rock, having insideness and outsideness, the many pebbles, having their corners knocked off and developing roundness: the thinks there could be pure 'roundness'* qnd thus imagined a perfect sphere."

ini, 11~19?1 -

- Citation at Sphere. 22 Apr'71

Round; Roundness:

See Experience in the Round Omnidirectional Pebble Rock Sphere
Sphericity Stone

Round Trio;

See Circuit

One Way vs. Round Trip Two-way Feedback

KowAM Ngedleg: (

"I'd like to make good rowing available to the average man. He'd soon get tired then of having an outboard motor and just putt-putting from here to there. But the average rowing boat is a very awkward affair, so you can't blame people for staying away from them. But with rowing needles it's easy. Three good pulls, and I'm out of the harbor. The satisfaction is enormous.

"The bows are domed. With a sharp point you've got a plow pushing the water out ahead of you. This does exactly the opposite: the molecules roll off and they roll off in all directions and because they're rolling in all directions they exhaust the cone of entry and it builds up a vacuum.

"Watch a little, tiny guppy in a great tank. He gives a kick of his tail and it builds up low pressure on his nose and it sails right across the tank without any more effort at all. It opens its mouth and builds up that low pressure a little higher and it pulls it right across. I want to really exploit that capability. The bows on atomic submarines are also spherical for the same reasons. As the molecules roll, they take up more*

- Cite transcript of RBF tape to Barry Farrell. Tape #1. pp.5-6: Bear Island, 10 Aug'70

Rowing Needles:

"and more of their own medium and the vacuum builds up and just pulls you forward. Today, if you want to punch through steel, you don't use a sharp point. This form is it. Atoms are discontinuous and you want to push between them, not obliterate them. You can't obliterate them."

- Cite transcript of RBF tape to Barry Farrell, Tape #1, p.6; Bear Island, 10 Aug'70

Rowing?

See Lever, (b)

Royal;

See Realm: Real: Royal

Rubber Gloves

"Entropic dispersal . . . and syntropic association ... Between the two they work very much like the rubber glove. There really is an annihilation into eternity with no time and dimensioning--- these are only in our temporal relativity."

- Citation and context at Eternity (1), 23 May'72

Rubber Glove:

"The glove is seeability, experiencibility--- we go through the invisible. The annihilation is the invisible and the timeless.

"There is no geometry of space--- only of local aggregates of principles, of special cases.

"The lag is the whole of life. It is lag and aberration."

- Cite RBF to BO'R, Kent, Ohio, 23 May'72

Rubber Glove:

"If you have a rubber glove on your left hand and strip it off, it now fits your right hand. There's only one rubber glove. The left hand has been annihilated. That the way our Universe is. There are the visibles and the invisibles of the inside-outing nonsimultaneity."

Cite Museums Keynote Address Denver, p. 10. 2 Jun'71 PACITY- sec

Rubber Glove:



"The rubber glove stripped inside-outingly from off the left hand now fits only the right hand. First the left hand was conceptual and the right hand was nonconceptual. Then the process of stripping off inside-outingly seemingly annihilated the left hand and created the right hand— then vice versa as the next strip off occurred. When physics finds experimentally that a unique energy pattern— erroneously referred

to in archaic terms as a particle- is annihilated, that annihilation is only of the Yubber glove kind. The positive becomes the negative and the positive only seems to have been annihilated. We begin to realize conceptually the finite, yet nonsensorial outness! which can be converted into sensorial in-ness by the inside-outing process Kaego, Novent is the finite but nonsensorial continuumjy



Mr.*""**"

- Cite NEHRU SPEECH

P J2.

13 Nov'69

Rubber Glove Sequence:

"So we find that complementarity is even more complex; that there had to be not only the keyhole, but that the keyhole had to be in something. The keyhole that was in something had to be related to the rest of the Universe. So then we had a rubber glove which was stripped off this hand, which we called the left hand, fairly ignorantly, and now it fits the other hand. So where has the other one gone? Then I strip it off here and there goes the other hand.

"Quite clearly, both were there all the time, but only one of them could we detect. So there is not only the glove, which could have a keyhole, and we could put the key in that, but it would have to be in something of the rest of the Universe as well as the system we can see by. There's always a conceptual system, and there's the rest of the Universe which is nonconceptual because it's a scenario Universe and not a single frame Universe."

- Cite RBF to world game at NY Studio School, 12 Jun-31 Jul'69 Saturn Film transcript #327, pp.2-3.

See Annihilation

Key-keyhole Sequence Novent Parity

Other Side of the Universe

flubbar Slave; M

(2)

See **Equilibrium. 25 Feb'69**

Eternity, (1)*

Invisible Hole, 16 Jun'72 Irreversibility, 4 May'57 Superatomics Sequence, (1)-(5) Nuclear Domain & Elementallty, (1)(2) Human Heings & Complex Universe, (4)

Rubber Tirga;

"Miniature rubber automobile tires may be substituted for the triangles of the vector equilibrium to provide a model of reciprocating toruses. The eight wheels should be independently journaled but touching one another with sufficient friction so that when you move any one of them all of the eight will rotate reciprocally. We can also consider each rubber tire as a torus and we can see how they can involute and evolute at the same time the wheels are reciprocatingly rotating. This provide a model of what turbulence really is."

Ci^{delphia}atPA^{enn}24^ejin*75^{di}o8 videotaPln8 "aathon, Phila-

Rubber Tires: (1)

"You can make this model out of little automobile tires and you can run them.up on the shaft and use tape to act as a thrust bearing to keep them from coming outwardly. You brought- them in until each of these tires are barely touching the other tires in throe points--- so it really is a triangle.

'Remember how gears work. We have a train of gears where around any hole there are always four gears, so as this wheel goes one way the other wheel can go that way very comfortably. And since there are four we find that the trains reciprocate. There is no blocking anywhere. All of the holes are foursided so it is an even-numbered train of gears. When I rotate one wheel in this whole system all the other wheels move very neatly. They are in friction to one another. I can also hold on to one of the wheels and turn the system around it. If I do that a very-interesting thing happens. ... A rubber tire can be mounted like a torus, or can be rotated outwardly like the big atomic bomb mushroom cloud opening in the center and coming in* at the bottom. That is what we call an evoluting or involuting torus. These rubber tires could do that--- and not only could they rotate around on each other this way, but it is quite possible to make

- Cite Oregon Lecture, #7, p. 262, 11 Jul'62

Rubber Tires:

this wheel in such a way that it has little roller bearings along its rim and each of these roller bearings allows the rubber tire to rotate in the rim so that the tire could be involuting and evoluting. Therefore, if any one tire started to evolve all the other tires reciprocate."

- Cite Oregon Lecture #7, pp« 262-263. 11 Jul'62

Rubber Tires:

. It is quite possible to make an automobile tire and mount it in such a way that it looks triangular. That is, it gets to a very small radius on its corners. I can simply take the same rubber tire and stretch it onto a triangular frame and also have the same little roller bearings so it can involute and evolve. . . The triangular tires may pump from being the vector equilibrium into being the octahedron, the way we saw

it before, in and out again. If I were then to immobilize one part of it, if I were just holding it with one finger like this, doing this means that I won't let this one involute and evolute--- but the rest of the system, due to the rotation, is contracting to become an octahedron so it makes all the others reciprocate--- involuting and evolving so that I am able to immobilize one axis and the rest of the system can work comfortably."

- Cite Oregon Lecture #7, p. 264. 11 Jul'62

Rubber Tires:

"What we are learning here is something very fascinating and it means the following: That in an omnimotional Universe it is possible for me to take two moving systems--- if you have two systems--- which move four dimensionally comfortably, the way you see those four sets of wheels, eight wheels altogether moving perfectly comfortably, but I can fasten one vector equilibrium to another by a pair of wheels, immobilizing one of them and getting one of these axes--- the axis which is immobilized but on which the rest of the system can keep right on rolling around. By fastening one such part of the Universe literally, you don't stop the rest of the motion of Universe. That is what we are learning here.

"In all the other kinds of mechanical systems that you will ever run into on a three-dimensional basis, if anything is blocked then everything is blocked. In a four-dimensional system this is not true at all. You are able then to have one local thing occur. You can have two atoms join one another perfectly well and the rest of Universe can go right on in its motion. Nothing is frustrated but they themselves do certain polarized things in relation to one another, which begins to explain a lot of the basic joinings."

- Cite Oregon Lecture //7, pp. 264-265. 11 Jul'62

Rubber Tires:

See Gear Train

Rudder:

"The interesting thing about a rudder is that the ship has already gone by, all but the stern, and you throw the rudder over, and what you're really doing is to make a little longer distance for the water to go round; in other words you're putting a low pressure on the other side, and the low pressure pulls the whole stern over and she takes a new direction. The same in an airplane--- you have this great big rudder up there, with a little tiny trim tab on the trailing edge, and by moving that little trim tab to one side or the other you throw a low pressure that moves the whole airplane. The last thing, after the airplane has gone by.

you just move that little tab."

- Cite Calvin Tomkins, The New Yorker, 8 Jan 66, p. 64.

Ruddering: Rudder Concept:

"Order is achieved through positive and negative, magnitude and frequency-controlled alteration of the successive steering angle. We move by zigzagging control from one phase of physical universe evolution to another. The rudder concept of social law is most apt. Norbert Wiener chose the word 'cybernetics,' derived from the Greek roots of 'rudder'.¹ because Wiener, Shannon and others in communication theory were exploring human behaviors and their brain-controlled 'feedback,* and the like, as a basis for the design of computers, and it became evident that the human brain steers man through constant change."

| //The identical text to The above appears in blank verse

I form in "How Little I Know." Vage_71, 1966.JZ

- Cite AAUW JOURNAL, May 1965, P. 176

"Within the grand strategy of anticipatory problem solving to be accomplished exclusively through design transformations of human ecology's physical environment apparatus, the design stratagems range from powerful to subtle. For instance, instead of attempting to push the bow of an ocean liner from one side to the other in order to steer it (as we do the front ends of automobiles, as well as of social trend fronts) inasmuch as the great seas also try to push the bows to one side or the other thus tending to throw the ship out of control, the naval architect must design in such a way that the ship's course will not tend to be diverted by heavy seas, yet will be steerable. To do this he designs a ship's hull with the hinge or pivot point of the ship occurring forwardly under the step of the bow. This makes a long lever arm aft and a very short lever arm forward of the pivot, and the long lever overpowers the short one as in a weathervane 'ship.' Thus the naval architect makes the stern of the ship (rather than the bow) swing to one side or the other of the course. The course tends to be held steadily by the bow. The stern tries to follow the bow in a straight course. The keel then makes the stern follow the"

- Cite NEW FOIt-i VS. rtbFUitES, WDSD./1, p.52, 19&3

"bow when the ship is in motion. In order to change course, the stern is deliberately swung to one side or the other.

This is done by the rudder at the stern which is so small as to be easily manipulated. The rudder, by making a small drag angle, creates a partial vacuum on the side of the rudder opposite to that of the direction in which the rudder is moved. This partial vacuum starts to pull the stern of the boat, which causes a much larger partial vacuum to build up on the stern quarter of the ship on the side toward which the

stern swings as the ship moves through the water in this askew attitude. This vacuum is built up for the same reason that the horizontal askew attitude of a wing foil in motion through the air creates the lifting vacuum on its cambered or top surface. The reason is that it is a longer distance around the cambered askew side for the parted water to reach, as suddenly displaced by the ship's motion, which makes the longer-way-reach tense the air-interspersed water molecules creating a partial vacuum. So powerful is this partial vacuum, or negative pressure, chain reaction buildup that it can, for instance, suck-pull the 30-knot speeding hull of the 85,000 ton, Empire State Building-sized Queen Mary into a new angle in respect to the directionally fixed"

- Cite NEW FORf-S VS WURMS, .VDSD Doc. #1, p.52, 1963

"momentum of her bow-pivot center, which thus hinges the Queen Mary into a new course attitude, which is fixed when the rudder is returned past 'midship' to 'meet her,' or break the vacuum buildup, and then returned to raidship position.

This principle of creating vacuums with minimum effort that will self-regenerate to build up large vacuums to govern very large pattern-transforming work is even more dramatically emphasized in the case of the giant Jet airliners where, literally, postage-stamp size trim tabs in the trailing edges of the large vertical and horizontal ruddering surfaces are all that are used by the automatic gyro-pilot servomechanisms to keep these 100-ton sky giants hurtling along at 600 miles per hour on accurate multidimensional course despite invisible atmospheric turbulences far greater in size and velocity magnitude than those of the water ocean.

"My philosophy takes primary heed of the fact that all in Universe is in constant transformative complex motion and all transform in patterns of least resistance. Therefore, philosophically, it became evident that by subtly designed"

- Cite NEW FORM Vb. REFORMS, W0S1) Doc.#1, p.53, 1963

RudderminR Sequence: (4)

"'trim-tab' site inventions we could, with least physical effort, control the least resistant directions of various fundamental transformations. This could be done by devices which would so control the angle and frequency occurrences of little vacuums and tension which could cause man's ecological patterning to evolve in preferred patterns.

Designs could also detect and discretely vitiate specific subtle vacuums chain-reacting into large xjvacuums and thereby holding certain transforming systems on socially deleterious courses.

"How much more powerful is the minuscule ship's rudder when in good order than a squadron of ships trying to move a rudderless ship in a heaving sea by attempting to push the rudderless one with their plunging bows in preferred directions as do tugs maneuver a big ship in still water when the ship is moving too slowly to have steerage way! AZo how futile are shouted words of warning and exhortations in such situations! Only the rudder and the brain that directs the rudder are effective. No wonder Norbert Wiener included the Greek name for rudder in coining his 'cybernetics' to identify the newly emergent computer's

- Cite NEW FORKS VS. REFORMS, WDSU Doc 1, P.53, 1963

ruddering feqce: (5)

"feedback system science. No wonder the early Egyptian and Greek shipmasters stood in the stern of their ships facing forwardly alongside the single-oar-steering slave as the crew of backwards-facing slaves tensed at the banks of vacuum fulcrumed oars. Here is the picture of society straining at its slavishly accepted work, backing up blindly into its future as an,often nearsighted, excursion captain cons the course.

"My philosophy also takes heed of the approximately unlimited ratio of length to girth of tensional controls which always tend to pull true, versus the very limited lengthXto-irth ratio of pushing devices which, when pushed, tend to tanste bend and break.

(o)TyRj "Philosophically it is clear that trim tabsn the trailing edges of trailing devices--- in the tail-end of tail-end events--- at the stern of the ship as the last event and not at the bow as the first event. The bow is important to keep the ship on a chosen course but the stern rudder puts and holds it on the chosen courses. The real steering takes place when the non-scientifically informed observer thinks

__ Cite NEW FORMS VS. REFORMS, WDSO Doc. #1

"everything is all over. But that final steering has to be done from 'on board,' Just *having the last word* from way back in the wake of the ship is futile. Scientists have often said that the most important part of their great discoveries occurred at the outset in the proper formulation of the project's objectives, forgetting that those enlightened formulations were really the afterimage inducements of tail-end events of earlier and seeming failures of experimentation."

- Cite NEW FORMS VS. REFORMS, WDSO Doc. #1, p.53, 1963

See Cybernetics

Trim Tab

Servomechanism

Zigzag: Right-left: Halfway Averaging

See Omnimedia Transport Sequence, (J) Feedback, 7 Nov*75

Ruler:

(1}

See Straightedge

See Resolution, 5 Jul'62

RULES

"At this time I developed a thought which has been very powerful in my theory of communication ever since. I said, 'I don't care if I am not understood as long as I am not misunderstood. For if I am misunderstood the captain of a ship may do the wrong thing with fatal consequences, but if he does not understand me, he queries the message and you give it to him again until he gets it right.' This principle became absolutely fundamental in my life from then on."

- Cite RBF to Alden Hatch in "RBF: At Home in the Universe," p.65. From Hatch's 1972 tape recapitulating RBF formulation of 1918.

Rule of Communication:

"I made up my mind as a Rule of Communication that I wouldn't care if I was not understood — so long as I was not misunderstood."

- RBF to EJA and assembled company, Carbondale, Illinois 2 April 1971.

See also Intro, to Gene Youngblood

Rule of Communication:

See Misunderstanding, i.e., Being Misunderstood

Rule of Communication:

See Comprehension, Sep*72

(2)

Rules of Interval:

(1)

See Orbiting Magnitudes

Vertexal Connections; Rules of Never-quite-touching

Rule of Interval:

See Coherence, 10 Feb*73

Rule of Operational Procedure:

See Whole System, 28 May*72

See Coherence, 10 Feb*73

See Vertxal Connections: Rules of Never-quite-touching

See Coherence, 10 Feb'73

"It is not an either/or condition if it is as much as is permitted by the rules of Universe." ⁷

- Citation and context at Degrees of Freedom, 9 Dec*73

See Individuality & Degrees of Freedom, (4) Fuller, R.B: On Drinking Liquor, 22 Jun*77

See Technology, 13 Mar'73

See Rule of Communication

Rules of Interval

Rules of No Actual Particulate Solids

Rules of Never-quite-touching

Rules of Operational Procedure

Rules of Universe

See Realm

Religion: Related to "Religion" or Rule

cf. igwranct:

See Problem: Statement Of, reb'72

RjIUU:

See Soviet

USSR

S

S:

See Structuralism in Language, 1 Feb '75

S Quanta Module:

"When the Icosahedron is extracted from the octahedron the remaining corners fractionate into 24 S Modules."

- Cite RBF to EJA, by telephone from Philadelphia; 3 Oct*77

s Quanta Module:

See T Quanta Module

S Quanta Module?

"The A And B Quanta Modules also have their volumetric counterparts in the nonnucleated icosahedron in the form of the 5 Quanta Modules—each of which is 1/120th tetrahedron of which the triacontrahedron is composed. This makes the S Quanta Modules probable electron complements of the nucleated system-halvings fractionated 459 times, i.e., $4 \times 459 = 1836$."

- Citation for context at MI tee for Quarks as Basic H₀tej. (1)| 4 Jun'77

S Quanta Module:

si 00.322 sWO.105

sTable 987.121

8987.413

3987.988.00-112

S-Curre:

"Our S-curve is a very interesting kind of form. I have two S-curves and one could get in a critical proximity at one end and we would call it a triangle* . . We know triangles can be open-ended, as there has never been a closed triangle; it has always been a spiral"

"The middle positive sector of the S-curve is opposite the middle negative vector, each with its axis rotated at 90° from the other by inter-precession."

- Cite Nasa Speech, pp.53+56, Jun'66

See Z Cobras

See Yin-yang, (2) Propeller, Dec'71

S1* S1g»

See Architectural Aesthetics: Six S

StfttT frttan

. The big geodesic dome thus far erected have been way overbuilt by many times their logically desirable MHK b two-to-one safety factor.

"While the building business uses safety factors of four, five or six-to-one, aircraft-building employs only two-to-one or even less because it knows what it is doing. The greater the ignorance in the art, the greater the safety factor that must be applied. And the greater the safety factor, the greater the redundancy and the less the freedom of load distribution.*

- Cite SYNERGETICS draft at Secs. 703.07 +.0S, 25 Sep'72

SantY Factor-

See Fail-safe: Fall-safe Advantage

Saffttr ValYg:

See Dome: Rationale For (III)

Safety?

See Scaffolding, 20 Apr*72

Salting with the wind* Sailing into the wind:

See Social Sciences: Analogue to Physical 11)12)

Sciencee

Sailing Ship: Sailboats:

(1)

See Geodesic Spinnaker

Intuition: RBF Sailing Yacht "Intuition Water: Trend toward Living
on Water Boats**

Fleet of Sailboats

Beating to Windward

See Pull, 2 Jul'62 Octahedron: Kighth-octahedra, (2)-(4)

See Engineer-eaint

Sa Imon ?

See Social Breakout from Barnacle to Salmon

Salvation va. Sair-dlaelnllna.-

See Macro-micro, 1964

Sameness:

See Aesthetics of Uniformity, llay'28

Sand :

See Sixty Degreeneee, 1965

Se« Earth at a Sandwich

Sanity:

See Hunan Beings & Complex Universe, (4)

Santa Sophiat

See Pneumatic Structures, (3)

Saran:

Seo Hex-pent Sphere: Transformation into Geodesic Spiral Tube, (2)

Satellite-linked ComDUtera:

See Cosmic Accounting, 20 Sep'76

See Floating City Space Structures Habitable Satellites

See Balloon. (2J

Teneegrityi Unlimited Frequency of Geodesic Tensegritie, (1)

Satellite: Teleecopee mounted on around-Earth, fixedly-

See Twenty-foot Earth Globe k. 200-foot Celestial Sphere, (1)(2)

”With omnidirectional complex computerised world satellite sensing, comprehensive resources inventorying and interrouting, the triangular geodesics transformational projection can alone bring visual comprehending and schematic network elucidation.”

- Citation and context at Bi«nt»4&e.t arth__Slob» and 200-Foot Pdlmlfil SjtoEg (11), 25 Jan'73

See Communications Satellites Habitable Satellites Space Structures
Telemation: Satellite-relayed

See Sovereignty, (20

Planetary Democracy, (6)(7)

Communications Hierarchy, (3)

Satisfaction:

See Performance: Equation Of

See Inventlone as Lifeways of Hunan Behaviors. 1965

Life, 22 Apr'68

Performance Per Pound, 30 Apr'74

Survival, May*6\$

See Creativity, May'65

Sariata ^Atmnt:

See Energy Capital Energy Savings Account

Savings;

"During each one-second heartbeat of time humans were making and 'saving'¹ \$1 net. They were in fact saving memories of experiences, which ever multiply, from which accumulate metaphysical know-how that has never been entered into the ledgers of world-wealth accounting..."

(Adapted)

- Citation and context at Gross World Product Sequence (1), 13 Mar'73

Scaffolding:

"I like to give you components to go out into the field where no man has to wait for any other man to help him--- where any part ought to be so light that one man has the other hand free to fasten it into place. You must do things in such a way that nobody is going to get hurt.

Make it possible then to work from the ground up. You make a structure where you keep climbing on. to it and adding to it--- being absolutely safe in making its own scaffolding.

- Cite Univ, of Alaska Address, p.J9, 20 Apr '72

See Cube as Scaffold Four-square Scaffold

See Pyramid Technology, Dec¹71

See Uniform Boundary Scale Chords 4 Notes

So# Invisibility **ot** Macro- and Micro- Resolutions, (1)

See Proton & Neutron, (p.1J4) May ` 72 Semisymmetry, 15 Oct¹72 Dynamic Symmetry, (1)(2)

Scan-transmission of Pattern Integrity:

Q. "What is the connection between synergetics and teleportation?"

RBF: I know of no connection between such phenomena and synergetics. Synergetics is a frame of reference for the intotransformings—I don't connect it with the metaphysical. We can identify synergetics with the electromagnetic wave propagation and that may turn out to have something to do with the physical...It's a good Question. No, since I don't use 'good' or 'bad', we'll say an interesting Question.

"We can scan. We have pattern integrities. The patterns can be recognized. You might be scannable like the Broadway electric light signs—in which each of the closest packed spheres might be a lightable light. It might scan your organisms but I wouldn't expect the physical body to be moved— Just the events."

- Cite RBF in reply to question by Dr. Michael Bruwer at 'World (lame Workshop'??; Phila., PA; 22 Jun'77

Scan-transmission of Pattern Integrity:

See Electromagnetic Transmission: Subjective k Conscious

Atomic Computer Complex

Billboard Model

Pattern Processing Machines

Man: Interstellar Transmission of Man Information Control System

See Electromagnetic Transmission Billboard Model

Scarcity:

"We have millions of people who no longer have anything to do on farms. We keep plowing it under. We run only eight hours on the machinery instead of 24, when it could perfectly well run 24 hours. We are doing everything we can to keep scarcity because the only thing

we are familiar with is scarcity. I simply say to you that we're in an absolutely inadequate accounting system, which did relate to yesterday's agricultural perishability. The agricultural did automatically depreciate. We are now in an entirely new economy where the wealth consists of energy, the metaphysical and the physical. . . . They are not on the books of any of the corporations anywhere."

- Cite RBF at DSI Press Conference, p.9, 28 Jun'72

Scarcity:

"All economics is committed to a fundamental formula of scarcity--- even to the point where it may be necessary to invent scarcity."

- Cite *RBF* to Henry Liberman, *NY Times*, 22 Jun'72

Scarcity:

"Scarcity, the fundamental thesis of all our statecraft, is invalid.¹

- Cite RBF at Corcoran Gallery Address, Washington, DC, 23 Feb '72

"It is very logical that man should fight to the death when he thinks that there's not enough to go around. In a fire, he loses all reason, goes mad, and tramples his fellow men to death as he competes for air. It is also very logical that man won't fight when he knows there's enough to go around. It is logical. It is logical. It is logical."

- Cite **I SEEM TO BE A VERB**, *Queen*, May »70

"We are not educated fast enough to realize that scientists could bring us enough to go around."

- Citation and context at World Game (II), 25 Feb'69

SslESllX: jto.k B.IWMh W re_ *£Samd:

See Design Revolution: Pulling the Bottom Up Earning a Living Inadequacy of Life Support Making the World Work Resource Inadequacy Watergate You or Me

Hainan Tolerance Limits

See Design Science. S May'71

Fuller. R.B: Crisis of 1927 (1)

Nonproduction 12 Jun'69

Politics (1 H2)

World Game (II j *

Thinking, 10 Dec*73

Young World (1)(2)

War, 13 Dec'73

Lying, 22 Jan'75

Humane City, (2)(3)

Doing What Needs to Be Done, (2)

Selfishness, 20 Sep'76

”77(”1 (,21

No Energy Crisis, (2)

Man as a Function of Universe, 30 Apr'78

Scarcity: EccnomY of Scarcity:

See Economic Accounting System, 29 Jun'72 Marx. Karl, 7 Aug'70
Obsolescence, Apr'72 Political Kevolutlon, 10 Oct'73 Politics, 4
Jan'70 World Game, III)

Scarcity as an Invention:

See Economics, 22 Jun*72

Seavaga: Scavaring:

See Self-scavebgirig

Scenario:

Q. How can an event be a finite energy package?

RBF: "Say quanta instead of package. Events discontinue.

Scenarios stop and go. The continually flowing reality is not end-to-end but a partially overlapping continuity.

- Cite RBF in videotaping session, Philadelphia, Pa., 1 Feb'75

Scenario

"Yesterdays and now

Are neither simultaneous

Nor mirror-imaged;

But through them run themes

As overlapping! woven threads, Which though multiply individualized Sum-totally comprise a scenario."

Scenario;

"In scenarios you have to have a pretty long sequence run in order to get any clue at all to what is going on.

You cannot learn what it is all about from a single picture. You cannot understand life without much experience.

- Cite Museums Keynote Address Denver, p. 10.2 Jun'71

c/re Stoft&vcs-* Scevmfo See

RBF DEFINITIONS

Scenario:

"We can clarify the accurate but formidably complex definition of scenario Universe, A moving picture scenario is an aggregate of nonsimultaneous and only partially overlapping events. One single picture--one 'frame*' --- does not tell the story. The single picture of a caterpillar does not tell or imply the transformation of the creature first into the chrysalis stage and much later into the butterfly phase of its life.

"When people say of Universe, »I wonder what is outside of outside?' they are trying to conjure a unitary conception and are asking for a single picture of an infinitely transforming nonsimultaneous scenario. Therefore their question is not only unanswerable but unrealistic and indicates that they have not listened seriously to Einstein and are only disclosing their ignorance of its significance when they boastfully tell you that the speed of light is 186,000 miles per second."

- Cite WHAT QUALITY ENVIRONMENT, 24 Apr'6?

Scenario:

"An aggregate of non-simultaneous

And partially overlapping

Ever coalexedly transforming experience. Is an evolutionary sequence Which is defined as a scenario.

"The totality of experience

Which is scenario Universe

As a serially transformative cognition

Of individually different

And scenically static individual pictures, Conceptual frames,

Is inherently non-unitarily Or momentarily conceptual."

- Cite RBF Draft, BRAIN 4 KIND, pencil 1970

See Children as Only Pure Sciente Goldilocks

(2)

Scenario of the Child:

See Six Motion Freedoms & Degree® of Freedom, (1)-(6)

See Pendulum Model va. Scenario Model

Scenario Model:

(2)

See Truth, 10 Nov*72

Sgffl»rl9 Principle

"I have found a general law of total synergetical structuring which we may call the scenario principle. This law discloses that 'Universe*' of total man experience may not be simultaneously recollected and re-considered but may be subdivided into a plurality of locally tunable event foci or 'points' of which a minimum of four positive and four negative points are required as a 'considerable set'; that is, as a first finite subdivision of finite Universe."

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, p.125, 1959;
the above passage described the general law as "The Law of Structure," the same title given to a second law on the same page. To anticipate SYNERGETICS the caption was changed to "Scenario Principle" in the 1971 Doubleday edition of NO MORE SECONDHAND GbD with approval of RBF.---EJA.

Scenario vs. Absolute Symmetry;

"Symmetry is systemic. Symmetry has nothing to do with the scenario series; it has nothing to do with local, special caso realizations. You can find balances in series---positive and negative energies---but absolute symmetry is characteristic only of generalized systems."

(Sec. 532.17)

- Citation in context at Symmetry k A symmetry_f 11 Dec*75

Pfigiwrl? UniYflrpfl:

"Universe is a scenario. Scenario Universe is the finite but nonunitarily conceptual aggregate of only partially overlapping and communicated experiences of humanity.

"Uni-verse is a momentarily glimpsed, special case, systemic episode takeout.

"When we start synergetically with wholes we have to deal with the scenario within which we discover episodes---like the frog the snake is swallowing.

"Time is only now. Time and space are always special case asymmetric episodes of now whose systemic aberrations are referenced to the cosmic hierarchy of primitive and symmetrical geometries through which they pulsate actively and passively but at which they never stop. The rest of Scenario Universe is shapeless: untuned-in."

- Cite RUF rewrite of 19 Jul*76; incorporate in SYNERGETICS, 2nd. Ed. at Sec. 321.04 and 321.05. ~

Scenario Universe: "Universe is a scenario. Uni-verse is a static take-out. . . what we do when we start with wholes. When we start with wholes we have to deal with the scenario---like the frog the snake was swallowing.

"Time is only now. Time and space and VHF/B special case are now, as referenced to the cosmic hierarchy of geometries through which they pulsate and never stop. The rest is shapeless: not tuned in."

- Cite RBF to EJA, 3200 Idaho, Wash. DC: 18 Jul'76

Scenario Universe:

"We are dealing with the Universe and the difference between conceptual thought (see Systems) and nonunitarily conceptual Universe (see Scenario Universe). We cannot make a model of the latter but we can show it as a scenario of conceptual frames."

4-81007.21)

- Cite RBF rewrite of SYNERGETICS, 2nd. Ed. at Sec. 1007.21 18 Sep'74

Scenario Universe:

"... The integrity of Scenario Universe's

Never exactly identical recyclings.*'

__ Citation and Context at Metaphysical, p.152 May <72

Scenario Universe:

"Einstein started Holistically

With the concept of Scenario Universe As an aggregate

Of nonsimultaneous, Complexedly frequencied. And only partially overlapping Ever and everywhere

Methodically intertransforming events «/high conceptioning

Is superbly illustrated by an evening Of overlappingly frequenced fireworks."

- CixozIJffJITION, p.4«-*fay »72
- Citation &. context at Fireworks (1), May* 72

KBF UtFINITIUNO

Scenario Universe:

"The definition of Universe as a Scenario of nonsimultaneous and only partially overlapping events, all the physical components of which are ever transforming, and all the generalised metaphysical discoveries of which ever clarify more economically as eternally changeless."

- Citation at Metaphysical Ic, Physical. 26 Jan'72
- ~~giXU-JBFaaTgrnafigy~~- 26 Jan ¹, incorporated in SYNERGETICS

draft TctrSec. 251.17, Feb *72.

Scenario Universe:

"... the cosmically eternal totality
Of interminable Scenario Universe."

- Citation & context at Entropy. Jan'72
- ITjyj, AHO1HU) OPACE-

Scenario Universe:

"Beginningless and endless scenario Universe

With its vast frequency ranges

Of omni-interpulsative

Yes-no, give-and-take

Radial expansions and circumferential contractions."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH, Jan.

*72.

Scenario Universe;

**"The Universe can only be thought of competently In terms of a great
unending but finite scenario whose as-yet unfilled film strip is con-
stantly self-regenerating."**

- Cite Museums Keynote Address Denver, p. 10. 2 Jun'?1

- *Sec. 311.*)]

scenario UnlYWW

**"Einstein's adoption aa normal speed, the adoption of electromag-
netic radiation expansion-- omnidirectionally in vacuo--- because
the speeds of all the known different phases of measured radiation
are apparently identical, despite vast differences in wavelength
and frequencies, suggests a top speed of omnidirectional entropic**

disorder increase accommodation at which radiant speed reaches highest velocity when the last of the eternally regenerative universe cyclic frequencies of multibillions of years have been accommodated, all of which complex of nonsimultaneous transforming multivari- etied frequency synchronisations is complementarily balanced to equate as zero by the sum-totality of locally converging orderly and synchronously concentrating energy phases of scenario universe's eternally pulsative and only sum-totally synchronous, disintegrative, divergent, omnidirectionally exporting and only sum-totally syn- chronous integrative, convergent and discretely directional individual importings."

- Cite RDF to EJA in response to a request to repeat his •brief sen- tence* on the sphere as a meeting of conveyances.

See SYNERGETICS draft, 'Tenslon and Compression,' Sec. 614 • 08 •

Scenario Universe:

"The Heisenberg Indeterminism implies eternity to be persistent within the physical and metaphysical everevolving continuity-finifiess of scenario Universe, in which the myriads of nonsimultaneously shaken kaleidoscopes are never either simultaneous or identically repetitious."

- Citation and context at Measurement Dec *69

Scenario Universe?

"In the endless, but finite and never exactly repeating (Heisenberged) 'filo strip' scenario of Evolutionary Universe after the film strip has been projected it goes through a 'molten' phase and congeals again to receive the ever latest self-intertransforming patterning just before being agAin projected. The rate of change and numbers of special

case self-retransfonnings of physical evolution tend ever to accelerate, differentiate and multiply; while the rate of change and numbers of self-remodifyings of generalised law conceptionings of metaphysical evolution tend ever to decelerate, simplify, consolidate and ultimately unify,"

- ettv-Generalized Theory of DCglgn, p. 2,
- Citation at Metaphysical. 22 Apr'66

see Mhgi© U vivE/fSE

Scenario UnYerae va. ^BU ^Bang Theory:

See Black Holes & Synergetics, 1 Mar*77

Scenario Universe: Physical Evolution Scenario?

(Mind enables humans to discover and employ generalized principles broughtfrom Eternal Universe...)

"Brought into

Time and energy synchronized consciousness

Of the physical evolution scenario. . . "

- Citation and context at —1 Drain fc Mind

See Afterimage

Brain's TV Studio Continuous Man Nonunitarily Conceptual Moving Pictures Conservation of Scenario Universe Universe as a Kaleidoscope Serial Universe Overlapping

Sctiwls unlyerag:

See Allspace Filling 2 Nov'72 A Priori Intellect. (1) Communication, Oct'70 Conceptuality, 1965 ; 22 Oct'72 Education, May'72 Einstein, 23 May'72 Entropy, Jan'72* Fireworks, (1)* Future of Synergetics, 23 Dec'68 Key-Keyhole Sequence, (2) Measurement, (1) Metaphysical,

May'72*; 22 Apr'68* Metaphysical &. Physical, 26 Jan'72* Motion, 4
Mar'69 Omniinteraccommodation May'72 Spherical Field, Aug'7i In-
visible Tetrahedron. 13 Nov'69 Time-sizing 13 Nov'iS '72 Two Kinds
of Twoness, (B) Vacuum, 19 Feb'72

(2A)M

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(2B)

See Spheres &. Spaces, 14 May*75

Words It, Coping. 7 Nov'75

Space, 9 Feb'/o

Tunability, 24 Apr'?6

Human Beings t Complex Universe, (4) (5)

See Afterimage Allspace Filling • Scenario Brain'e TV Studio
Continuity-finiteness Finite Eevent Scenario Improve the Sce-
nario Moving Picture Continuity Overlapping Model vs. Scenario
Periodic-continuity Pre-Scenario System vs. Scenario Visual Sym-
phony

See Packaged, Jun'66

We-Me Awareness, 31 May*74

World Game: Grand Strategy, 2 Jun'74 Tetraecroll, (1)

Scenery; Rearrange the Scenery?

See Rearrange

Scenery:

See Finite Event Scenario, 23 Jan'77

Scheherazade Number:

"I think the Arabaian prlest-mathematiciana and their Indian ocean navigator ancestors knew that the binomial effect of 1001 upon the first four prime numbers 1,2,3, and 5, did indeed provide comprehensive quotient accommodation of all the permutative possibilities of all the possible 'story- telling-taling-ta Hying, ' or computational systems of the octave system of integers,.Suffice it to say that the functions of the Grand Vizier to the ruler was that of the mathematical wizard, the wix of wiZdom; and the wiz-arda kept their mathematical navi/tional ability to go to faraway strange places and to bring back strange miracle objects, was here involved."

- Cite SYNERGETICS draft at Sec. 18 Jul»72

Scheherazade Number;

"It is probable that this fifth power comprehensive quotient number can also accommodate all the interpermutations of all atomic structuring (stable integration) or destructuring (unstable disintegration)."

- Cite SINERGETICS text at Sec. t2TGj©z; 16 Jul»72

Scheheraxade Number:

"The Scheheraxade Number ie the product of three prime numbers:
 $7 \times 11 \times 13 > 1001$.

"1001 x 1001 - 1002001." It is palindromic.

- Cite RBF to BJA, Beverly Hotel, NYC, 22 Jun"72

SsMtWrasMt Number: Geometrical Manifestations:

M-JiLfH Hfawil 1-low - Manifest in the spherical Octahedron.

tejiL 111 Ins - Manifest in the vector equilibrium

Schehoraxadfi Numborn- Declining Powers Of:

"Hie reoccurrence of the prime number two Is very frequent.

The number of operational occasions in which we need the prime number 43 is very less frequent than the occasions in which the prime numbers 2, 3, 5, and 11 occur. This Scheherazade Number provides an abundance of repowerings of the lesser prime numbers characterising the topological and vectorial aspects of synergetics' hierarchy of prime systems and their seven prime unique symmetrical aspects (see Sec. 1040) adequate to take care of all the topological and trigonometric computations and permutations governing all the associations and disassociations of the atoms."

"We find that we can get along without multi repowerings after the second repowering of the prime number 17. The prime number 17 is all that is needed to accommodate both the positive and negative octave systems and their additional zero-nineness.

You have to have the zero-nine to accommodate the noninterfered passage between octave waves by waves of the same frequency."

- Cite SYNERGETICS, 2nd. Ed. at Secs. 1238.41-.42, 22 July'75

Scheherazade Numbers: Declining Powers Of:

- Ky intuition about the declining powers of the primes factorial is that they reflect the way the patterns appear in nature. From my early hand and pencil calculations it is clear that you have to use the prime number five and the prime number three more often in your calculations than you use the higher number primes. And you use the three more than you would the five. Hence 3 to the 8th power and 5 to the 5th power to work out all the possible nuances within the 45-degree limit. This might be the pattern of reducing from Universe in a binary way.

"The higher powers for the first primes are to accommodate the very large numbers of calculations necessary to come up really sharp! You have tetra • 1; and octa □ 2; and 5 is both the vector equilibrium and the icosahedron. This relates to the rate at which the outer shells ac-

cumulate: the prime number times two plus two. By providing enough moves for each of the low number primes you should be able to work it out by biting with sharp results. Such a discrete method would be more elegant than a probability approach

- Cite RBF to EJA by telephone from Miami, 17 Mar¹75

Nunberg: Declining Powers Of:

Q: (EJA) In the factorial crimes of the Scheherazade Numbers why do you have high, but declining, powers in the first primes and no powers in the higher primes at the end of the series?

RBF: "Well the reoccurrence of the number two is very

frequent. We have to provide a lot of powers for 3, 5, and 7 to take care of all the computations and permutations.

But the number of times you need 43 is very low compared to the number of times you need the number 11. The powering really stops at 17, which is all you need to accommodate the octave system from 0 through 9. You have the zero to accommodate the waves. But 17 gives you all the primes up to Ifi which accommodates the two nines."

— Incorporated in SYNERGETICS 2nd. Edition draft at Sec.

• lit.MI) Cite RBF to EJA in videotaping session, Philadelphia, PA, 1 Feb*75

REF DEFINITIONS Scheherazade Numbers: Declining Powers Of:

$_{H1}nth_2^{12th} 3^{8th} 5^{5th} 7^{4th} n^{3rd} i3^{3rd} 17^{2d}$

This descending order of powers embraces the first eight primes (seven positive and seven negative primes.) These represent the spaces between the spheres.

"These powers have to do with the number nucleations required to accommodate 17. Seventeen is the outer shell. There are seven different magnitudes of powers involved.

"45° is the limit."

(Above relates to Ten-ill ion SSRCD--- which did not survive in SYN-ERgETOCS : It is

43,521,045,268,603,838,698,691,521,290,000)

- Cite RBF to EJA, Beverly Hotel, NY, 22 June*72

Schaherarde Numbers:

See SSRCD

Scheme of Behavioral Reference:

See Sterne of Reference, 24 Sep*73; 26 Sep'73

"Conceptual systems like that of the vector equilibrium are subside and pretime and yet provide a schematic of the constant interrelationship of all the principles involved which may be treated mathematically as topology.' "

. Citation k context at Synergetic va. Model (D), 10 Sep'74

Sclww of Rtfsrcngc:

"'Multioptioned, omniorderly scheme of behavioral reference.'

That's what we should say instead of 'frame of reference.'"

- Cite RBF to EJA, 3200 Idaho, DC, 26 Sep'73

Scheme of Reference:

"I do not like the word frame. What we are talking about ia the multi-optioned omni-orderly echeme of behavioral reference: simply the most economic pattern of evolvement. Pattern of evolvement haa many, many equieconomical intertransformability options. There

are many transformation patterns, but tetrahedron is the absolute minimum limit case of structural system interself-stabilizing. A tetrahedron is an omnitriangulated, four-entitf, six-vector interrelationship with system-defining insideness and outsideness independent of size; it is not a rigid frame and can be ny size. 'Rigid*' means 'sized' --- arbitrarily sized. 'Rigid' is always special case. Synergetics is sizeless generalization."

Scheme of Reference;

"Synergetics ie not a frame at all but a pattern of most omnieconomic (ergo, spontaneous) interaccommodation of all observed self-and-otherness interexperiencing (ergo, geodesic--- geodesic being the most economical interrelationships of a plurality of events)."

Scheme of Reference: Schemata: Scheme:

See Field

Frame of Reference

Frame of Reference: Six Schemata

See Equilibrium & Disequilibrium, (1)(2)

SghQlardilpgJ

Sa® Fallowaips

See Education

Kindergarten

Teaching

Schoai: PchQQlro<in'

See Fuller, R,B: Moratorium on Speech, (1)

See Cosmic flah, 8 Feb'73

S<?oql£Ogffl:

"The least favorable environment for study is the schoolroom and closely-packed desk prisons. The real schoolhouse is in the home and outdoors."

- Cite I SEEM TO BE A VERB, Bantam, 1970

See Study, May'70

See Architectural Schools Education Learning University

See Self-education, 1974 Convergence & Divergence, 1 May'77

Science:

"Science begins with the awareness of the absolute mystery of Universe."

- Cite RBF in Barry Farrell Playboy Interview, 1972 - Draft, p. 21.

Science;

"Science identifies as subjective and objective, respectively the inadvertently experienced stimulations of life, on the one hand, and the deliberately initiated and experimentally instituted responses to the subjective stimulations..,"

- Citation and context at Subjective and Objective, 14 Sep'71

Science:

"Experience is the raw material of science."

Tnwtr York

1*=?scccn=497r

- Citation at Experience,. 12 Mar'71

See Q&A:

'•Everything that constitutes science Is unteachable.

And we recall that

Eddington said: 'Science Is the earnest attempt Of individual initiative
To set in order

The facts of experience.'

Scientific routines for specialized technicians And scientific formulas
for their reference Alone are teachable.'

- Cite HIM LITT Lt. I KNOrf, Oct. '6b, p. 65

Science:

"Science la metaphysical.

"My definition of universe embraces both the physical and the meta-
physical, the latter being all the weightless experianees of thought
which include all the mathematics and theta organization of the data
regarding all physical experiments, science, both first and last, being
metaphysical.

- Cite DOXIADIS, P. 309> 20 Jun»66

Science:

"Many years ago I developed a system of question asking in which I
ruled that I must always answer the questions from experience. My
answers musiot be based on hearsays, beliefs, axioms, or seeming
self-evidence.

"It has been part of my experience that there are others who, while
experiencing what I was experiencing, were able to describe what
we mutually were experiencing equally, well, or better than I could.
Therefore, my experience taught me that I could trust the reporting
of some others as reliable data to be included in my 'answering' re-
sources. For instance, I could include the experimentally derived data
of scientists."

- Cite NASA Speech, p. 31 f Jun'66

Science:

"Science has always been a complex of independent and subjective economic slave disciplines, primarily concerned with the harvesting of information, rather than with the practical application of that information."

- Citation and context at Space Technology (6) , 10 Oct'6j

Science;

(1)

"The function of science is to prospect for total society by taking the universe apart, that is. resolve it into primary factors and elements by progressive Isolation and subsequently to obtain precise measurements of the behavior characteristics of the isolated events or components.

"For example, science isolated the phenomenon fire from extraneous factors, and by isolating the constituent events and the product of events discovered that fire is not in itself an element but an accelerated combining process of a newly recognised primary element, that is, oxygen, combining with carbohydrates in ever-constant arithmetical proportion. Thus the isolation of the fire caused the subsequent isolation, recognition and naming of the new elements oxygen and hydrogen, and provided behavior measurements of the latter, by which man could predict events of combustion in such a way as to make combustion an accurate tool of technical advantage.

- Cite DESIGN FOR SURVIVAL, I&I, pp.188-189, Jan'49

Science: (2)

As water and vapor are H₂O events, the comprehensive event was a precise mathematical process. This was the beginning of purposefully produced steam as a tool. The steam engine was a victory of chemical science, not of mechanics as we have popularly supposed. However the functions of science ended with the separating out of the newly discovered elements from the universal matrix and with the measurement of the unique behavior characteristics of the respective elements (it being the unique behavior that constitutes elementality). It is readily seen that the present invocation of science to put together again the world it has taken apart, is futile in principle. Summarizing, it is the essential function of science to take the Universe apart and measure the parts and sort them into usable categories. The functioning of science is exclusive.^{1}

- Cite DESIGN FOR SURVIVAL, Itl, pp.188-189, Jan'49

Science:

"Unlike inventions, pure science events are absolute and irrevocable.

Pure science events represent openings of windows through the walls of ignorance and fiction, to reveal the only reality: c

the behavior of the naked • universe that always was, is, and will be True it is that the first glimpses may be hazy and imperfect, r but the behavior itself is absolute and is progressively clarified. Therefore, this comprehensive curve of the chronological rate of acquisition of knowledge concerning the pure science absolutes separated out from all other events of history may be inspected as the basic means of prediction of inherent technical and social events--- immediate or somewhat distant."

- Cite Part II of Earth, Inc.

Fuller Research Foundation

Yellow paper draft, p. 7

1947

Science:

"Science works equally well

under private or public subsidy ..."

while "industry is the pure product of free enterprise, imagination and personal risk of the individual or small groups of individuals."

~~- -Cite Part II, Earth.---~~S. Puller-Research Foundation

Triiinw i.Hii H iniii.nii A

- Citation at Industrialisation, 1947

Science;

"Science has hooked up the everyday economic plumbing to the coemie reservoir ... ¹²¹

"Science continually does more with less each time it obsoletes and scraps old Inventions."

- Cite Part II., Earth, Inc.

Fuller Research Foundation

Yellow typescript, p. 10, 1947

"Science really hasn't done anything about looking out for man. Science has found out how to make great explosives and great guns calibrated with little control instruments so any ignoramus could learn to fire it and hit pretty well in a couple of days experience. But science didn't have to do /until the space age_7

anything about the man/because the air was waiting there to be breathed and water was pretty handy. . . going out into space for the first time you have to really know what a man needs."

- Cite RBF taping CHARAS Script

14 March 1971

"I figure that when the environments scientifically conceived and rendered, that the human occupants can then divest themselves of the necessity of onerous and puritanic hardship of conduct and yet accomplish successful and happy living in naturally engendered sanity."

(N.B. Christopher Morley's phrase for the Dymaxion philosophy was "Pleading the cause of Science for Man.")

Cite extract from RBF writings submitted by KJA IM to Morley --- Wichita, Kansas 1946

Sciences? Comprehensive Integration or the Sciences:

. The vastly increasing genetic knowledge and the omni-integration at the virology level of cross discipline teams of physicists, geneticists, chemists, biologists, mathematicians, each and any one of whom may broaden the scope of his interests to include all or some of the others logic."

- Cite HIPER, World Hag., 4 Apr 73

Science: Comprehensive Integration of the Sciences:

"Many scientists of Darwin's time felt there were many parts and aspects of the Universe which had nothing to do scientifically with other parts of the Universe. In contrast to that century-ago viewpoint, the overlap of the once separate sciences now is so great that, for instance, both chemists and physicists are now primarily concerned with atoms. World War II witnessed the introduction of hyphens between the scientific categories--- bio-chemistry, for example. Now the trend to comprehensive integration is far advanced. • .

""The trend to specialization is being abruptly reversed. We are coming to a comprehensive reintegration of our knowledge. That is why suddenly the most advanced scientists are becoming comprehensivists. This will overnight make obsolete 90 percent of the overspecialized professional teachers."

- Cite RBF in AAUW Journal, p. 175, May *65

sclsuw QRBfllhcnolYg. InternUm Qf vho ScIcasflfl:

"Scientists, having developed double names for their overlapping work (biochemistry, biophysics, etc.), are now finding their total field interconnected and unitary. This is a general trend of science. And so many scientists are now being educated that it may be forecasted □ that within the next half century, not only all science but much of what educated society will have come naturally through its own explorations and experiences to discover the comprehensive order of the Universe."

- Citation and context at Einstein; Cosmic Religious Sense, b), 19 Sep'64

See Hyphenated Sciences

See Twenty Questions, (2)

Science: "Foreign-hieroglyphicking" Science:

See Tetrahedral Coordination of Nature, 1965

"There is excitement in the air as we undertake this last phase of a fifty-year search for the re-bridging of the gap between Science and the Humanities--- created when science, abandoning fundamental conceptual modeling, started a century ago to 'fly' exclusively 'on instruments.' We have, I am confident, the new conceptual bridge between the sciences and the humanities. Because the instrument-

and mathematical- symbol-conditioned world of science has great momentum and competence in 'blind flight,' it is not going to take quickly to our new tools--- so you are the bridge builder from me to the rest of science.

"I would like you to say what I say--- in my explorer's halfcentury-developed, experimentally formulated language--- to the scientists, in their language. Our terms often coincide but are ambiguous and, at times, contradictory. I think you can easily smooth out the differences.

"I am confident that I can talk lucidly to the public and particularly to the young world. I know that you and I can talk lucidly to one another. I am therefore confident that"

- Cite RBF Ltr. to Dr. phur Loeb, 6 Jan'67

Science: Gap Between Science and the Humanities: (2)

"we have not only discovered the comprehensive, omnirational, omni-intertransforming coordinate system most economically employed by physical energy Universe, but also that we have developed a communications relay system of high integrity with which most effectively to speed the realization by society of the advanatges accruing to the rewedding of the Sciences and Humanities which, Lord Snow agreed with me. is accomplishable by our Synergetics and its omniconceptuality.*

- Cite RBF Ltr. to Dr. Arthur Loeb, 6 Jan'67

Gap Between Science & the Humanities:

"rfith the return to valid, rationally computable conceptuality of nature's dynamic formulating, there returns to literary man the ability to re-establish the communication integrity of science and world society, ihe rate of re-establishment of conceptual comprehension of sci-

entific frontienng and its technical, ergo economic, ergo practical significance, will be painfully slow to those who now have discovered nature's sublimely rational comprehensibility, it may take a whole new generation but that is an historically short period for so vital a recovery from world society's present intellectual comprehension tail-spinning."

- Cite KEPEb, p. 01, 1965

"... There has been the thought of nonconceptuality in the area you explored and it seemed to be just purely mathematical. It didn't seem to be easy to communicate between science and the general public and the literary man has been the man who was supposed to explain what is going on to the public. He is the fellow who communicates but he couldn't understand.

The scientist said: you can't follow, and that in a sense, is what Snow is writing about --- about the real chasms that have grown up between the scientist and the people. He speaks about it in the terms of the literary man because he is a literary man and there is nothing he can explain to people of what is going on in science, I will make a prediction to you that in this next half century you will see a development of comprehension of science by everybody. Science is comprehending in the terms of conceptuality...

"In the period we speak of as the gay nineties, about that era of time, the physics was moving ahead rapidly and we are coming out of the time of Clerk Faxwell and Hertz and the development of the electromagnetic wave, the phenomenon electricity is beginning to come along, and this is the beginning of the era of dynamos, and so forth. Principles are being"

- Cite Oregon Lecture ;'-4, pp. 130-131, 6 Jul'62

"discovered that are operative in the electricity. There is electrical engineering, in the mathematic®, the the coordinate system of XYZ coordinates we had identified what we call powering, the development of dimensions that required a unique perpendicularity to a plane not already in the system.

"We had the first dimension all right, and the second and third dimension. But we couldn't seem to find any fourth dimension. The trouble was that in the gay nineties fourth power relationships were beginning to show up in the physics and in relation to electromagnetic phenomena. But you couldn't make a model of it. What the mathematicians found you could do was fairly nifty because in dealing with 90-degreeness you just think about your XTZ coordinates; you think about your 90-degree angle and you have lines going out so many units from the centers. In XIZ coordinates, they were also called the quadrants; 90- degrees four times, you might call it a clock with four hours.

"One of the things the mathematicians found you could do to accommodate the seeming phenomena that was going on in electromagnetics where physical Universe seemed to be using the fourth power--- you could handle the fourth power simply by borrowing"

- Cite Oregon Lecture #4, p.131, 6 Jul'62

**a little from the clock. You could go around the clock and borrow a little from tomorrow or you could go backwards on the clock and borrow a little from yesterday. It is kind of like going to the bank and you accommodate it on a time payment affair. This is called imaginary number, complex number, where the square root of minus one is going into yesterday one quadrant. They found they could accommodate the fourth power mathematically but they couldn't make a model of it.

"In the nineties, then, it began to happen that the scientists said: We are sorry. We have had models up to now, and you asked me to explain what we are doing in science, and there was a model but suddenly models seemed to be invalid. Mathematics could carry on so you gave up models. That is what happened in the nineties. Not everybody knew this right away. This was not such a big fashionable thing. There were no decrees along these lines but it gradually became known that the scientists were carrying on exclusively purely with mathematical notation and were getting along very well and they could handle invisible phenomena. They simply said; all this stuff that's invisible here is also noneventual. There are no models."

- Cite Oregon Lecture Pp.131-132, 6 Jul'62

"This irritated a great many other human beings, as for instance, artists who are philosophers in cry. They may not have had very much mathematics, but they are human beings--- who possibly may not have done very well in school--- but they really are full of a sense of importance of the Universe. And there were many principles to be discovered so they could persist. The artist said: I could deal in abstracts, and so they felt they could deal in principles. So we have the leaving to the nonrepresentational art. That is a move that comes along with the invalidity of models in science. It is something we call abstraction. It really wasn't very abstract; many times it was a principle.

An artist really did learn it was a principle and there would be inversions of equations and things like that. They were intuitive that conceptuality was there all the time. They had felt that there was something inadequate in the mathematics, that's all... I've found time and again that artists have very powerful intuitions. They hadn't

quite learned their way around well enough in the languages of the various sciences, but I am sure they have been::intuiting that theeee was conceptual validity so they insisted on trying to make conceptual arrangements

- Cite Orgeon Lecture #4, pp.131,132, 6 Jul*02

See Blind tan's Bluff Generalizations: Mathematical vs. Literary Return to Modelability Snow, C.P.

Technology: Enchantment vs. Disenchantment Instruments! Science Blind-flying "On Instruments

See Algebra, 28 Oct'64

Artist, Sep'71

Conceptuality, 1965

Fourth Dimension: Borrowing from Tomorrow's Clock. 22 Jul'71

Joyce, James, 1965

Modelability, Jun*66

Synergetics, Dec'72; (B)

Wealth,

XYZ Coordinate System, b Jul'oZ

Synergetics, 7 Apr'75

•'Contact with the great design: this is the most mysterious of all experiences we know. I find the design of a regenerative Universe must inherently have very complex problems, local problems. And I think that the human has been given access to the great eternal mind in order to be able to cope with the extremely difficult local problems of the regeneration of the Universe. It becomes a very thrilling realization of our responsibility. • .

•'Science, at its beginnings, starts with a priori, absolute mystery, within which there loom these beautiful behavior patterns of the physical Universe where the reliabilities are eternal."

- Cite RBF at SILIS Conference, U. Mass., Amherst, 22 July *71 As quoted in Symposium publication, Ed. by Mylo Housen

See A Priori Great Design
Eternal Designing Capability

"Now we suddenly find elegant field aodelability and conceptuality returning. We have learned that all local systems are conceptual. Because science had a fixation on the'square,* the *cube,* and the 90-degree angle as the exclusive forms of unity, most of its constants are irrational. This is only because they entered nature* structural system by the wrong portal. If we use the cube as volumetric unity, the tetrahedron and octahedron have irrational volume numbers."

- Citation & context at Synergetics,. 30 Dec'73

See Oversight

Starting with Parte:

Attic Window

Earth Fault: Society

Fault

The Nonradial Line la Living in a Sort of Earth

See Flatland. 1 Oct-'71

Synergetics, 30 Dec'73*

XYZ Coordinate System, (p»y6) Jun'66

Quantum Sequence, (2)

Fourth-dimensional Synergetics Mathematics, 14 Dec'76

Science: History of Science:

"This explains why The history of science Is a history of Unpredicted discoveries And will continue So to be."

- Cite INTUITION, p.39 Kay '72

See Babylonian Mathematics

Navigators: Early Navigators

See Modelability. (3)(4) Teaching, 2 Apr*71

Science: Left- Hand and Right Hand Sciences:

"To adopt themselves to change has now been pronounced in Washington as 'creativity.* Philip Morrison, Cornell's head of the department of nuclear physics, talks about what he calls 'left hand* and 'right hand' sciences. Right hand science deals in all the proven scientific formulas and experiments. Left hand science deals in the unknown and unproven. and the intellect, intuition, and imagination required in man to make it known.

"The great scientists were great because they dealt successfully with the unknown: They were left-behind scientists. Morrison says that we have been extending only the right-hand science, making it bigger and sharper. How could Congress justify appropriation of billions for dreams?- For the billions went only for the swiftly obsoleting bigger, faster, and more incisive modifications of yesterday's certainties."

- Cite RBF transcribed in AAU'rf Journal, p. 173, May '65

Science: Pure & Applied:

"My chart of the isolation of the 92 chemical elements shows" that innovation and discovery require aesthetically motivated curiosity, "in re scientific breakthroughs which always slow down in war and accelerate in nonwartime."

- Cite RBF marginals at Cyril Stanley Smith Article, NY Times, 24 Aug*75; done by RBf, Wash. DC, 8 Sep'75

"When science discovers order subjectively it is pure science. When the order discovered by science is objectively employed it is called applied science."

- Citation and context at Order, 13 Mar*73
Sciensff: Ewa A Applied:

"Pure science seeks to find mathematical order permeating the subjectively acquired data; and applied science employs objectively the mathematical orders discovered in formulating them into special design uses,

"Both the pure science analysis of the subjectively acquired data and the applied science employment of the relationships involves mathematically patterned identification of the pertinent special-case use data in respect to a universally coordinate dimensioning system and a transformational frame of reference."

- Cite RBF holograph (edited), Beverly Hotel, NYC 14 Sep*71

"Applied science is physical. Theoretical science is metaphysical."

- CWr-Pulier Tlilllu ihewMel fin TIFF IiatAhiiM ~l W
- **Citation i context at May'67**

"Pure science does not prosper in time of war— which is contrary to all popular notions. Scientists are made to apply science in wartime, rather than to look for fundamental information.' "

- Cite THE YEAH 2000, ^{San Joa}® State College ,Mar'66
See Know-how & Know-what

See Metaphysical k Physical, 1967 Universe as Energy & Information,
11 Nov*74

Coasaulcatione Hierarchy, (3)

□□□□ Science-Technology-Economics-Politics Sequent: "The rate at which nan found chemical elements seems to be the key controlling the development of the application of science to technology, and, following from this, the application and effect of that technology on economics and, ultimately, the effect of the new technology on society itself.*

- Cite THe. YEAR 2000, San Jose State College , Mar*66

Science-Technology-Induetry-Economics-Politics Sequence: (1)

"My philosophy... requires the attempt to solve problems by inanimate invention of comprehensive anticipatory design science, rather than yielding to the easier behavior of problem discovery and the exhortation of others to solve these problems. Ideas come readily to all. Translation of ideas into theoretically effective physical design takes considerable selfdisciplining to be effective. Reduction of such theoretically effective designs into physically operating structural and mechanical advantages requaires even greater self-disciplining. Reduction of the physical mechanical advantage into timely and spontaneous inhibitability by our contemporarily evolving society requires patience as well as self-discipline.

"These coordinate self-disciplines are inherent in the inventory of faculties with which we are endowed and are potential of realisations in the inventory of reported experiences that we have inherited from all men before us. The individual intellect disciplinedly paces the human individual.

"The individual disciplinedly paces science.

"Science disciplinedly paces technology by opening up both"

- Cite Intro, to NO MORE SECONDHAND GOD, p.ix, 9 May*62

Science-Technology- Industry-Economics-Politics Sequence: (2)

"Widened and refined limits of technical-advantage generating knowledge. *

"Technology_paceg industry by progressively increasing the range and velocity inventory of technical capabilities.

"Industry in turn paces economics by continually altering and accelerating the total complex of environment controlling capabilities of man.

"Science in turn paces the everyday evolution acceleration of man's affairs. The everyday patterning evolution in turn poses progressively accelerating problems regarding the understanding of the new relative significance of our extraordinarily changing and Improving degrees of relative advantage in respect to controlling our physical survival and harmonic satisfaction. Happily realised augmentation of forward capability is all that we mean by wealth.

"The unfamiliar complex of the new wealth accounting requirements of the evolving human experiences emerges as an aggregate or unique and popularly discerned everyday 'news' problems."

- Cite. Intro. to NO MORE SECONDHAND GOD, pp. ix-x, 9 May'62
Science-Technology-Industry-Economics-Politics Sequence: (3)

"In turn the popularly discerned inventory of problems altogether provides the raw material to be processed by the machinery of politics. It is the purpose of politics to digest the problems and to provide adequate accounting and readjustments to the unexpected and often disconcerting changes in the patterns of technical advantage realizations. Politics must thus implement life's continually increasing sweepout and penetration of Universe with a continually changing set of operational rules and accounting conventions."

- Cite Intro, to NO MORE SECONDHAND GOD, p.x, 9 May'62

EJA COMMENT

Science-Technology-Industry-Economics-Politics Sequence;

The total sequence involved is approximately as follows:

Man's participation in evolution (individual intellect) paces design
pattern strategies for survival

Ideas pace physical design;

Self-disciplining paces structural and mechanical advantage;

Intellect paces the individual;

The individual paces science;

Science paces technology

Technology paces Industry;

Industry paces economics;

Economics paces wealth; wealth paces politics; politics paces
accounting readjustments for increasing sweepout of Universe.

See Making the World Work

See Industrial Lag. 5 Jul*62 Politics, Jan'02; Lay'28 Technology, 1960
Mutual Survival Principles, (3)

Science as a Tool:

"... Science and technology are only manipulative tools like inanimate and cut-offable hands which may be turned to structuring or destructuring. How it is to be employed is not a function of the tool but of human choice. The crisis is one of the loving and longing impulse to understand and be understood which results as informed comprehension. It is the will to structure versus ignorant yielding to fear impelled reflexive conditioning resultant to being born utterly helpless. Intellectual information accumulating processing is necessary

and anticipatory faculties to be only slowly discovered as exclusively able to overcome the ignorantly feared frustrating experiences of the past. Science must be seen as a tool of fundamental advantage for all, which Universe requires that man understand and use exclusively for the positive advantage of all humanity, or humanity itself will be discarded by Universe as a viable evolutionary agent."

- Cite SYNERGETICS at Sec.826.05, Sept'72

See Applied Science

Exact Sciences

Experimental Demonstrability

Hyphenated Sciences

Inexact Sciences

Invention vs. Pure Science Events

Operational Science

Physical Science

Science-Technology-Industry-Economics-Politics-

Sequence

Social Sciences

Source of All Scientific Knowledge

Hierarchy of Patterns

Generalizations: Mathematical vs. Literary

Instruments: Science Blind-flying "On Instruments"

Overspecialization of the Sciences, H

Children as Only Pure Scientists

See Mathematics, undated

**Ninety-two Elements: Chart of Rate of Acquisition (2) Experience. 12
Mar'71* Industrialisation, 1947***

Subjective k Objective, 14 Sep'71*

Space Technology (6)*

Tenure, 28 Jun'72

XYZ Coordinate System (A)

Unknown: All the Unknown, 13 May'73

Nonthing, 11 Sep»75

Closed System, 10 Nov'75

Metaphysical i Physical, 22 Jun'77

See Science: Cause of Science for Kan Sciences: Comprehensive
Integration Of Science: "Foreigh-hieroglyphicking** Science Science:
Gap Between Science & the Humanities Science: The Great Design
Science Opened the Wrong Door Science: History Of Sciences: Left
Hand & Right Hand Science: Pure & Applied Science-Technology-
kconomics-Folitice Sequence Science as a Tool Scientific Events
Appearing in Fun & Play Scientific Generalization Scientific Law-
Scientific Words

Scientific Events Appearing in Fun *k* Play;

See Funambulist, 1938

Scientific Generalisation:

"The scientific generalisations are always mathematically statable as
equations with one term on one side of the equation and a plurality of
at least two terms on the other side of the equation."

- Citation and context at Order. 13 Mar'73

Scientific

See Synergetics Principle

Scientific Worden

See Energetic Words

Scientist:

"The pure scientist is just like an egg*-laying hen.
Take the egg away— and no natter. That's just it."

- Cite RBF to EJA Beverly Hotel, New York 14 March 1971

Scientists:

"Scientists differ from people who just make lists by trying to set
them in order, ` `

- Cite OREGON Lecture #2 - p. 69 "2 Jul'62

‘ LUMUHJ FILE INDICATORS

Scientists: Scientists Cited In HBF Works

| | |
|----------------------------|---------------------------|
| Avogadro. Democritus Euler | Percival Bridgeman |
| Euclid Newton Copernicus | Frankland. Edward van't |
| Kepler Heisenberg Einstein | Hoff, Jacobus Henricus |
| Pythagoras Eddington | Pauling, Linus Grebe, Dr. |
| Waddington Darwin | John Hilbert, David |
| Galileo Dalton Boole Mach | Poisson Brouwer, L.E.J. |
| | Eccles, J.C. |
| Teller, Edward | Pauli Jeans Planck |
| | Aston Lavoisier |
| | Bernouilli Dirac Smith, |
| | Cyril Stanley |

See Artist-scientists

Chaos: Myth that Scientists Wrest Order from Chaos Leonardo Type

Eggs: You Just tay Eggs

See Dwelling Service Industry (5) Generalization Sequence (3) Industrial Ig, 5 Jul*62 Integrity of Universe, Feb*72 Retirement, 28 Jan`75 Child Sequence, (1} Wright, Frank Lloyd, 4 Oct*75 Universe is Technology, (1) Cosmic Fishing, (B)

ScienoFB Held in Fixed Opening:

See Scribing

Sciaaors Held in Fixed Opening:

(2)

See Necklace, (1)(2)

Scoring: Eccre-gueaaiiyJ

See Brain's TV Studio, 1960

scrap Sorting fc Mongering? (1)

'•We are going to have to keep track of the 92 regenerative chemical elements but not Just as elements because we have them in literally thousands of millions of compounds and different complex structures as they are used in various industrial processes. We won't be using the elements by themselves; we'll be using the various compounds. I am interested in the concentrates. And I see buildings as high and low grade. I see my 92 chemical elements rarely in the pure condition; in a more complex way th>y are in practical dissociability for further realignment.

"When we talk about all the aluminum or the bauxite some is bejow grade in the mines and some is already in use and recirculating. There are really two classes. There is a recirculating group. When they're pulling a building down there's part of the steel that's no longer in

the building holding it together, but it may not have been put on the market yet as scrap. But it's what they call high melting scrap and should go right into the furnace; it will command a much bigger price than the small stuff."

- Tape transcript #4, pp.8-9, RBF to W. Wolf; Phila. PA., 15 Jun'74

"Scrap sorting is going to be one of the great sciences now.

It is one of the typical social changes from the linear patterns of the honey-bee to the precessional circulatory patterns.

To man's old way of thinking he was going to build this building and it's going to stay there forever. All the architects are that way. It was like a one-way street. But nature found that the metal didn't get destroyed and so it resulted in the monger.

"The monger was sort of a low-grade character because everybody thought the materials had deteriorated, that the iron was all rusting and that everything would really rust and go away. But the monger was sitting in there and society found that things were not getting eaten up. Now the mongers are getting all their dung and really turning it into something. There's a scandal now in Philadelphia about their sewage and waste removal because some of these guys are beginning to turn some of this tonnage into money. They had been throwing out the dung but now they are beginning to process it and they find that it really pays them.

"One of the big changes around here is when the monger is no longer a low calling. But the mongers tend to sit on it and"

- Tape transcript #4, PP-9-10; RBF to W.Jolf, Phila. PA., 15 Jun'74 **wait f»or a good market. That keeps enormous powerful heaps of junk in sight. We don't have to have those unsightly places. This is where the government should start to take over the function of recirculation. That's what society is not doing; it's not taking care of any of its recirculation. Everybody is trying to disconnect and make their money. So one of the big functions of government is going to be changing the scrap sorting from a one-way street into the circulatory system.**

I don't think anything could be more visible from the World Game point of view.

"I am going to account for everything. There are going to be some priorities. Because there are a number of these materials that are so relatively scarce they have to be of absolutely high priority. If there is so little of it it must be used in a broad sense. I must rftf'er have helium in a retail pub; it must be in thtools that serve the tools.

"Incidentally, I see tools having a hierarchy just like our own guts: things that are glandular, there are energy secretions, there are pumping stations, and so forth. Purifying things like the lungs and livers are all big recirculatory systems:

- Tape transcript #4, pp. 10-11; RBF to W.Wolf; Phila. PA, 15 Jun»74

' 'Nature takes great pains to separate the liquid from the solid matter. When nature takes the great trouble to separate things like that it's a very expensive matter. But then we, as people, put them right back together again. It's incredible. Nature has its little dogs pissing on the tree groups that need the water and crapping over there for the fertilizer."

- Tape transcript #4, p.11; RBF to W.Wolf, Phila., PA, 15 Jun'74
Scrap Sorting & Mangerliuti

See Metals: Recirculation of Metale Junkyard Pollution Control

5scratch-chordcd:

See Light on Scratched Metal, 9 Nov'7J

Scratched Purface?

"You look at any scratched surface and you will always see circles. Where there is light present there are lines that get lit up since they are processional to the direction of the light. This gives you the sunburst effect in a hubcap or fender."

- Citation & context at Vector la) fc Verteirlal Geometry_r (2), 27 Jan*75

Scratched: Scratched Surface:

See Light on Scratched Metal

See Benday Screen Membrane Wall b

Screwing:

"People who listen to me say, 'Here's a man who's selling screw-drivers... they don't realize how mysterious screwing is.

- Citation and context at Fuller. R.B.;

RBF Modus Operand!.

Fob '73 ~ -*__»

See Drawing

Spherical Reality Scribing Scissors Held in Fixed Opening Tools of Geometry Severance-tracing

See Otherness, 8 Feb*76

Scroll:

See Tetr@scroll

Sgru Utility: Magnitude ^Qf

See Twenty-foot Earth Globe t 200-foot Celestial Sphere

KBF DEFINITIONS

QHBM M Sculpture as Single Frame:

"I'd then like to point out that if you say I wonder what's outside outside, you're asking a single frame picture. You have a sculpture in mind. The Universe is a sculpture.

These are where the stars are in sculptural array. So that question is a single frame. . . and we realize that no single frame gives the meaning."

- Cite KBF to SAI-IS, U.Eass., Amherst, 22 July '71, p. 2/

See Soleri, Paolo, 10 Sep*75

Sculpture: Sculptor:

(D

See Sculptor ve. Engineer

See Design, 23 Jan'72

Fuller, H.B: His Writing Style, 22 Jan*75 » 26 Apr'77 News tt. Evolution, (2)

Sea:

"In 161... three jet airplanes in one year outperformed the Queen Mary and the steamship United States at a very much less cost; and suddenly the sea became obsolete as a way in which human beings would get from here to there."

Citation & context at North-south Mobility of World Man. (1)

10 Sep'75

Sfif: The Sea:

"The sea's curvature enabled her to keep her secrets."

- Cite RBF videotaping, Penn Bell Studios, Phila., 23 Jan'75

"Playboy: It seems a very melodramatic kind of evolution that would have man verge so close to extinction before discovering his function. Do you think that risking extinction may be part of the process of discovery?

"RBF: He's done it all the time. He kept going to sea. kept going after those fish, and his boat was inadequate and he was lost. Of all the people who have gone to sea historically, I imagine that very few returned. There was such loss in the beginning. But out of it man began gradually to learn his engineering, to learn how to anticipate the enormous stresses, the constant peril. And he began to develop beautiful fibers, better ropes, better sails, I think our breakthroughs always come to the people who were risking themselves very close to the brink."

- Cite RBF in Barry Farrell Playboy Interview, 1972 - Draft, p. 15.

Sea: The Sea:

"Laws are not extendable over the surface of the water. The sea offered secrecy because its curvature meant that you only had to get 14 miles away to be out of sight . . . to disappear over the horizon and then reappear. . only the navigators could do it."

- Cite RBF to EJA, Fairfield, Conn., Ches Wolf. 18 Jun '71

See Feeding a Flock of Sea Guile

See Unsettling vs. Settlements, 20 Sep'76

Sfla PQMJZ:

"The British Isles were used as unsinkable flagships.... Sea power was determined in the first few seconds of contact: after the first or second salvo you knew who was going to run the world for the next 25 years.

"Blitzkrieg was just sea warfare brought up onto the land.

"There is no such thing as a secondhand navy,"

- Cite RBF videotaping, Penn Bell Studios, Phila., PA, 23 Jan'75

See Octahedron:

Eighth-octahedra, (3)(4)

Technology:

"You get at least twice as much experience at sea because you're at work 24 hours a day. On the sea it's a flood all the time and you have to stay on top of it."

- **Cite Rbf at Penn Bell videotaping session. Philadelphia. 23 Jan'75**

Sea Technology Conversion to Land Technology:

See Dymaxion Airocean World, (I) Tank, 23 Jan'75 Electric Lights, 15 Oct'64 Wealth, (C) Bicycle Wheel, 29 Jan*75 Sea Power, 23 Jan'75

See Battleship

Displacement of Ships and Buildings

Electric Lights

More Witl Less: Sea Technology

Navigation

Navy Sequence

Refrigerator

Sea Technology Conversion to Land Technology

Weapons Technology

Air Delivery & Submarine Cities

See Civil War, 12)

Engineering, 9 Dec*73

Size,

Dome House Grand Strategy: 1927-1977, (2)

Human Unsettlement, (2)(3)

See Ocean

S.O.S.

Waterocean

Naga

Swim: Dynamic Sea Where Flan Must Swim

(2)

See Male k Female, 12 Jan'74

North-south Mobility of World Man, (1)*

vs.

Search Research:

"In the early 1930s, in my Saturday Review and three-hours- for-lunch-club days, I introduced a deprefixing logue and logue dialogue. Chris Morley, Bill Benet, Don Marquis and others were intrigued with its revealed, vealed trigue which are tri- or triangular involvements.

"You had to search before you could research. Search pioneers: research is routine exploitation.

"You must view before you can review, overview a powerful world geoview... copyrightable, trademarkable, markably remarkable."

- Cite RBF holograph initiating "Keeles Piece" on Barclay Hotel Phila, writing paper, 14 Feb¹72

Second;

"Minimal consciousness evokes time, As a nonsimultaneous sequence of experiences. Consciousness dawns

With the second experience.

This is why consciousness Identified the basic increment of time As being a second.

Not until the second experience Did time and consciousness Combine as human life.

Time, relativity and consciousness Are always and only coexistent functions Of an a priori Universe,

Which, beginning with the twoness of secondness Is inherently plural."

- Cite INTUITION, p. 12, May '72

Second:

Consciousness

identified the basic increment of time As being a second.

Not until the second experience

Did time, consciousness—

Which is human life--

Begin.

Time, relativity and consciousness

Are always and only coexistent functions

Of an a priori universe

Which beginning with the twoness of secondness Is inherently plural.”

"As a nonsimultaneous sequence of experiences

Consciousness begins at minimum

As a second experience. ____------

This is why¹¹ „---

- Cite INTUITION, Draft Feb '71, p. 1-2.

Second:

"Early humanity's concept of the minimum increment of time was the second, because time and awareness begin with the second experience after the other."

- CttezitSFixarginaile on Synergetice draft, Seo 223»>f— 19 *71.
- Citation i context at Time, 19 Jun*71

Secondhand:

"I... had had mechanical training and was very much impressed with the wonderful equipment that was put at the disposal of the Navy, It was a world in which there was no such thing as a secondhand battleship. You cannot win a war on secondhand equipment; we have

had this well demonstrated recently. It was equal 1 y impressive to me later when I left the Navy and went into the building world and discovered how unscientific and secondhand most of the approach to housing was--- how neople really drifted from one old house to another, and the few new houses that were built were without any benefit of engineering."

__ DESIGNING A NEW INDUSTRY, (RBF Reader, p.149), 1946

SsgQ;i4han4-GftdjtttrY:

"We find ourselves continually advancing in domestic technology but only as the second-hand gadgetry, by-produced by the cast-off segments of the weapons industry."

- For situation and context see Weapons Technology. 10 Oct '63
Secondhand Gadgetry?

See Electric Lights, 15 Oct'64

Secondhand Cod:

See Religion, (1)

See No Secondhand Battleship No Secondhand God

See Copper. 9 Dee'73

Lage, (1)

Sea Power, 23 Jan* 75

Second Hand:

See lags (1)

Sts,ami axsr-

See Icosahedron: Inside-outing Of, 10 Jan'50 Primary Structure, 10 Jan'50

Secondneee - Otherneea;

See Soaethlngneae & Kobhingneaa, 7 Oct¹75

See Powering: Second Powering

Two-dimensionality

See Intuition: Second Intuition

Vector: One-second Vector Length

See Awareness, 24 Apr*72 Heartbeat. 1J Mar*73 Time, 19 Jun*?!*
Time-sizing, 30 Nov'72

Secrecy of the Artiat:

See Artietj May'65, Jun'66, 2 Jun`71

Secrecy: Secrecy of Mathematical Knowledge:

"I am quite confident that the early navigators knew a great deal about the Earth and that they were doing just what navigators and others were doing in my day in the Navy when the Navy instructions were when I was Commanding Officer, that if anybody was about to take my ship the first thing I would do would be to go to the rail and take all the leaded books, anything of importance was covered in lead, and throw them overboard. Men had been hiding their secrets in the sea for great ages, so I felt that many people carrying on their navigation could remember some of the principles in their head but much of the Important record could be lost."

- Cite Oregon Lecture #7, p. 2J1. 11 Jul^f62

Secrecy: Secrecy of Mathematical Knowledge: Navigation:

"I said to myself, I think that the first mathematics which related to a plurality of stars, and where you are, the first triangulation, occurred in relation to the navigators. I think then that the people who sailed into the windward, who started going into the prevailing winds westward, became the first inventors of the navigation. You cannot invent navigation unless you have something that you became familiar with. I think then that the people who invented the navigation invented the first really important kinds of mathematics dealing in triangulation, in major patterns. And so I think that mathematics and navigation developed in a very high way on the sea, and later on came up onto the land. But People who knew their way about the sea knew how to get to very important resources, and there were great premiums paid for what they could bring in a very secret kind of a mind--- and they began to guard their secret of navigation very carefully. I think that the great mathematical secrets were really very progressively hidden. When the navigators were going westward out of the Straits Settlements areas, and so forth, and finally negotiated across westward of the Indian Ocean to the eastern shores of Africa and the southern shores of

Secrecy: Secrecy of Mathematical Knowledge: Navigation : (Cont.)

Mesopotamia. And they began to memorialize their navigational capabilities upon the land. They go up on the land and using the same kind of navigational capabilities they navigate across the land to get to the Mediterranean. Then they go northward down the Nile and they come to the Mediterranean. And there they build the same kind of boats built out of the patterns they can carry in their head. And they go on with what we call this lateen sailing in the Indian Ocean and it gets into the Mediterranean. We find, then, this navigating moving westward, and the men who became the great priests are the men who are monopo

lizing this very secret information which makes it possible to do this very powerful wealth making through trade which is controlled through navigation. You can take a lot of sailors to sea with you but they don't know where they have been-- just in a lot of water. So it is very easy to keep your secret. So these navigators began to make pyramids and other forms. You will find them in India and we find in Babylon, the beginnings of our very important kind of mathematics: of the 60-degree angles, of the 360 degree concept, of the 60-minute seconds, and so forth. The first real handling of time and angles--- which are the very

Segment Secrecy of Mathematical Knowledge: Navigation: (Cont.)
 essence of the navigation. I think that these secrets were deliberately hidden by the priests and kept from the people, even possibly from the kings.

"At any rate the priests of the Roman Catholic Church began to tell me that this is a hierarchy of Heavenly Host , . • we have all kinds of legends mixed up here, but I think that this is one way that the priesthood found a way of carrying very important mathematical information."

- Cite Oregon Lecture #7, pp. 252-253. 11 Jul'62

See Vizier: Grand Vizier Wizard

See Kalthue, 23 Feb'72

More with Lee: Sea Technology, (1)(2) Pythagoras, 18 Jun'71

Sea, 18 Jun'71

lin-yang, (2)

See Chronofile, (1) Dymaxion House, 13 Jul*74 Navy Sequence. (3)-(6) Sea, 18 Jun*74 23 Jan'75 Ship, 43J

Spaceship Earth, (c) Understanding, i Apr*49

See Cyclic Bundling of Experiences, May'49 Duality of Universe, May*49

Seg.tlgnlggg Tensioning:

See Length-to-Glrth Ratio

Co-orbiting of Earth 4 Moon Around Sun

Tonglgninfi:

(2)

See Chemical Bonds (2) Coherence, y Jul'62

Seeability:

"Our Beeability io so inherently local that we never see anything but the asymmetries."

- Citation and context at Asymmetry_r 31 May'71

Seeability:

"That's what I've been gibing you all the time, with the positive and the negative: I've been giving you the visible and the invisible. That's exactly what we've been accounting. So you can only see the locally asymmetrical. You can't see the total, . . . You'll never see anything but the asymmetrical, because we are so local. Our seeability is inherently local."

- Cite tape transcript RBF to EJA and BO'R, Chicago, 31 Kay '71

See Seeing

Sight

Unseeable: Unseeability

Visibility: Vision: Visual

See: Sifability-
(2J)

See Asymmetry, 31 May'71* Rubber Glove, 23 Kay'72 Symmetry k
Asymmetry, Dec'71

"...The vegetation impounds the Sun radiation by exquisitely orderly
photosynthesis and produces beautiful orderly molecular structures,
thus converting very random, cloud-interrupted radiation into orderly
molecular growths as little seeds. transforming into trees, lambs, and
a myriad of other highly regular organic species."

- Citation and context at Boltzmann Sequence (5), Dec'72

Seed;

"Nature is always shipping tension by seeds compression comes in
locally.**

- Cite RBF to EJA, 3200 Idaho, 30 Oct'72

Seed: (1)

"Nature makes many potential 'starts.* As for instance

All the vegetation which impounds the Sun's energy Must be regener-
ated and multiplied.

But it cannot have its progeny

Within its immediate vicinity, As the trees shadow

Would prevent its young

From impounding the Sun's radiant energy.

"Wherefore all the trees

Launch their seeds

Into the air or upon the waters To drift to chance landings, Where the
seeds may be favorably nourished And grow.

The chances of such auspicious landing
Are so unfavorable
That nature must send

Billions times billions of seeds away From the parent vegetation,
Which, though potential of complete success,"

- Cite BRAIN & MIND, pp.153-154 May '72

Seed:

"Lay never germinate and prosper.

The airs and waters
Of the planet Earth

Are filled with the aimlessly migrating seeds.**

- Cite BRAIN & MIND, p.154 May *72

Seed;

"We find that in the seed nature provides a blueprint pattern tightly
folded up in a triangular tension grid."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes,
1965, p. 85.

(D

Sea Ecology Sequence Tensile Bluebrinta Qestating Seed Nature
Ships Tension

See Boltzmann Sequence (\$) * Trees (c) Fire (A) Regenerative. 1960
Shadow, 1970 Male it Female, 1 Feb*75

Seeing:

"...Man has sensorial tunability and is sensorially aware

of only one-millionth of physical reality. The little rainbow color band of human 'seeing'* is less than one-millionth of the stretched-out reality of the invisible colors of all the 92 regenerative chemical elements of associative energy or of the various radiations."

- Citation and context at Optical Motion Spectrum (1), 4 Mar'69

Swing vg. HaarIng:

"Seeing is universal vs. hearing which is ethnic, like languages.

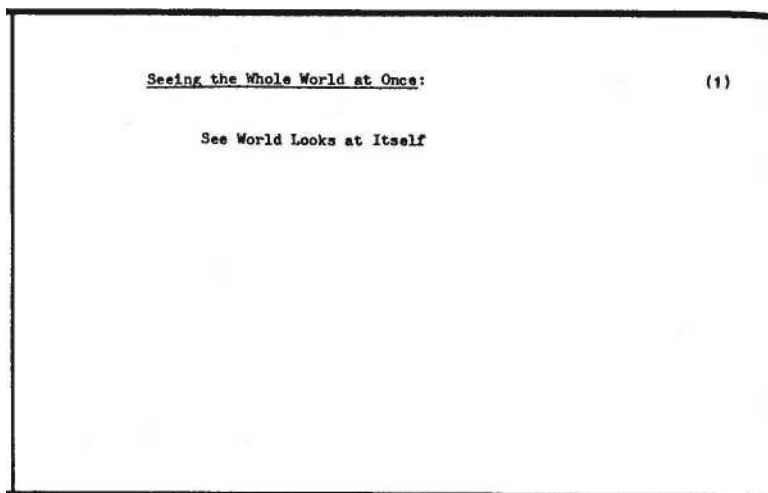
Hearing is 700 m.p.h. and seeing is 700 million m.p.h.

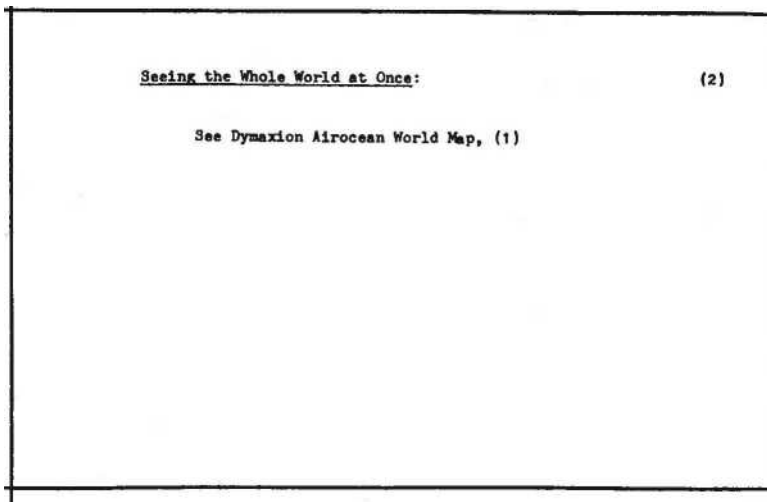
Television is a million times greater than radio."

at Penn Bell videotaping session, Philadelphia,

- Cite RBF

22 Jan'75





Seeing?

See Optical

Seeability

Seeing *vs.* Hearing

Sight Visibn

See Moving Picture Continuity, Jun'66

Perception, Jun'66

Picture, 193S

Spaggiari-Luff-neluaXoni Segment of Conclusion;

See Teleology: Bow Tie Symbol, 1938

Selectable: Selective:

See Electable Elective Options Size-selective Tunability

Selectable: S_eXectLYC;

(2)

**See Resonance Field, 13 Nay'73 Spherics, 30 Nov'72 Modulations, 17
Jun'75**

Self;

"Self is not a priori evident."

- Context and citation at Synergetic Strategy of Commencing With Totality, 28 May'72

Self: "To h human environment is everything that isn't me.

and Universe is 'everything that isn't me' and me— environment and me."

- Cite RDF to FJA

~~n.Truly.Untnl, Wpw Vflf^V 1-5-Kareh 1971~~

- Citation at Environment. 15 Mar*?1

Self:

"Art self which is entirely metaphysical Is not the metaphysically observable Biological organism

With which it is intimate

Any more than is the telephone

The self of those who communicate

With one another

By means of the telephoned observable Frequency differentiating capability As it relays its tunable patterning To the physical nervous system's tuning To be arrayed for consideration By the metaphysical self, the mind."

- Cite RBF Draft BRAIN 1 MIND, pencil , 1971

See Economists, Jun'66

Television: Third Parent, Hay'65

Self-

awareness:

See Complementary, May*72

Self-balancing:

See Humana aa Machinea, (1)

Self-bQundXng s'ygtem'

See Tetrahedron aa Conceptual Model, 28 Jan'73

Self-chilling:

See Ghana Done: Self-chilling Machine

Sjoif-gfimmittnlcfitttr

EJA: "How can you communicate without culture? How can you have language without culture?"

RBF: "You don't need language to communicate with self.

It can be nonverbal; that's the point. We may not know the name for a 'circle' but we would recognize it absolutely every time.

"Children self-communicate putting blocks in slots with no words about it at all,"

- Cite RBF to EJA, 3200 Idaho, Wash. DC., 8 Apr'75

f-communicate :

"Communication will probably be accomplished by thinking alone, ergo more swiftly and realistically than by sound and words."

- Citation A context at Individuality, 9 Jan'75

Self-Communicate:

N.Y. Times, 15 May'72, H.M. Schmeck, Jr. `` Immunology: A Code Spelling Life or Death": "The populations of cells communicate with one another and trigger into activity any of several kind of immune response."

R.H.F. Marginalia: "Only number can self-communicate as structural or destructural associabilities. rs "

- Cite RDF Marginalia presumably 15 May'72

See Communication to Self or Others

See Zoned System: Zone Limits, 1954 Individuality, 9 Jan'75*

Self-Congruence Packing:

"The openmost condition or single bonding corresponds in flexibility or mutability with the behavior of gases. The medium packed condition or double bondjfcmged hinged arrangement corresponds to the behaviors of liquid aggregates. The closest packing triple bonded fixed-end arrangement corresponds with rigid structural molecular compounds; the closest packing concept which was developed in respect to spherical aggregates only with their concave octa and vector equilibrium spaces between spheres, overlooks a much closer packed condition of energy structuree, which however had been comprehended in organic chemistry, that of quadrivalence and four-fold bonding which corresponds to outright congruence of the ectahedra or tetrahedra with themselves. When carbon transforms from its soft, pressed cake, carbon-black, powder, or charcoal arrangement to its diamond arrangement it converts from triple bonding or so-called closest arrangement to quadrivalenee. We might call this self-conzruence packing, as a single tetrahedron arrangement in contradistinction to closest packing as a neighboring group arrangement of spheres."

- Cite HBF Ltr. to Prof. Von Hochstetter, 2« Oct '64, p. 2.

See Self-packability Clear Space Polyhedra Multiple Self-congruence

See Multiple Self-congruence Self-packability

Saif-congriyica: Self-congruent;

(2)

See Octahedron, 10 Dec'75

See Life, (pp.8-y) Jan'72

Self-considerate Society;

See Austronesia, 10 Aug*75

sglf.anAi deration ‘

**See Tetrahedron Discovers Itself and the Universe Universe Considers
Itself World Looks at Itself Parts: Each Part in View of the Others Self-
considerate Society**

5al£=csmaliamisa:

(2)

See Plane, IV Feb'72

Self-Dehlaing:

"First your members can develop an effective anticipation of the things that are to happen. Though it is impossible to anticipate the precise set of transitional events, you can be in the vicinity of important event occurrences. Your most important task is to help your members become comprehensive by intellectual conviction and self-debiasing, not as an ignorant jlding, but as a progressively informed displacement of invalid assumptions and dogma by discovery

of the valid data, the old in swiftly

“ -”a J_-*- In this development the young will lead increasing degree.”

- Cite RBF in AAUW Journal, Pp. 177-8, May '65

Self-Deception:

"The degree of self deception is proportional to the width of the angle of disagreement."

- Cite RBF in "The Listener" transcript by John Donat, 26 Sep*68

Self-deception;

(1}

See Omission

. Admission

Stir-dfcwtloiii

(2)

Seo Possession, 10 Jun'74

Life is a Sumtotal of Mistakes. (1)

Mistake. 7 Nov'75

Sin, 7 Nov'75

Crowd-reflexing, 7 Nov'75

³self-definition?

SEE MIT Saqueneoj (1)

Se« Man as a Function of Universe, (2)

?alf«41chgt0ffilUn<‘

See Star Tetrahedron & VE_f 9 Nov*73

solf-dlaclaline>

Q. "Which of the disciplines do you think are the most critical for our current problems?"

RDF: "The only important one of all the disciplines is

self-discipline. At the front of one of my books I have said ` Dare to be naive.* That is what we must all dare to be---to make our own choices from all the shams around us.

"Each of us must dare to go along with the truth as experience teaches us and as our own intellect realizes its significance only in relation to the welfare of all humans around their local Universe functioning as information apprehenders and articulators in relation to the integrity of eternal regeneration."

- Cite R3F to White House Fellow Anspacher; Watergate Hotel, Wash, DC: 28 Mar*77

Self-Discipline;

"Today I see many engaging in yoga. I am sympathetic with what they're trying to do, but I don't think you have to be coached by yoga or anything else to learn self-discipline. You've got to discover yourself. I don't think you can get it from somebody else. I don't think you

can get it by having somebody else psychoanalyze you. I see many of my students who go to psychoanalysts getting in more and more trouble rather than getting out of it. And the ones who don't go in for being psychoanalyzed I see learning to understand themselves and consciously disciplining themselves. Self-discipline is the key--- and we've all got it if we want to use it. ... At the time I was going through this selfdiscipline process I evolved a philosophy which assumed that most problems of humanity can be solved."

- Cite RBF quoted in HOUSE 4 GARDEN Interview by Beverly Russel, p. 199, May '72

Self-Discipline:

"The fundamental self-discipline conceptioning the only real educational process."

- Cite NEHRU SPEECH, p. 22, 1J Nov '69

Self-Discipline:

"Systematic coneptioning and recollected conceptioning both universal and local, which progressively traces, relates, and compares nonsimultaneously observable locally functioning entities, is self-disciplined."

~~—ftkw 1111»11, p1 HS~~

- Citation at Conceptioning. i960

StU-aiDcl. Elins:

See Salvation va. Self-discipline

(i)

Sql f-discipline: •

(2)

See Conceptioning, 1960* General Systems Theory. Jun*66 Periodic
Experience, (a) Plumbing. (1)(2) Thinking, 1960; (A)(B) World Game.
Jun*66

God, 7 Nov'75 Anger,

See Tetrahedron Discovers Itself
Universe Considers Itself

See Synergetic Strategy of Commencing with Totality, 28 May'72
(2)

Self-divisioning:

See Triacontrahedron, 31 Jul'77

Self-education;

"The highest priority of education should be to accommodate humanity's innate, chromosomically programmed, Intellectual appetite for comprehending the interrelationships between all the events of which their senses progressively inform them. Our schools have failed to adequately satisfy those appetites. They have failed to inspire because inspiration springs from realization of the interrelated significances....

"Alternative education provides opportunities for the spontaneous learner to apprehend the whole picture and thus to become a comprehensivist. This is what young people instinctively desire....

"One of the most Important events of the education revolution now under way is the discovery that each of us is born comprehensively competent and spontaneously coordinate, quite capable of treating large quantities of data and families of variables from the start. A child spontaneously integrates total information. It craves to understand and be understood.... For half a century I have explored self-educating ways for making the world work for everyone. It is exciting to witness groups of dedicated young people... peeling of and investing their time in alternative routes... which hold high promise for them."

- Cite RBF Introduction to Guide to Alternative Colleges, 1974

SelX-eduMUan:

(i)

See Self-teaching

SsJXxsduasifin:

(2)

See Education. 20 Jan'75 Conceptual Mathematics, (2) Learning, IB
Jul'76

Salf-eabracoaftnt:

Seo V_{etc}- Equilibrium, 22 Jun'72

Self-entrapment } *t*

See Word Tenda, May'44

splf.--[£].vA^d«nt

"Self la not a priori evident,"

- Citation and context at Synergetic Strategy of Commencing With To-
tality. 28 May«72

^salf-gYldent:

See Axiomatic Obvioue

Self expansive:

See Randomness, Deo*72

"So the strategy I was employing, and the tiny little capital you and I
have, which is Just our experience. Self-experience, beautiful equip-
ment. ... And how it can M really be turned to the powerful advantage
of the many."

- Citation and context at Individual Economic Initiative. Feb*73

KBF DEFINITIONS

Self-experience:

"...Experience is the vital factor... since one can think and feel consciously only in terms of experience, one can be hurt only in terms of experience. When one is hurt, then somewhere in the linkage of his experience can be discovered the parting of the strands that led to the hurt. Therefore it follows that strict adherence to rationalization, within the limits of self- experience, will provide corrections to performance obviating not only for one's self, but for others, the pitfalls that occasion self-hurt...

- Citation and context *t Rationalization Sequence (3), 1936

aataseEtHi®

Self-experience:

See Time Vector, 24 Sep'73

Self-expression:

See Architecture, May'70

Self-halving:

See Triacotrahedron, 31 Jul'77

Self¹ a. HoneyrjeeXipg PrCQCCUW tlon:

See Bee, 9 Nov'72

See Self-experience, 193®

See Progressions, May'49

See Octahedron Model of Doubleness of Unity, (1) (2) Octave Wave, 5 Mar'73

Self-interference

See Tensegrity: Miniature Haste: Positive & Negative Dec*61

See Non-self-interference

Pattern Integrity: Atomic Knots Tensegrity Model of Self-interference of Energy

Self-Interference: Self-interference:

(2)

See Design Covariables: Principle Of, 1959

Mass, 1959

Matter vs. Radiation, 7 Nov'73

Ninety-two Elements. 25 Aug*71

Pattern Integrity, 25 Aug'71

Pattern Strip.Aggregate Wrapabilities, 19 Dec'73

Tetrahedral Dynamics, (2)

Touch, 29 Dec'58

Unique Frequencies. 9 Jul'62

Structure, 3 Oct*7*

Object, 9 Nov`73 o

Einstein Equation: $E = mc^2$, 1959

Self-interaction:

See Prime Otherness, 24 Sep`73 Tetrahedron, Aug'72 24 Sep'73

Self-interaction-

See Octave Wave, 5 Mar*73

Self-ish:

"If one wishes to obtain a definite answer from Nature one must attack the question from a more general and

less self-ish point of view."

- Cite RBF holograph, undated, in Max Planck's "Survey of Physics," London & NY.

Selfishness:

"...Vastly wealthy interests... were continuing to do what money had done in the past: i.e., to rationalise selfishness. Assuming the political concept of fundamental inadequacy of life-support for all the humans around our planet, selfishness had been able to say, 'I have those for whom I'm responsible and because there is not enough life-support for all, I am obliged to do various things that are utterly and completely selfish,'"

"I felt that the Club of Rome's pronouncement of the 'Limits to Growth' represented history's last attempt on the part of organised capitalists' selfishness to justify to the

world public why their wealth should be unable to do anything about the third world."

- Citation 4 context at Club of Rome:

Limits to Growth, (A}; (B)

20 Sep'76

Selfishness:

"My greatest discovery--- besides my mathematics--- is in 9 sociology: the realisation that selfishness can no longer be rationalised. The fears of resource inadequacy are no longer valid. Probably only several hundred thousand people know this. Nothing could be more critical than the fact that the individual is now unbuttoned from his selfish ness,"

- Cite RBF to EJA in Pagano's Rest., Phila. PA., 22 Jun¹75

Selfishness:

"Selfishness is a drive so that we'll be sure to regenerate It has nothing to do with morals«"

- Citation and context at Economics. 16 Feb'73

Selfishness:

"Selfishness (self-preoccupation pursued until self loses its way and self-generates fear and spontaneous random surging, i.e., panic, the plural of which is mob outburst in unpremeditated wave synchronizations of the individually random components.

- Cite NO LORE bECONDHAND GOD, "Universal Requirements of a Dwelling Advantage.¹ p. 49. (Anchor.) <960

SnlHahnetn:

See **Anonymity**

Enlightened Selfishness

Idea Stealing

Monofocus Upon Self

Pollution: Infinite Room to Pollute Unselfishness

Rationalization of Selfishness

Selfishness:

(2)

See Antisynergetic, Jan'72

Club of Rome: Limits to Growth, (A)(B)* Economics, 16 Feb*73 Inflation, Sep'73

Invisible Architecture, (F)

Obvious, Jan*72

Pirates: Great Pirates, (4)

Seifist:

. all the short-sighted, expedient 'things' applauded by the most powerfully advantaged seifists, so swiftly consigning man to extinction as 'unfit' for survival. , , "

- Citation and context at Up and Down Sequence (2), 13 Nov'69

Self-knotting:

See Ninety-two Elements. 9 Apr'40 Pattern Integrity, 25 Aug'71

Sflf: I Would Like to Ba Mveelf:

See Identity, May'70

MH Self * Nonaelf:

"Self la metaphysical and

All that self observes is physical

Which la not to say

That the environment

Which is also all the non-self

Is all physical

For all the non-observable experiences Of abstract cognition,

Which consider and re-consider The observable experiences Are metaphysical."

- Cite RBF Draft, BRAIN & MIND, pencil 1971

"...Genius has the ability to fix events by the convergent anle of two or more sight lines, not only in time (or space) past, but also, in time (or space) ahead, from the central perspective of self-now. Resultantly it becomes possible for genius first to analyze teleologically such 'fixed*' phenomena, and then to objectify them in a precise time-energy composition. Genius'8 dual or multiple personalities may be said to be representative of a breadth of viewpoint, more-than-average, highly worldly, and having an exquisite sense of Timeliness."

Citation and context at Genius, 1938

Self-Now:

"Macro-exquisite speed-of-light self-interfering radiation patterns energetic self-tying into concentric knots of relative mass in a mathematically idealised variety of symmetrical-asymmetrical atomic assemblages whose local micro-orbiting induces

NOW

which

multiplies by progressive subdividing into microscopically ever greater speeds of transformation through insectine phase magnitudes dividing into the micro-organisms phase, and

then dividing progressively into molecular and atomic phases then phasing into radiactivity at 586,000 m.p.a, expanding once more to micro-eternity of no-time.

- Cite RBF holograph, 3200 Idaho, Wash DC, Mar'72

Self-Now:

- The macro-microcosm of minimum frequency of omnidirectional interference restraint exquisite speed of light 700 million m.p.h. self-interfering radiation patterns energetic self-tying into concentric knots of relative mass in a mathematically idealised variety of symmetrical-asymmetrical atomic assemblages whose local subvisibly resolvable micro-orbiting induces the superficially deceptive motionless thingness of mini-micro-microcosm of

NOW
which
progressive experience-won

knowledge multiplies by progressive intellectually contrived instrumentally implemented exploratory subdividing into microscopically ever greater speeds of transformation through insectine phase magnitudes dividing into the micro-organ!sms phase, and then dividing progressively into MBI molecular and atomic phases; then passing into radioactivity at 700 million m.p.h. expanding once more into macro's 700 million at least macrocosm . . .

- Cite RBF Holograph, 3200 Idaho, Wash DC, Mar'72

See Now Hourglass: Cross Section of Teleological Bow Tie

^S_{nlf-Qrranlalng} Principle:

See Conceptuality, 19 Feb'72

Self & Otherness?

'Awareness - the otherness saying 'See Me' to the observer. Awareness □ the observer saying to self, 'I see the otherness Otherness induces awareness of self. Awareness is always otherness inductive. The total complex of otherness is the environment.

- Cite SYNERGETICS 2 draft at Sec. 100.011; 28 Apr'77

Self ft Otherness:

"Experience Is Inherently omnidirectional; ergo there are always a minimum of twelve Others* in respect to the nuclear observing self."

- Citation &. context at Experience. 19 Nov'74

Self and Otherness:

"Only through relationships with otherness can self learn of principles; only by discovery of the relationships existing between self and othernesses does inspiration to employ principles objectively occur. • There is nothing in self per se or in otherness per se, that predicts the interrelatedness behaviors and their successively unique characteristics. Only from realization of the significance of otherness can it be learned further that only by earnest commitment of self to otherness does self become inadvertently 'advantaged' to effect even greater commitment to others, while on the other hand all self-seeking induces only ever greater self-loss."

behaviorally

- Cite RBF galley correction to SYNERGETICS at Sec. 411*12, 2 Nov'73

"If you use the 'area¹ of Euler it doesn't work. You have to convert the area to nothingness to arrive at the four minimum aspects of self and otherness."

- Cite RBF to EJA, Paganao Restaurant, U. Penn, 22 Jun'75

„Life, minimally described is 'awareness, ' which is inherently plural for at minimum it consists of the individual system n which becomes aware and the first minimum 'otherness' of which Uj'git is aware, the otherness being integrally or separately internal or external to the observing system's 14 integral topologically componentized subsystem: $4V + 4A + 6L$.

Together the observer and the observed constitute two points differentiated against an area of nothingness with an inherent line of 'awareness'-interrelationship running between these two points. Euler's generalised formula, which he named topology, says that the number of points plus the number of areas will always equal the number of lines

plus the number two, which Goldy finds to be at minimum $2P + 1A - 1L + 2$, which minimum set of awareness aspects of life adds to four: i.e., a J the observer: (b) the observed } (c) the line of interrelationship; and (d) the nothingness area against which the somethingness is observed. There are no experimentally demonstrably absolute maximum limits. Only the minimum limit is demonstrably absolute. The sufficiency of the encea^{kl} always a 'system--- even when it

- Cite GOLDDLOCKS Ms. p.A3, 9 Jun'75

See Minimum Awareness Model

Minimum Four Awareness Aspects of Life

Tetrahedron as Primitively Central to Life

"The octet truss is the evolutionary patterning.., of the ever-recurrent 12 alternative options of action, all 12 of which are equally the most economical ways of self-and-otherness interacting--- all of which interbehaviors we speak of as

- Citation and context at Octet Truss. 24 Sep'74

See Communication to Self & Others

Observer & Observed

Otherness: At Least One Other Otherness: At Least Twelve Others

Minimum Awareness

Awareness

Tetrahedron Discovers Itself

Integral Otherness

Tetrasystem

Individual A Group Principle

See Experience, 1971; 19 Nov'74*

Scheme of Reference, 24 Sep'73

Initial Frequency, 6 Nov*72

Orbital Escape from Critical Proximity, (1)

Love, 3 Apr'75

Background Nothingness. 2 Jun'75

Me, 2b Jan»?2 '

Thirty Minimum Aspects of a System,(B)

Timeless, Dec'?1

Modules: A & B Quanta Modules, 20 Dec*73

Awareness. 28 Apr'77

Freedom, «fan'77

Human Beings & Complex Universe, (3)

Self-packability:

See Self-congruence Packing Clear Space Polyhedra

Self-perpetuating:

See Inside, 26 Jan'73

See Three-way Great-circling: Three-way Grid, 15 Feb'66

Self-BoatlonablUtv;

See Star Tetra fc VE, 9 Nov*73

faU-nuncinti

See Hunger: Stonee Do Not Have Hunger, 20 May*75

Self-querying: s_Qif.q_Ufla_{ti}Qning:

(i)

See Questions: Answering Questions Question Asking

Self-querying: Seif-Queati_Onin_f:

(2)

See Synergetics, 1959

Universe, 1959

SjlX-rsalljlmj: Self-realization:

**See Synergetic Strategy of Commencing with Totality Bridge, 1J
Nov*69**

s?K-roaa3QciaUQn:

See Carbon, Jun*72

Self-rebuildinK Telephone?

You & I as Pattern Integrities, 22 Jan*75

Self-Regenerative:

"The significance of Einstein's radiational top epeed is that there is a point of complete regeneration

by which our Universe is the only and minimum perpetually self-regenerative system. It is a self-regenerative Universe of fantastic complexities and «hsign of great integrity in which the sura total of running through the total film takes hundreds of billions of years before it accomplishes its remotest re-wow."

Cite Museums Keynote Address Denver, p. 1J. 2 Jun'71

KBF uEFIKiTiumb

Self degenerative:

"Our universe 13 the only, and the minimuir, perpetual motion machine. It is self-regenerative.**

- Vite rtBF address Am. Assn of Museums, Denver, 2 June 1971,

^stlf S41£=£S£SnSt«iJjCa:

<1)

See Closed System Ninety-two Elements Perpetual Motion Machine

See Irreversibility, Feb*?1

Ruddering Sequence, (j) Success, 1972 Omnitriangulation, 3 Oct*72
Nuclear Domain Ac Elementallty, (1)

^solf-8Gfl¥flnging:

See Hunger: Stones Do Not Have Hunger, 20 May*75

Sgll-acgKlnx-

"Self-seeking brings a potential loss which engenders first caution, then fear; fear of change, change being inexorable. Fear increases and freezes. Self-seeking always eventuates in self-destruction through inability to adapt,"

- Cite RBF to EJA 3200 Idaho, 7 Nov*72; incorporated in SYNERGET-ICS draft at Sec. 441-gfr. Rewrite as of 8 Nov'72 0*3

SelfSseKln: "Self-seeking brings a potential loss which engenders first caution, then fear: fear of change, change being inexorable. Self-seeking always eventuates in selfdestruction through inability to adapt."

- Cite RBF to EJA, 3200 Idaho, 7 Nov'72 incorporated at SYNERGETICS draft at Sec. 411.25, d Nov'72

2.3

^sflf-gncklnc-

See LOBS: Discovery Through Loss

See Inter-aelf-atabiliing

Self-interstabillsing Structural Self-stabillaation

See Structure, 21 Dec¹71; Nov*71; 8 Feb¹71; 13 Nov*69; Mar¹71
Nacklace, (A)-(C)
Triangle, y Nov'73
Stable k Unstable Structures, 7 Jun*72
Omnitriangulation, 3 Oct'72

See Main Engines of Universe Group Starters

Seo Biosphere, (3)
Brain's TV Studio, i960
Energy Capital, (2)

Intellect: Equation Of, Dec*48 Social-industrial Relay, 1 Apr*49 Non-state, 11 Sep'75

Self-structuring:

See Icosahedron as Electron Model, 7 >far'73
Universal Integrity: Ve t Icosa, (1)
Mites * Quarks as Basic Notes, (1)(2)
Saif Svatem:

See Bxtraorganic Travel. 26 May*72 Probability, 20 Feb'72

See Self-education

See Learning, (1)(2) Dymaxion Artifacts,

Saif-tightanlng?
See Knot, 7 Nov*73
See Inter-aelf-trlangulatlng
See Probability, (1)(2)

See Bumblebee

Comprehensive: Self-deblasing De-selfed

Dualism of Self Ego Feedback: Self-accelerating Feedback History's
Hunan Self-education I Identity Individual Loss : Discovery Through
Loss Most Economical Way of Behaving Relative to Unity and

Self

Ninety-two Tendencies of Self-impoundment of Energy Nonself

Matrix of You k I

Me. the Observer Me Other Outsideness of Self

Self;

(1B)

See Personality Syhchro-resonanc e Returning Upon Self

Starting with Self Unselfishness Monofocus Upon Self

Reciprocal Self-precessors Unity & Self Universe Considers

Itself World Looks at Itself

See Annihilation, 22 Jun'75 Apprehension Lags, 11 Sep*75 Com-
munication, 13 May*73 Environment, 15 Mar*71* Kissing, 1 May'77
Octet Truss. 24 Sep*73 Synergetic Strategy of Commencing with
Totality, 28 May'72* Thinking, 1938 Whole System, 28 May*72
Human Beings & Complex Universe, (3)

See Self Annihilation Self Awareness Self-bounding System Self-
communicate Self-congruence Packing Self Consciousness Self-
condierate Society Self Consideration Self Debiasing Self Deception
Self Definition Self Development Self-dichotomizing Self Dis-
cipline Self-discovery Process Self Embracement Self-evident
Self-expansive Self Experience Self-balancing

See Self Expression Self's Honey-seeking Preoccupation Self
Hurt Self-inside-outable Self-interdeterioration Self Interference
Self-interstabilising Self-invertable Self-ish Selfishness Selfist
Self-knotting Self: I Would Like to be Myself Self k Nonself Self-
Now Self-organising Principle Self k Otherness Self-perpetuating
Self-polarising

See Self-positionability Self Processors Self Querying Self Realiza-
tion Self-realizing Planet Self Reassociation Self-regenerative Self
Seeking Self Stabilization Self Starter Self Structuring Self Ssystem
Self Teaching Self-triangulating Self-education Self is not A Priori
Self-chilling Self-divisioning Self-halving

SIUXag: Selling Anywing:

See Obsolescence, Apr*72

Mobile Rentability vs. Immobile Purchasing, 20 Sep'76

Semantica:

"If you get too semantically incisive the reader loses all connections
with anything he has ever read before. That might not be a great loss.
But I like to assume that the reader can cope with his reflexes and
make connections between the old words and the new and better
words...**

- Citation and context at Sphere. 20 Feb*73

Shanties:

Sea Communication Definitions Koryzbski Meaning Verbi rforld-
around Language

Sfinantica:

(2)

See Babbling, 18 Mar'72 Realisation, Kay'49 Sphere. 20 Feb*73* Me,
26 Jan¹72; 28 Oct«73

Semiautonomoua Dwelling Facilities:

See House, 1971

Inventability Sequence, (1)

Semihelix:

Synergetics text at Sec* 623.11

Semimetaphorical:

See Verity, 29 Dec'73

SepiXffymmetry:

"Semisymmetry means that out of the six edges of a tetrahedron there are two pairs of symmetries.

"An istosceles is semisymmetric."

"Symmetry • equiangle

Semisymmetric - isosceles

Asymmetric - scalene

"People want to be either symmetric or asymmetric. They love bias, but the don't like isosceles, the fence-straddler. Reallove is isosceles: inclusive but not exclusive. What people seem to mean by love is they want the other to join them: scalene. The real love includes the other; it is omni-inclusive, semisymmetric, isosceles."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 15 Oct*72

Sensea:

"The range of the first three senses are so close together, and sight is so different, that we may best rank them as #1, touch, being a primary set; with both #2, olfactoral coupled with #3, aural, as a secondary set; and #4 sight, as a tertiary set: wherefore in effect, touch is the yesterday set; while the olfactoral and aural (what you are smelling,

eating, saying, and hearing) are the now set: while sight (what only may be next) is the future set. (We can seem to see, but we have not yet come to it.) Whereas reality is eternally now, human apprehending demonstrates a large assortment of lags in rates of cognitions whose myriadly multi varied frequencies of myriadly multi varied, positivenegative, omnidirectional aberrations, in multivaried degrees, produce such elusively off-center effects as possibly to result in an illusionary awareness of an approximately unlimited number of individually different awareness patterns, all of whose relative imperfections induce the illusion of a reality in which `life' is terminal, because physically imperfect; as contrasted to mind's discovery of an omni-interaccommodative complex of a variety of different a priori, cosmic, and eternal principles, which can only be"

- Cite RBF addition to SYNERGETICS galley at Sec. 801.12,
22 Nov'73 f/5j

Senses:

"intellectually discovered, have no weight, and apparently manifest a perfect, abstract, eternal design, the metaphysical utterly transcendent of the physical."

— Cite RBF addition to SYNERGETICS galley at Sec.
601.

22 Nov*73

Senses:

"The nonsimultaneity and dissimilarity Of the complementary inter-patternlngs Produce what we sense to be reality, Otherwise they would cancel one another And there would be no sensoriality."

- Cite BRAIN &, MIND draft, p.13, 1971

Senses:

"The senses have to do with the brain. The senses, per se are nothing. Just the brain. And it's what began the real metaphysical you-and-I, feel about what the brain is saying. . . You take the senses away, then there is no consciousness. Consciousness comes from experience."

- Cite WATTS TAPE, p. 14, 19 Oct '70

Senses:

"... Fractional information is furnished only

by those wave frequencies which are directly apprehendable exclusively within man's very limited sensorial spectrum frequency bands--- tactile, olfactoral, aural and optical--- and these sensorial frequencies in turn occur only as minuscule trace zones and only at the middle ranges

of the now partially explored, obviously vast and inferentially extendible electromagnetic frequency spectrum'. 'm

- Cite NO MORE SECOND HAND GOD, pp 86,87 9 Apr'40

^sena Disconnection-

Ser Hollar Bills: \$200 Billion One-dollar Bills Circling Around Earth,
(2)

Sensibility:

"Physical interferences of our sensibilities are alike true and real, or realisable, only in principle."

- Citation and context at Principle. May'49

finality-

See Naivete, 1 Feb'75

Scnglpg feJygpUMa

"The child's awareness of otherness phenomena can be apprehended only through its nerve-circuited sense systems and through instrumentally-augmented, macro-micro, sense-system extensions--- such as eyeglasses. Sight requires light, however, and light derives only from radiation of celestial entropy, where Sunlight is starlight and fossil fuels and fire-producing wood logs are celestial radiation accumulators, ergo all the sensings are Imposed by cosmic environment eventings."

- Cite SYNERGETICS 2 draft at Sec. 100.014; 28 Apr'77

- The metaphysical mind employs these organically regenerative, subjectively interacting, sensing, storing, and intuitive devices, as well as all the organism's unique, objectively articulate faculties to harvest critically relevant infonnation

- Citation & context at Life. 9 Jun»75

Sensing, Storing **8c**. Intuiting Devices;

See Humans as Machines

Sensitivity of the Artist-sclentlata:

"Scientists and artists haven't too many valves closed. . . . They are children with a great deal of experience. Education can ruin real sensitivity to the Universe."

- Cite RBF quoted by Noel FRackman in his review of the Tetrascroll showj ARTS Magazine, Aor*77

SgnaitlYltY Of Childhood:

See Doing What Needs to Be Done, 17 Dec*74 Child as laboratory, (1)

See Artist: Histrionics Intuition &. Aesthetics Intuition: Second Intuition Valve of Sensitivity

See Artist: Histrionics (1)

Average Man (1)(2)

Intuition Sequence (6); 15 Jun ` 74

Reflexes, 2 Jun'?1

Earning a Living, 2 Jun*71

Thinking, 10 Sep'75

Psychiatry, (2)(5)

Anger, (1)

Sensorial Identification of Reality: (1)

"From physics we learn that every fundamental behavior of Universe
Always and only coexists with a nonmirror-imaged complementary.

The nonsimultaneity and dissimilarity

Of the complementary interpatterning pulsations Integrate to
produce The complex of events We sensorially identify as reality.

Without the pulsative asymmetries and asynchronous lags The com-
plementations would cancel out one another And centralize equilib-
riously,

And there would be no sensoriality, Ermgo, no self-awareness, no life;

For we have also learned from physics

That all the positive and negative weights Of the fundamental compo-
nents of matter Balance out exactly as zero.

Life may well be a dream, A comedy and tragedy

Of errors of conceptioning Inherent in the dualistic Imaginary
assumption

Of a self differentiated From all the complex otherness

- Cite BRAIN & KIND, pp.96-97 fey '72

Sensorial Identification of Reality:

"Of reasonably conceivable Universe For it must be remembered
That no human has ever seen directly Outside himself.

What we call seeing

Is the interpretive imagining in the brain Of the significance and mean-
ing Of the nervous system reports

Of an assumed outsideness of self, All of which organic design con-
ception May be that of a great intellect Which is inventing Universe
progressively Evolving mathematically elegant Integral equations

For each conceivable challenge Including the invention You and me.

But you and I cannot escape

And are given extraordinary faculties Which we are supposed to use.

So here we go again

From right where we are Now.¹¹

- Cite BRAIN t HIND, p.97 May '72

(2)

Sensoriality:

*»The omni-interactions impinge on your nervous system in all
mannner of frequencies--- some so high as to appear 'solid* things,
some so slow as seeming to be 'absolute voids.'*

.Peppier Effect

- DRAFT'- "CIHV

$n^{-1}1 \ i \ q < 1 \ *| \ " \ 11 \ 1f|Jr|$

- Citation at Halo Concept. 25 Apr*71

Sensoriality:

"Sensoriality is a corporeally external phenomena---- reportedly re-
 layed inwardly to the brain and therein imaginatively scanned by the
 mind which conceptualized independently in generalized formulations
 such as the conception of a nuclear grouping around a nucleus, quite
 independently of size."

- Citation & context at Brain & Mind 11 Nov*69

Sensoriality:

"Size and intensity are sensorial comparing functions of the special
 case experiences by brain and not by mind. Mind is concerned only
 with principles that hold true independently of size yet govern the rel-
 ative size relationships."

~~—j'iii muni sprr; Ctr/“p.—re. ijNwtisr~~

• Citation at Brain and Mind, 11 Nov*69

Sensoriality:

"The word 'form' implies direct sensoriality. The word 'conformity*
 likewise implies direct seneoriality--- it means dealing only with
 forms."

~~—rttr HHTfll. r tn*~~

- Citation at Form, 10 Oct*63

Sensorial Model:

"Experience is always sensorial and so I can always get a sensorial
 base or model."

- Citation & context at Experience, 28 Apr'74

Sensorial Reflex:

"Humanity's intellect and sensorial reflexes are completely uncoordinated. We see clouds floating by, birds flying and people moving, but we can't see plants or humans growing.

We can't see the economic charts realistically: Humanity gets out of the way only when it sees the motion..."

"Like parrots, we learn to recite numbers without any sensorial appreciation of their significance. We have yielded so completely to specialization that we disregard the comprehensive significance of information."

- Citation and context at OMHB Invisible Motion. 13 Mar'73
Sensorial Spectrum:

"Apprehension means information furnished by those wave frequencies tune-in-able within man's limited sensorial spectrum."

- Citation at Apprehension, 1971
gfnarlorlAl-frequecncY-8Dectrua Inventory:
See Individual Universes, 28 Oct¹?!
See Invisible Reality Kay'72

Twelve Universal Degrees of Freedom: General Systems, lii)(III)

Sensorial & Nonaenaorlai:

See In side-outing, 13 Nor'69

seas:

See Architectural Aesthetics: Six S'e

Abstract vs. Sensorial

Angular Sense

Aural

Common Sense
Common Sense: Perceptual Peephole
Directional Sense
Electromagnetic Spectrum
Extrasensoriality
Human Sense Ranging & Information Gathering
Local Information-sensing Devices
Olfactoral Sense
Optical Tuning & Scanning
Hearing
Pattern Sense
Sensorial &, Nonsensorial
Smellable
Spherical Sensation
Seeing: Seeability
Satellite: World Satellite Sensing
See Sweepout
Sight: No Man has ever Seen Outside of Himself
Inventory of Sensations
Tunability
Form & Sensoriality
Taste
Integral Functions of Man
Kon-sensoriality: Infra to Supra

Tactile

Visual

See Apprehension, 1971* Brain 4 Mind. 13 Nov'69* Disconnect, 13 Nov'69 Form, 10 Oct'63* Halo Concept, 25 Apr*71* Invisible Motion, 13 Mar'73* Experience, 28 Apr'74* Communications Hierarchy, (4) Dynamic vs. Static, 12 Nov'75

Sea Sense Disconnection

Sensibility

Sensitive: Sensitivity

Sensorial Identification of Reality

Sensorial Model

Sensorial Reflex

Sensorial Spectrum

Sensorial &. Nonsensorial

Sensing, Storing & Intuiting Device Sensings & Eventings

SENSE PHKABE8

See Attraction Link-up

Angularly Hinged Convergence

See Bounce-impel

See Cleave-roll

Coalescing Adherence

Corkscrew Spiral Tracerics

Contact Coincidence

Critical Convergence & Flying Huddle

Critical Proximity Co-orbiting Corner-converge

See Democratically Coagulating
Distortion Massaged to the Center

See Fibrous Crystalline Units Fit: Pressured or Tensed Fit Force-fluids

See Girth-tensed Bonds Glinpse-discover Gear-locked

See Holding Patterns of Energy

See Impact Extrusion Invisible Trampoline Instrumental Hook-up
Interface Couplings Indrinking Internestability Intergeared Mobility
Freedoms

Sanaa Phrasest

See Jet Stilts: Jet-stilting

Sao Kisa! Locked Kiaa

See Onnianbrecing Squeeee

OvatloMl Gearing

Off-nolded Offspring

Omnitriangularly Oriented Evolution

See Pattern Strip Aggregate Wrapabilities Processional Peel-off
Pumping Fraction Factors Push-pull Members Perimeter Tangent

See Reach-oiles

See Scratch-chorded Severance-tracing Shuttle-woven Smell-
discover Spin-halving Stretch-preas Swivel-moored Self-scavenging

See Tastebuds of Sound Tangential Avoidance Thrust-throw Touch-
feel Tepee: Half-spin Tepee Twist Twist-sprung Twist-pass Torque
Momentum Tendril Curve

(U)

Sea Unpeel the Gravitational® Unwrap the Orbitala Unbandage the Sphere

See Vacuum-fulcrumed Oars Vectorial Near-adas Vertex-vortex Rotations Variable Strands Braiding Visual Symphony

See Wedge-apread (Sec. 901,07) Wrapability

See Ego: Separating Ego out of Omniscience Time: Separating Time out of the System Liquid ve« Solid Differentiation: Differentiable Dome House: Separation of Mechanical Service

Core A Structural Shell

Membranes

See Halfway-round-the-Worlding (1) Plus One, 9 Jul'62 Stability, 18 Mar*69 Polyhedron, 1 Jan'75 Life, 16 Aug*50 Plumbing, (1) Boeing 747 Sequence, 22 Jun»?5 Synergy, Nov'?1 Human beings fc Complex Universe, (12)

SEQUENCES: METAPHORS

See Animate & Inanimate Sequence

Agricultural Accounting System

Air is Socialised

Airocean World >lap

Airplanes: Far Apart in the Sky

Airplanes: Four Airplanes in the Sky

Airplanes Stacked Up For Landing

Airplane Flight As Lift

Airplane Stalled Airplane

Action-reac tion-resultant

Aesthetics of Uniformity

Atomic Computer Complex

Autonomous Living Technology Packet

Average Human Being

Acres Per Individual Hunan Being

Advantage: Enjoyment of All Earth Without One

Individual Being Advantaged at Expense of Another Atoms: All the Experiences with All the Atoms Adoption of the New Only as Last Resort

See Berry Picking

Bird's Nest as a Tool

Brain's TV Studio

Boats at Anchor Retard the River's Flow

Blind tian's Buff

Boltzmann Sequence

Brouwer's Theorem

Brownian Movement

Bubbles in the Wake of a Ship Sequence

Brain's Alarm Clocks

Bullet: Synchronization of Bullets through

Airplane Propeller Blades

Building Blocks

Buddha: Christ: Mohamed

Bottom: Pulling the Bottom Up

Brain as Library

Boeing 747 Sequence

Buggy Industry Could Never Invent Automobile

See Child Ae laboratory

Child: A Little Child Shall Lead Them

Child Pushes Spoon Off Edge of Table

Children's Pictures of the Sun and the Moon

Chain Stronger than its Weakest Link

Chaos: Myth That Scientists Wrest Order From Chaos Collision: Ships
Colliding on the Globe Cui de Sac: Inuitively Inadvertent

Child Sequence

Coincidental Articulation Sequence

Closest Packing of Spheres Sequence

Cosmic Fish Sequence

Conversation Sequence

Cosmic Accounting Sequence

Charts: We Need Only Rotate Our Charts 90 Degrees Computer Asks
an Original Question

Continuous Fan

Copper Sequence

Critical Convergence & Flying Huddle

Children as Only Pure Scientists

See Crossbreeding World Man

Custom: Lest One Good Custom Corrupt the World Coin Toss in the Air

Comon Sense: Perceptual Peephole Communications Revolution

Communication to Self and Others Comet: Around Comes the Comet Again Chick Breaking Out of the Egg City Management Concept of World Government Community as Unit M_{cc}hanlcal Organism

See Divide &. Conquer Sequence

Diesel Ship at Sea

Dollar Bills: \$200 Billion One-dollar Bills Circling Around Earth

Death: Weighing of People as they Die

Dog Pulling on a Belt

Darwin: Evolution May Be Going the Other Way Dead Center of Universe

Death: Slow Death by Slums

Death: Weighing People as they Die

Decreasing Confusion: Law Of

Deficit Accounting

Deliberately Nonstraizht Line

Departments: Nature Has No Separate Departments

Design Science Revolution Diminishing Chaos: Law Of Dismissal of Irrelevancies

Dominoes: Tumbling a Set of Dominoes

Dwelling Service Industry

Dymaxion Airocean World Slap

Sequences: Metaphors:
(D2)

See Desovereignisation Sequence

Doing Right Things for Wrong Reasons Deceptiveness of Topology
Doorknobs as Disease Carriers

Stqwncta: fowtwri:
(E)

See Economic Accounting System

Energy Slave

Education Revolution

Earning A Living Sequence

Energy Income Sequence

Ecology Sequence

Eternal Designing Capability Sequence

Eternal Slowdown

Eternal Wellspring

Energy Capital Sequence

Earth: Let's Get Down to Earth

East-is-East Theme

East-to-West Trend

Eddington's Proof of Irreversibility

Education: Knowing Where the Bridges Are

Electric Lights in Battleship

Energy Has Shape

Environment: Altering the Environment

Environmental Events Hierarchy

Epigenetic landscape

See Epistemological Stepping Stones

Eternal Designing Capability

Expense: Without Any Individual Profiting at the Expense of Another

Eye-beamed Thoughts

Education Autonation

Eggs: You Just Lay Eggs

Earth I-odel as Bundle of Nutcrackers

Electronic Referendum: Electronic Voting

Earth: Let's Get DowiAo Earth

Everybody's Business ¹

Energy Involvement of 92 Chemical Elements

Enough to Go Around

Emergence by Emergency

Electromagnetic Transmission of Human Organisms

Energy-harvesting Dwelling-machine Devices Exempt: We Are Not
Exempt from Universe Everyone in on the Information

See Fisherman Theme

Fossil Fuel Sequence

False Property Illusion

File Cards With Triangular Array of Holes

Fountain Pattern

Form Cannot Follow Function

Fail-safe Advantage

Failure as Norm of Yesteryears

Fault: Society is Living in a Sort of Earth Fault

Feedback by Eye

Fellowships: Life Fellowships in Research k

Development

File: RBF Research File Color"

Finger: Cut Your Finger

Finite Furniture

Fire in a Theater

Fish: Playing the Fish on a Reel Flight: Fixed Formation Flight Floating City

SfigugntOf! Metaphors; (y)i

See Fluid Geography

Flying Huddle

Foldability of Great Circles

Force Lines: Omnidirectional Lines of Force Force: Don't Oppose Forces; Use Them Football Player Metaphors

Frontier: Living on the Frontier

Form Cannot Follow Function

See Geosocial Revolution

Gross World Product Sequence

Generalisations.: Mathematical vs. Literary Generalisation Sequence: Degrees Of

Good: If All the Good People were Clever Game of Life

Game of Universe

Generators: Tumbling a Set of Dominoes to the Generating Station

Geophysical Year: ICY

Ghostly Greek Geometry

Grass: Putting Aside the Grasses

Group Womb

Guinea Pig

Genius: Children Are Born Geniuses

See Hierarchies

How Little I Know

Heartbeats &. Illions Sequence

Heisenberg-Eliot-Pound Sequence

Halo Concept

Hammer Thrower

House as Terminal of Community Mechanism

Human beings at the Center

Humanity's Final Cosmic Exam

See Individual Economic Initiative

Inventability Sequence

Invention Sequence

Immunology Series

Intuition of the Child

Impossible: Only the Impossible Happens In &. Out: Go In to Go Out
Individual Economic Initiative

Individual Life as One Way Universe Could Have Turned Out

Individual Universes

Industrial Lag

Industrial Man

Industrial Revolution; Profile Of

Industrialization: Successive Halving mA Time of National Industrial-
ization

Infinity: Letting Infinity into the System Instant Universe

Intellect: Equation Of Intellectual Kleptomaniac Intellect: Speed Of

See Interference as a Social Model

Interference: Two Lines Cannot Go Through the Same Point at the
Same Time

Intuition: Hot Line Of Intuition

Intuition: Second Intuition Inventability Sequence Inventories Invisi-
ble Aesthetics Invisible Architecture Invisibility: Trends To Irrelevan-
cies: Dismissal Of Irreversibility: Principle Of Isotropic Vector Matrix
Industrial Accounting vs. Agricultural Internal Control of Distortion
Improve: You Can't Improve on the Middle

Sequences: Metaphors:

See Jitterbug

Jump in the River Jump: Man Jumping From a Boat

See Knight's Move in Chess

Key-Keyhole Sequence Kindergarten Level of Comprehension Knot
Sequence Kepler Alone with the Stars Kleptomaniac: Intellectual
Kleptomaniac Know-how Knowing More and More about Less and
Less

See Leaders: Take Away the Leaders Lever Sequence Leaders Can
Yield to the Computer Lever: Fallen Tree as a Lever Lag Rates Land
Technology Law: Crisscross, Right-angle Grid in Civil &

Agrarian Law

Life is not Physical

Lifetime: Perso\$\$l Lifetime Experience for Elective Investment

Life's Temporary Vehicles Light Side vs. Serious Side Local Holding
Patterns Locked Kiss

Longing: Fear & Longing

Loss : Discovery Through Loss Legs: Man Born with Legs Not Roots
Life is a Subtotal of Mistakes

Live Show Reaching Us Took Place Billions Of Years Ago

Sequences: Metaphors:

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See Light on Scratched Metal

Learning: You Can't Learn Less

See Madonna Theme

Might Makes Right

Man aa a Function of Universe

MIT Sequence

Meek Have Inherited the Earth

Macro-> Micro: Synergetic Advantage

Magic Numbers: Isotopal Magic Numbers

Main Engines of Universe

Making the World Work

Mammalian-vegetation Interchange of Gases

Man as a Function of Universe

Man: Automated Metabolism of Man

Man as Halfway in Range of Site of All Creatures ton: Interstellar
Transmission of Man

Man as an Invention

Man as Local Problem Solver

Man as Local Universe Technology

ton: Relative Abundance of Chemical Elements in ton and Universe

ton as One Way Universe Might Have Come Out Manifest: One through
Eight

See Mars: No Country Doctor on Mars Mast in the Earth Matchstick
Thickness at which Objects go into Orbit Matter Over Mindist Meaning:
Decease of Meaning Mechanical Extensions of Man Mental Moutfuls
Metabolic Flow Metals: Recirculation of Metals Metaphysical Discon-
nect Mind-over-Mattering Mind Over Muscle Mines Above the Earth
Miniature Earth Minimum Knot Mini Earth Mole: Industrial Man as
Universal Mole Money Metaphors More With Less Morley Christopher:
The Greatest Poem Ever Known

See Motion Freedom from Rest of Universe Muchness of the Unfamiliar
Multiplication Only by Division Myself: I Would Like to be Myself
Musical Chairs

Mark Your Paper: Nobody to Mark Your Paper Mutual Survival Princi-
ples Motion Economics

Marine Life Analog of Humans

Mobile Rentability vs. Immobile Purchasing Mite as Model for Quark

Money: Making Sense vs. Making Money

Model of Toothpicks &, Semi-dried Peas

See Nature Has No Separate Departments

Naga Theme

Narcotics as a Political Strategy

Nature Always Comes Back on Itself

Nature Has So Many Options

Nature: What Nature Needs to be Done

Navigational Ability to go to Farway Strange Places

And Bring Back Strange Miracle Objects

Navigators: Early Navigators

Necklace

New Life

Newton's Cosmic Norm of "At Rest"

Nine Chains to the Moon

Nucleus □ Nine `` Nothing

Ninety-two Elements: Chart of Rate of Acquisition

Norm of Einstein as Absolute Speed

Now Hourglass: Cross Section of Teleological

Bow Tie

Nuclear Computer Design

Number: Tetrahedral Number

FILE INDICATORS

See Nature Trying To Make Man a Success

Nature Permits it Sequence

Nature's Subvisible Order

Navy Sequence

Nozzle: Harvesting Pollution at the No»«le

Nature is Neither Good nor Bad

North-south Mobility of World Man

Nature in a Corner

Nature's Technology vs, Humans' Technology

See Objective Design

Obnoxious

Obsolete: Inventory of Obsolete Concepts

Octave Limits of Variation Odd Ball

Official Reality

Official War

Old Life Informing the New

Old Man's River's Project

Old Words

Omnidirectional Closest Packing of Spheres

Omnidirectional Halo

Omniscience Transcendent of Omnipotence

One-Town World

Onerousness of Ownership

Operating Manual for Spaceship Earth

Optimism: I Am Not an Optimist

Options: Discovering What the Options Are

Orderliness Operative in Nature

Organic Model: Biological World as Model for Society Outlaw Area

FILE INDICATORS

(0)

See Overspecialiiaion of Biological Species & Nations Outside:
What's Outside Outside?

Outbound Packaging of Human Food Waste Office Buildings: Conver-
sion to Apartments Only the Whole Big System Works

See Plano Top

Population Sequence

Probability Model of Three Cara on a Highway

Prestressed Concrete Sequence

Packaged Concept

Pass: And It Came to Pass

Panic: Official Panic

Parallelogram of Forces

Partially Overlapping

Parting the Strands

Parts: Fallacy of 'Basic Building Parts'¹

I in! i IJJi i pjp a

Pattern Conservation

Pattern Integrity: Equation Of

Pattern Processing Machines

Peashooter

Pendulum Model vs. Scenario Model

Perceptual Peephole as Fraction of Reality

Performance Per Pound

Permanent Symbolic Communication Devices

See Permeative Topology

Permitted Ignorance

Perpetual Motion Machine

Petal: Tetrahedron as Three-petaled Flower Bud Petroleum: It Costs
a Billion Dollars to Make

A Gallon

Phantom Captain

Pharaoh: Only the Pharaoh Was Informed

Phobia of Imprisonment

Physical Is Always the Imperfect

Physical Ingredient Recalls

Physics: Difference Between Physics 4 Chemistry

Physics as Internal Affairs of the Atom

Piaget: Child's Spontaneous Geometry

Picasso Duo-face Painting Pine-tree and Palm-tree Belts Pirates:
Great Pirates

Planarity of Civil 4 Agrarian law Plastic Call-girl Angels Plastic Flowers

See Plural Unity

Pneumatic Structures Poets Anticipate Science Point: Inbound
&. Outbound Point Pole Vaulter Pollen-delivering Inadvertencies
Pollution: Infinite Room to Pollute Pollution: News as Most Polluted
Resource Polyhedral Understanding Population Density: Manhattan
Cocktail Party Population Sequence Poverty: Slow Slum Death
Precession: Analogy of Precession & Social Behavior Problem:
Statement of the Problem Process vs. Thing Proclivities: Inventory
Of Profile: There Is No Half-profile Profile of the Industrial Revolution
Profit: Annual Profit and Failure System Profit: "We Stars Have Got
to Make a Profit!" Prognostications About Future of Man

See Projective Transformation

Prospect for Humanity

Prototype Sequence

Pulse Pattern

Punched Cards

Push Button Dial Systems

Push-pull Members

Puzzle of Washington Crossing the Delaware

Pyramid Technology

Politics: Accessory After the Fact

Promote: I Don't Promote

Planetary Democracy

Pathology: Preventive vs. Curative

Property: You Can't Take it with You

See Quantam Wave Phenomena Sequence

Quantum Mechanics: Grand Strategy

Quarrying

Quest-asking Possibility

Question: Original Question

Quick Death

Quanta Loss by Congruence

Quantum Mechanics: Minimum Geometrical Fourness

Sequences: Metachore:

See Radome Sequence

(R)

Ruddering Sequence

Railroad Tracks: Great-circle Energy Tracks on the Surface of a Sphere

Rearrange the Scenery

Radiation-Gravitation Sequence

Rationalization Sequence Reflection Sequence: Apple Rich ton
Drowning in Shipwreck Rest of the Universe

Relative Asymmetry Sequence

Radiation Sequence

Rubber Glove Sequence

Radio Programs: Invisible Operation of Thousands Of Radio Programs

Rafts: Early World Drifting on Rafts Railway Trains: Loosely Coupled

Rainbow: Optical Rainbow Range

See Raison d'Etre of Boast 4 Fear Ramify the Idealistic Reachability
Range Reader Can Cope with his Reflexes Real Estate Development
Realm: Real: Royal Rectilinear Grid Systems Reductio ad Absurdum
Reduction by Bits Reduction to Practice Reel of Tape Recorder
Reflex: Conditioned Reflex of Bias Reform of Environment Rather
then Reform of Man Regenerative Design: Law Of Reinvestable Time
& Survival Needs Relevant: Lucidly Relevant Set Religion Related to
' Heglio¹ or 'Rule* Rememberable Number Research Fellowships

Regenerative Economic Sustenance See Resource Inadequacy Re-
source Inventorying Returning Upon Itself: Systems Returning Upon
Themselves

Return to Modelability Revolution: Hard Revolution & Soft Revolution
Revolution by Inadvertence

Right to Live: Proving Your Right to Live Right-Makes-Might Domi-
nance Rocks Don't Love

Rockabye Baby Rockets: Steerable Rockets Rope: I Take a Piece of
Rope Rotation of Night as a Shadow Rule of Communication

Rules of Operational Procedure Reel: Playing the Fish on a Reel Robin
Hood Sequence

Romance of History in the Making

Rain as Radial

Sequences; Metaphors:

See Race with Evolution

(R-4)

See Science Opened the Wrong Door

Science: Gap Between Science and the Humanities Social Highway
Experience: Three Autos Structure Sequence Science-Technology-
Industry-Economics-Politics Sequence

Spaceship Earth Sequence

Superatomics Sequence

Spinach

Spherical Triangle Sequence

Survival Sequence: Love

Synergy Sequence; Two Massive Spheres

Sailing with the Wind: Sailing into the Wind Satellite: World Satellite

Sensing Scaffolding Technology Scarcity: Not Enough to go Around

Scenario Universe: Physical Evolution Scenario

Scenery: Rearrange the Scenery Scheherazade Number

Science Opened the Wrong Door

See Scissors Held in Fixed Opening

Sea Technology Conversion to Land Technology Secrecy of Mathematical Knowledge Self-discovery Process Selfinside-outable Self: I Would Like to be Myself SeT-Now

Shapeless: Universe Does Not Have a Shape Ships: A Fleet of Ships Needs More Room at Sea Sight: No Man Has Ever Seen Outside of Himself Skin Pigmentation Sky-island City Slow: The Slower We Get,the More Crowded Snake Swallows its Own Tail Snow, C.P: Cap Between Science t Hunanities Social Sciences: Analogue to Physical Sciences Solid State Sovereignty: Elimination Of Spheres &. Spaces Space Technology

See Specialist Bom with One.Eye and a Microscope

Spherical Barrel

Scheherazade Number

Stars: Invisible Motion Of

Starting with Universe

Starved by Ignorance

Statement of the Problem

Sticks: Falling Sticks

Stone Falling and it's Going to Hit Tou on the Head

Subconscious Coordinate Functioning

Success as Norm

Sugar on the Table

Suicide of Humanity

Sun is Not Saying Earth Hasn't Paid its Bill

Superatomics Sequence

Surprise: The Nonpolitical Surprise Has Already

Occurred

Surprise: Utter Surprise to be Born

Survival Sequence: Love

Swallow the Otherness

Sweepout

Synergy of Synergies

See Service Industry

Service: Serve

Superstition of Social Superiority

Stacking of Oranges A Cannon Balls Stars as Live Shows Billions of
Years Ago

StAMtnctn: Mat>h?ra;
(T)

See Tactical Information Tactile Sequence Take Away the Leader#
Task: The Larger the Task the Duller the Brain Brought to Bear
Tastebuds of Sdund Teleological Schedule of Universal Design Re-
quirements Television: Third Parent Temperature of the Human Body
Tennis Ball Hits the Big Earth Tensile Strength of Crhome-nickle-
steel Tension & Compression Tenure: Academic Tenure Tether Ball
Tetrahedral Tuck in the Universe Tetrahedron: Three TriangJ.es: 2 +
1-4 Tetrahedron: Two Triangles: 2 + 1 - \$ Thinkable System Takeout
Thinkable You

See Three-petaled Flower Bud

Thinking Out Loud

Three and Only Structural Systems Threshold of Life

Tiger's Skin

Time Is Not the Fourth Dimension

Tissue Cells of Animal Flesh

Toenail in No Way Predicts Humans

Tollgate: Private Tollgate the Society has to Go Through

Tomorrow's Clock: Borrowing From Tomorrow's Clock Toner Biting
Your Tongue Tongue: Stick Out Your Tongue Tools: Craft Tools k In-
dustrial Tools Trail Making k Trail Remembering Transformational Pro-
jection Travel in a Human Lifetime Trees Sequence Trespassing: Not
Trespassing Technology k Culture.

See Tracer Bullet Sequence

Trial &. Error

Trim Tab

Trinity: Equation of Trinity Truth: Thinking About Truth Alters Truth

Tuck in the Universe

Tunability

Tolerance Sequence

Twelve-inch Steel World Globe

Twenty-foot Earth Globe and 200-foot Celestial Sphere

Twilight Zone

Twenty Questions

Twinkle Angle

Two Balls Coming Together

Transnationalism vs. Colonialism

Time is an Invention

Time is Only Now

Transnational Capitalism t Export of Know-how

Tetrahedron as Primitively Central to Life Technology: Enchantment
vs. Disenchantaent Toothpicks & Semi-dried Peas

SsaBSH£2a: MfiliBhgEa:

(U1) •

See Up &. Down Sequence

Universe as Verb

Universe as Invention

Universe Citizenship

Universe as Energy k Information

Universe as Kaleidoscope

Universe as Perpetual Motion Machine

Universal Vertex Center Model

Ultimate Computer

Ultra Micro Computer (UMC)

Umbilical Cord

Uncertainty Principle

Uncorked Bottle

Understanding is Exquisitely Total

Understanding: Urge to Understand & to be Understood

Undimensional Night

Undiscovered Principles

Unemployment as Freedom to Think

Unfolded Nothingness

Uni-angular Vectorial Convergence

See Unified Operational Field

Uniform Boundary Scale

Unique Perpendicularity

Uniquely Variant Integral

Unique Way of Playing the Game

Unitary Conwunication Tools

Unitayy Conceptuality of Allspace Filling

United States is Not a Nation

United States: One of the Most Difficult

Sovereignties to Break Up

Units of Environment Control

Unity: Complex k Simplex

Unity Is Plural

Unity As Two

Universal Integrity

Universal Language

Universal Maelstrom

Univerdal Requirements of a Dwelling Advantage

Universal Research Fellowships

Universe Citizenship

See Universe Conaidera Itaelf

Unpredicted: Sequence of Unpredicted Events

Unspoken Communication

Unaipping Angle: Tetrahelix

Utopia or Oblivion

FILE INDICATORS

Sequences: Ms.PhQrfl (W)

See Wind Sucking Sequence

World Game Sequence

Wave Pattern of a Stone Dropped in Liquid

Wire to Wireless

Wind Power Sequence

Weapons Technology Sequence

War: Official War k Unofficial War

Wellspring of Reality

World-around Conununicat ions Transcends Politics

Wind Always Blows within 100 Mles

Wind Power: Effect of Earth's Rotation

Wind Power feeding into Electric Utility Grid

See XYZ Coordinate Syetem

Youth, Truth <fc Love

You Do Not Belong to You

Yesterday'a Private Castle Mentality

Sequence: Sequential:

Sec. 1032.21

See Scenario

Overlapping

Intervariable Sequences

Trend: Trending

See Awareness, 24 Apr'72

Life-time-space Phenomena, 22 Feb'73

Line, 6 Nov*73

Energy & Intellect, May*49

See Industrial Hypocrisy Slave

See Labor: American Labor, i960

See Communication, Oct'70

Serial Universe:

"The term 'serial Universe' was first employed by the British scientist James Dunn. It approaches my concept of Scenario universe.

Cite RBF videotaping aeealon Philadelphia, Pa., 20 Jan'75

"The difference between gravitation and radiation is analogous to the difference between parallel wiring and series wiring in electricity. Series wiring is like the lights on a Christmas tree in which circuitry if one light goes out the whole system goes out. In parallel wiring when one light goes out the other lights remain operative. This is a demonstration of integration and disintegration. Series wiring is a disintegrative system, an open system. Parallel wiring is an Integrative system, a closed system. It is not the •parallelism* that matters but the fact that the circuit is closed. The word parallel came into use only because of the diagram first used to demonstrate the principle as well as the fact that the closed circuit wire is conveniently doubled back upon itself and bound into one 'lead* for house-wiring purposes. The fact that the vectors are parallel is only a convenience of the construction industry. The same lebt/ ve£ors--ergo the same energy magnitude involvement---used correctly, can provide either function. Here we have the convergent integrations and divergent disintegration language of synergetics in the language of electricity."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 5276; RBF rewrite 11 Dec'75

See Closed Systems & Open Systems Shunting

Series; Superseries:

See Progressions, Nay'49

Scenario vs. Absolute Symmetry, 11 Dec'75

Seriousi

See Light Side

. Serious

SfflQEXfifi-ljadUfltri ‘

”Great corporations have not as yet ventured into this field because wind energy has not seemed to be monopolisable over a pipe or wire. However, enterprise can be rewarded, in greater magnitude than ever before, by producing and renting world-around wind-harnessing apparatus— as they already do in the computer, telephone, car rental, and hotelling service industries.”

- Citation and context at Wind Power Sequence (6), 15 May*73

SsryAcg indugtrr-

We can have an integrator calculating, designing and automatically manufacturing and putting together a geodesic dome in a giant jig, after which an automated 'sky tug helicopter will carry the dome away to install it and prepare it for human occupancy, thus providing a telephone-system type of inventing developing, installing, maintaining, relocating, and continually self-improving service industry, able to provide telephone- ordered 'instant housing,' Such a computer-controlled housing and livingry -service industry is even now feasible at one percent of the weight, time, and energy involvement per unit of volume and living equipment found in conventional high-standard suburbia or Park Avenue skyscraper technology.*

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 29 Aug'64

See Automation of World Production and Services

Dwelling Service Industry

Dymaxion House

Fuller, R.B: What I Am Trying To Do

Telephone

More You Use it the More it Improves

Mobile Rentability vs. Immobile Purchasing

See Private Property, 28 Apr*71

Wind Power Sequence, (a)(b); (6)* Design Science: (B)

Cosmic vs. Terrestrial Accounting, (4) Disarmament,

Service YB. Instrument:

See Telephone, 26 Jan*75 Distribution, 25 Jan*75

See Dome House Grand Strategy: 1927-1977, (2)

See Feedback Servomechanisms

Fellow Man

Man: How Do You Really Serve Man No License to Be of Service

Mechanical Service Core

Servomechanism:

"Servomechanisms responding to sensed error in first one direction and then the other, successively correcting the steering--- first this way, then that way*--- averaging an accomplished course halfway between. The variations get finer and finer, trending toward but never attaining, 'absolute straightness.' This is the essence of cybernetics. This way humans reached the Moon. It is the essence of all life growth.,,."

- Citation & context at Planetary Democracy. (7), 15 May'75

See Feedback Servomechanism Rudder

See Sovereignty, 12)

Planetary Democracy, (7)*

Life is a Surtotal of Mistakes, (f)(2) Feedback, 7 Nov'75

Set:

"Even the development of sets derives from experience because mathematics is generalization--- and generalization itself is sequitur to experience.* The mathematicians talk of 'pure imaginary numbers' on the false assumption that mathematics could be a priori to experience.**

- n-itie 8»F to ITJAj Beverly Hotel,- NYC, 1? March »?1-
- Citation at Mathematics, 13 Mar'71

Set:

"All we do 18 deal in , , .images. We traffic in the memory sets, the TV sets, the recall sets and certain Incoming sets."

- Citation &. context at Imagination, \$ Jul»62

Set:

"Neither the set of all-experiences nor the set of all-the-words which describe them nor the set of all the generalised conceptual principles harvested from the total of experiences are either instantly or simultaneously reviewable.**

IjJ,

- **Citation at Honalaultaneltv, 1960**

bee Conversation Sequence, (2)

See Conversation Sequence, (2)

Minimum bet, 9 Jul'62

See Central Set

Circumferential Set

Closed Set

Comprehensive Set

Conceptual Set
Consuderable Set
Considered Set
Empty Set
Future Set
Filled Set
Local Set
Loose Set
Minimum Set
Minimum Regenerative Set
Net Set
Nonsimultaneous Set
Now Set
Nuclear Set
Number: Abstract Number Set Concepts

Sat;

(IB)

See Radial Set

Recall Set

Relevant: Lucidly Relevant Set

Positive or Negative Set of the Whole

Subset

Thinkable Set

Variables: General Theory Of

Challenging Set

Tunable Set: Tuned-in Set

Intertransformablility System Sets

See Experience, Oct*71 Imggination, 5 Jul'62» Mathematics, 13
Mar*71* Nonsimultaneity, 1960* Parts, 1954 System, 2\$ May*72
Star Events, i960 Etymology, Aug*71 In, Out k Around, Nov*71

See Ekistics

Human Unsettlement

Unsettling vs. Settlements

Squatters

Community

"The 56 axes of cosmic symmetry (See Sec. 1042.05) interprecise successively to regenerate the centripetal-centrifugal inwardnesses, outwardnesses, and aroundnesses of other inwardnesses, outwardnesses and aroundnesses as the omnipulsative cycling and omniinterresonated eternally regenerative Universe, always accommodated by the six positive and six negative alternately and maximally equieconomical degrees of freedom characterizing each and every event cycle of each and every unique frequencyquantum magnitude of the electromagnetic spectrum range."

(For later context see Precession & Degrees of Freedom. 19 Nov'74.)

Cite RBF holograph, New Delhi, 8 Dec*72 as rewritten by RBR

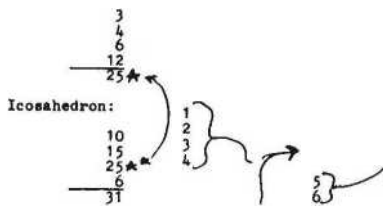
— .

Seven Axes of Symmetry:

"These are the seven axes of symmetry of crystallography. They describe the only great circles foldable into bow ties.

Axes of Symmetry: Vector Equilibrium:

All go through same 12 vertexes of vector equilibrium and icosahedron
7}" Go through no vertexes



SCfSM Hail jywwfrfy-sec. loK2.of

“ Cite RBF to EJA, Bear Island, 25 August 1971.

Seven Axes of Symmetry;

"Note that the seven axes of symmetry do not include the equator nor any single great circle*"

- Cite RBF to EJA, Bear Island, 25 August 1971.

SEVCM jrMfCTXY- sec . 102.0

’There are 25 great circles on the vector equilibrium. On the icosahedron there are 31. These are all the symmetries; there are no other points or aspects of symmetry that you could develop either on the vector equilibrium or the icosahedron (electron) side. The 25 great circles of the vector equilibrium all go through the prime vertexes.”

- Tape transcript Tape 6A. Side A, p.6; RBF To Barry Farrel.

Bear Island, 16 Aug’7<J

"1 made many other subdivisions of octahedra and so forth and found the components always coming apart, as long as there is any cutting on the axes of symmetry, any of the ways in which nature could chop herself up with various extensions of planes, and they always come apart in whole rational numbers."

- Cite Oregon Lecture #6, p. 228. 10 Jul *62

v **Ates** at **sYKterxY** (oWZ. 0|'|

Savon Axss of Syangtry- Prime Gfinemion QX-

”The prime generation of the seven axes of symmetry derives from the truncation of the tetrahedron:

4 original faces

4 triangular truncated vertexes

6 truncated edges

14 new faces of truncated tetrahedron, whose axes generate the seven axes of syOTnetry."

- Cite RBF at Penn Bell studios videotaping, Philadelphia, PA 24 Jan*75. Incorporated in SYNERGETICS, 2nd. Ed. at Sec. 1041.11

Seven Axes of Symmetry.

Superficial Axes:

"There are only three superficial axes of symmetry of crystallography.

They are:

Spin of vertex)

Spin of mid-edge)

- three superficial axes

Spin of center of area)

(that is, c.g. of mid-faces))

"These are all the superficial surface angles which are the gravity. The central angles are the radiation."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. *71.

*stvf*u A*£S 3Ycr<y- SCcS. / V04]

See Bow Ties

Foldability of Great Circles

Great-circle Spinnable Symraetries: Hierarchy Of

Fourteen Axes of Truncated Tetrahedron

See Omnidirectional Typewriter (3)

Prime Numbers: Pairing Of, 17 Jan*74

Trigonometric Limit: First 14 Primes, 14 Jan*74

Scheherazade Numbers: Declining Powers Of, 22 May'75

Seven Fundamental Symmetries:

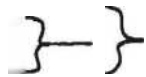
"I will give you the design of the crystallogical.

We find seven fundamental symmetries" and they relate to the "seven great circles that are foldable."

- Cite HBF tape transcript. Chicago, Blackstone Hotel 1 June 1971 - pp. 8-9.
Seven Aics SYw.errtY sec .

"The subsequent definition of four additional topological aspects to Euler's three aspects of vertexes, faces, and edges, synergetics adding (1) angles. (2) irrelevant untuned insideness and outsideness, (3) convexity and concavity, and (4) axis of spin, for a total of seven topological aspects (see Sec. 1044); and recognising the addition of frequency as being always physically manifest in every special case."

- Cite SYNERGETICS,(2nd. Ed.) at Sec. 251.021; 12 Feb'76



"Euler + Synergetics: The first three topological aspects of all minimum systems--- `Vertexes, faces, and adges---were employed by Euler in his formula $V + F + E = 2$. Since synergetics geometry embraces nuclear and angular topology it adds four more minimum aspects to Euler's inventory of three:

angles \square --- 11----- *

vertexes faces edges —

insidensess & outsideness convexity 4 concavity axis of spin----

- Cite SYNERGETICS 2 draft at Sec. 1044.01; 8 Feb'76

SYNERGETICS

See Powering: Seventh Powering: Seventh Dimension

See Prime Number, 16 Oct'71

Vsctor Equilibrium: Bight-pointed Star Syetaa

16 Dec'73 '

Vectorial 4 Vertexlal Geometry, (3)

Seventeen;

See Limit, 15 Oct'71

Scheherazade Numbers: Decllng Powers Of 22 *ay'75; 22 Jun'72 *

Periodic Table: Harmonics of 18, 22 l-ky'75

3everance-tracing;

See Yin-yang, (1)(2)

See Excrement: Excremental Functions

Plumbing

Toilet

Outbound Packaging of Human Food Waste

§SM£X£: 1S.WZ.S. SxatCTia:

(2)

See Architecture, 26 Sep'68; 2 Jul'62

**Building Industry, (7) Houses &. Infrastructure, 20 Sep'76 Scrap Sort-
ing &. Mongering, (2)**

Sex:

•The metaphysical is what is very suddenly coming into prominence. These kids just really take sex. . . and how different it is now than when evolution had to reproduce itself and they had to think of their bodies as just this great baby-making machine home. Well, all that's becoming extinct and the kids don't act that way anymore and the metaphysical is emerging terribly fast."

- Citation and context at Cosmic Fish Sequence (2), 16 Oct*72

Sex:

. As . . . surprising as is the spontaneous synergetic urge of males and females to cohabit and thereby accidentally to start the synergetic formulation of another human being."

- Cite Dreyfuss Preface, "Decease of Meaning" 28 April 1971, p. 8

Sex:

"As survival rate and life sustaining capability increase, fewer births are 'required.' This may be related to our developing capacities in interchanging our physical parts, of producing mechanical organs, of having progressively fewer human organisms to replenish. The drive in humanity to reproduce as prodigally as possible decreases considerably. This may be reflected in social behaviors--- when all the girls begin to look like boys and boys and girls wear the same clothes. This may be part of a discouraging process in the idea of producing more babies.

"We shall have to stop looking askance on trends in relation to sex merely as a reproductive capability, i.e., that it is normal to make babies. Society will have to change in its assessment of what the proclivities of humanity may be. Our viewpoints on homosexuality, for example, may have to be reconsidered and more wisely adjusted,"

- Cite THE YEAR 2000, San Jose State College, Mar'66

See Gonads

Homosexuality

Male & Female

Man: Automated Metabolism of Man

Masturbation

Penis

Procreation

Naked Girl on the Bed

Survival Sequence: Love

Virgin

Kissing

Love

See Cosmic Fish Sequence, (2)*

Emotion, May*65

Fuller, R.B: Moratorium on Speech, (1)(2)

Human Beings &. Complex Universe, (9)-(11)

See Sixwave (Sexave)

Shadow:

"Vegetation has to regenerate its young, but it can't have its young if there is a shadow. The young plants would not be able to get any of the necessary radiation. Therefore, most vegetation launches its new life in little seeds on the winds and on the waters. The possibility of these seeds landing in just the places where they will prosper is poor, and nature makes many starts--- enough to make sure that the species survives."

- Cite RBF in Franklin Lecture, Auburn, Ala., p.Bfl, 1970

Shadow;

"Radiation has shadows; gravity has none."

Radiation-Gravitation,

- Citation and context at ® Mar¹73

See Ma *k* My Shadow

Rotation of Night as Shadow Shadowless

Wind Power: Effect of Earth's Rotation

See Gravity, 23 Sep'73

Radiation-gravitation, 8 Mar'73*

Univeraal integrity, 7 Nov'73

Weather, Feb'73

Wind Power Sequence (3)

Omnidirectional: Physical Existence Environment Surrounds, (I)

ShadowleSB:

See Gravity, 23 Sep*73

See Man as a Function of Universe, 22 Jul'71 World Game, (3); Jun*69

£h&A£«

"Euler has the visual Inventory. Aural sensing has no shape. Our visual sense verifies our tactile sense of shape.

Smelling and sound have no shape. Smelling has less shape than sound. Sound has a little shape In reflecting bouncings of electromagnetic wave phenomena. Visually, when we don't see something, we call It space...."

- Citation 4 context at Silence. 30 Sep'76

RBF DEFINITIONS

Shape;

"Every time you enter eternity everything called shape is cancelled. . . The episodes have shape. but the shape is always mildly asymmetrical and continually transforming. There is * conceptual shape in the ideal i.e., the ideal tetrahedron, but no size, no time."

- Citation and context at Eternity (1)(2), 23 May'72

Shape:

"Generalized shape conceptioning is Independent of size.

A triangle is a triangle independent of size.

- Cite OMNIDIRECTIONAL HALO, p. 119, Oct*60

Shape;

"Abstractions are conceptually ahapable"

- iTii flYttrfiPibTTril~"ren uniiFTW/'See,

- Citation & context at Abstraction, Oct¹59

Shape:

"Different shapes, ergo different abstractions, are nonsimultaneous;
but all shapes are de-finite components of integral though nonsimul-
taneous, ergo shapeless. Universe."

- Citation &. Context at Conceptuality. 1971

Shape;

"Shape is exclusively angular.

Shape 1B independent of else,

Shape being Independent of size Is abstractable

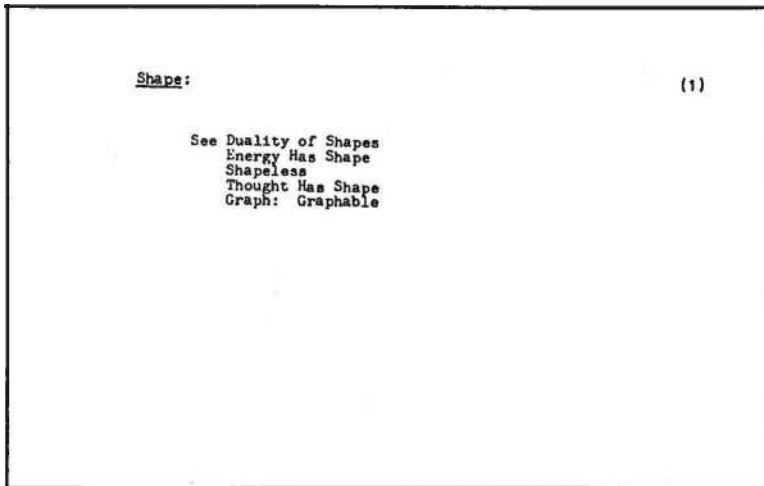
- Cite COLLIER'S, p. 115, Oct»59

"You can have no awareness MMBM sense of shape with just one oth-
erness or two othernesses. Shape awareness commences only with
three othernesses where the relationship of three as a triangle has fi-
nite closure. Shape is what you see areally and until there is closure
there is no area of otherness."

- Cite SYNEHÆTICS draft at Sec. 1023.18, 20 Feb'73

Shape. of—Thiim;

See Frame of Reference, 4 Oct*72



(2)

See Wind Stress & Houses;(2)(3) Silence, 30 Sep'76*

Shapeless: Universe Does Not Have a Shape:

"Because of the fundamental nonsimultaneity of universal structuring, a*single, simultaneous, static model of Universe is inherently both nonexistent and conceptually impossible as well as unnecessary. Ergo, Universe does not have a shape. Do not waste your time as man has been doing for ages, trying to think of a unit shape 'outside of which there must be something,' or 'within which, at center, there must be a smaller something.'"

- Cite SYNERGETICS draft at Sec. 307.04, Oct'71

Shapeless: Universe Does Not Have a Shape*

"Because of the fundamental non-simultaneity of universal structuring, a single, simultaneous, static model of universe is inherently both 'nonexistent,' and 'conceptually impossible,' as well as, 'unnecessary' Ergo, universe does not have a shape. Do not waste your time, as man has been doing for ages, trying to think of a unit shape 'outside of which there must be something,' or 'within which, at center, there must be a smaller something.'"

Cite KEPES

Caption Fig. 1, p. 66 , 1965

Shapeleaa: Universe. Does Not Have a Shape :

See Outside: What's Outside Outside?

Sight: No Man Has Ever Seen Outside of Himself

^sh^aP?legg: Universe Does Hot Haye a Shape:

(2)

See Sculpture as Single Frame. 22 Jul'71 Universe, Nay*71; 1965

fiaMlsai:

See Amorphous Formless Nonform

See Eternity, (1) Ideal, 23 May»72 Integral, 1971 Transendental, 6
Jul'62 Probability, 17 Feb*72 Silence, 30 Sep*76 Time ie Only Now,
19 Jul'76

See Flats & Sharps

\$haath of Pride:

See How Little I Know, 1 Feb'75

Sheet Metal:

See Bannerling Sheet Metal

See Powering: Second Powering, 17 Kov'72

Shall derating Frequency:

See Shell Growth Rate

Shell Growth Rate:

' ` The icosahedron can only show one shell growth layer. The vector
equilibrium can show all shell growth layers omnidirectionally."

- Cite RHF tp EJA, 3200 Idaho, Wash. DC: 23 Oct'77

See

Spherical Wave

Vector Equilibrium: Odd or Even Shell Growth

Concentric Layering

See Einstein, 1959

Kiltiplication By Division, 4 Nov*73

Prime Nucleus, 1J May'73

Regenerative, 1960

Spherical Interstices, 18 Nov*72 Three-dimensional, 28 Oct*73

Scheherazade Numbers: Declining Powers Of, 17 Mar'75

Ten, 22 Jun»75

Photon, 26 Sep'73

Surface Strength of Structures, Mar'72 Nuclear Domain 3c Elementality, (1)12)

Egg shells have a shell ratio of 85 to 1. Geodesic radomes have a shell ratio of as much as 200 to 1.”

- Cite REF to HUD Engineers, Washington, DC, 26 Jan '72

See Icosahedron: Circumferential Closest Packing Boundary Layer Vessel

Turtle Dome

Structural Shell

Protein Shell

See Powering. (B)

Wichita House, (l) Cyclic Bundling of Experiences, J'*ay'49 Icosahedron: Subtriangulation, (2)

Shelter;

The Anglo-Saxon origin of shelter would be: shell --- scyld (shield) + t_er--- trum (firm): that which covers or shields from exposure or danger; a place of safety, refuge, or retreat•

- Clt» NINE CHAINS TO THE MUON, p.33, 1938

Shelter:

"Shelter is by far the greatest single item among man's requirements in point of physical volume, weight, cost, and longevity of tenure* Yet it is among the last to receive his scientific attention."

- Cite NINE CHAINS 1*0 THE MUUN, pp.lj-lb, 1936

See Antipriorities

Dwelling: Dwelling Service Industry House: Housing Repro-shelter
Environment Controls Dwelling Machines

See Squatters, (1)(2) Ecology, Dec*72

See Ecology, Dec'72

Ship:

"A ship of the sea is not arfiip because it is built of wood, for ships can be built of steel or aluminum or polyester fiberglass or pig skin or bark. And ships are inherently a complex oljassociative principles, and subsets of which are each in turn independBent of any local resource limitation. For example, ships' fastenings may be of rivets, nails, screws, or bolts; of bronze, steel, or monel— or welds. It is true, of course, that ships of special component chemistry may outperform others of less appropriate chemistry, but this is by obvious subsynergetic evolutionary improvement, and not by surprise."

- Cite RBF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NC, 1954-59

"Throughout the documented milleniums of man's evolutionary technologies and their progressively integrated inventories, recognized environmentally as successive eras, there has been one fundamental category of technical, strategic, and economic undertakings which, of inherent necessity, transcended the going local traditions of opinion-governed expediency in treatment of physical problems and expenditures of local wealth and credit for those local ends; that is, if we except the enormous credit and physical investment of local undertakings in the most transcendental class as mystical insurance for eternal equanimity as built into the great religious edifices by the local communities, as representing the most generalized problem treatment and infinite range planning known to man's history. If Instead, we confine our selves to discerning what has been the longest-range and most generalized ca'se of the economic communities investment in equipment— simplex and complex— designed for the improved satisfaction of living needs, we will discover that ships and watercraft building in the vast majority of historic communities, who of necessity lived near water bodies, undoubtedly represents the most generalized problem treatment"

- Cite RBF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NO, 1954-59

Ship:

"and longest range, time and geography wise, pattern planning. Why? Simply because a ship had to be designed to meet far more than the pattern indicated by the physical experience within the local environment of harbored confines; indeed, the more resources to be fetched for the complementation of the locally-occurring resources for integration into comprehensive capital goods wealth and higher productivity, the more extremes of climate and weather hazards, the more days and miles of possible hazards needed to be anticipated with approximate safety factors. Ships had to be designed for the generalized case of all oceans and all tasks. To accomplish all-ocean, all-task efficacy, men learned through bitter, mortal, dramatic experi-

ence that they must invest all the best of their commonwealth resources of time and physical goods inventory and cumulative • science and craft know-how into the building and management of their long-range,wealth-integrating ships.

"No arts nor knowledge of design and pattern failed to place in the undertaking. Because of the myriad conflicts of ambition of competitively lesser plan leaders and their easy expediency and shortsighted gain in recourse to piracy," - Cite RBF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NC, 1954-59

Shi (3)

"those whose foresight and comprehensiveness and thoroughness of realized competence effected the actualities of history, are found to have recognized in their major strategies that secrecy and closed-mouthedness in respect to the great ventures proved most effective insurance towards the day when `our ship comes in.¹

"For this very reason the most effective strategies of men have been temporarily lost to history and historical accounting has been made in a myriad of secondary and almost irrelevant legend manufacture. As new day tools allow us to go to oceans bottom, and above all allow us greater perspective of time and distance, we have been able to reintegrate into informative pattern the outstanding historical fact that the whole concept of shipbuilding out of all the best resources to accomplish the tightest limits of schedule performance, represents not only the essence of the meaning of 'priority'¹ in access to the most effective commonwealth means, but over and above this identity to discern also that synergetic effectiveness was the very essence of the word 'wealth' itself."

- Cite RBF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NC, 1954-59

Ship: "For it was the products of complex pattern integration which made the great ships do what the wood logs and the iron ore and the fibrous plants could not and would not do of themselves. The broader the integration, the higher the synergetic effectiveness, and the more unexpected, and there-' fore invisibly harvestable individually managed wealth: i.e., the accrued new greater ability to initiate even greater synergetic effects in respect to unprecedented pattern articulation by those who could see the larger patterns while the eyes of the many were fascinated and gratified by the component aspects,"

- Cite RBF draft Ltr. to Jin (Fitsgibbon?), Raleigh, NC, If54-59

See Dihedral Angles of Tetra & Octa, 16 Dec'73

See Airplanes: Far Apart in the Sky but Slowed Down When Close Together on Land

Fleet of Sailboats

Slow: The Slowe We Get the More Crowded

See Airspace Teachanor Environment Controls, (2) Pneumatic Structures, 25 Sep'72

See Collision: Ships Colliding on the Globe Plano Top Rich ban Drowning in Shipwreck

TEXT CITITION

Ships;

Mexico '63, p. 4, 10 Oct '63

See Battleship Boats at Anchor Retard the River's Flow Bubbles in the Wake of a Ship Sequence Collision: Ships Colliding on the Globe Dieeel Ship at Sea Displacements of Ships 4 Buildings Generalized Boat Navy Sequence Rudderding Sequence Sailboats Sailing Ship Sailing Ship Effect Sea Technology Oil Tankers: Size Of History from the Sailor's & Shibuilder'e Viewpoint

Factors of Ships City as a Ship House as a Ship Spaceship

See Air Delivery & Submarine Cities Lever (b) Size <A>(B)

Trails & Wakes, 8 Apr»75 • falls vs. Airspace Technology, New York City, 11 Jul*75
Cybernetics, 7 Nov'75

(1

(1)

)-(3)

Shoals:

See Schools: Shoals

«BF BEFIKITIUNS

short Cut:

"I do not allow myself what's called the luxury of a short cut. People
ask 'Why don't you cut it short?' Because I've got to take you from an
experience to the thing. There¹ is no use talking about it unless you
feel it yourself."

- Cite KBF quoted in MULLING bTuNE, 10 June 1971.

Short Cuts:

"There are no short cuts in the way of making babies: you can't ac-
celerate fundamental processes. Nature is always operating at most
efficient and economical time:energy rates of transformations."

- Cite CULTIVATE THE POSITIVE, 9 May»57

See Most Economical vs. Shortest

See Triangle, 1960

Shrink: Shrinking:

See Earth Shrunk to One-town Dimension

Shunt;

"Shunt is an angular change."

- Cite HBF Lecture Town Hall, New York 12 March 1971

Shunt:

"Modifications in relative magnitude of the system's import and export programming and their rates of reoccurrence is accomplished by component events of the system which interfere with and thus intercept and shunt (or valve) the import event receipts into holding patterns. From the holding pattern or reservoir the events may be valved into the system's component event patterning for use at preferred rates and magnitudes in extending or altering the regenerative integrity of the system. Scientific design controls these frequency and magnitude events • by (valving), i.e. angle and frequency modulation,"

- Cite NASA Speech, p. 42 , Jun'66

"The icosahedron's function in Universe may be to throw the switch of cosmic energy into a local shunting circuit. In the icosahedron energy gets itself locked up even more by the six great circles--- which may explain why electrons are borrowable and independent of the proton-neutron group.**

- Cite RBF rewrite of SYNERGETICS galley at Sec. 45.11, 5 Nov*73

Shunting: Relative Motion Patterns: (1)

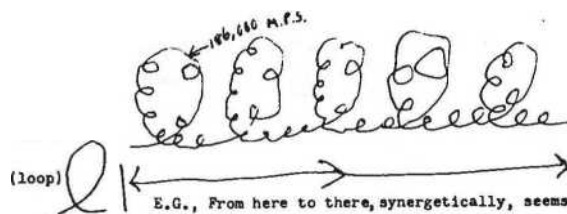
'•Synergetics discloses that the apparently different velocities, or rates of acceleration, of which the physicist speaks do not truly exist. The seemingly different velocities are a plurality of angularly precessed--- or shunted--- energy action systems regeneratively operated in respect to other systems.

'"Velocity is always 186,000 miles per second. All other relative motion patterns are the result of remotely observed, angularly precessed, 186,000 m.p.s. energy-action shunting.

'Angularly precessed shunting may divert omnidirectional energy into focused (angularly shunted) actions and reactions, of either radial or circumferential pattermings, or both.

'Frequency modulation is accomplished through precession-shunted circuit synchronizations. 'Valving* is angular shunting. Competent design is predicated upon frequency modulation by application of the precessional shunting principle."

- Cite Synergetics Notes, p.9. 1955. Incorporated at SYNERGETICS Sec.647. 1 Oct'72



One shunt:

Shunting: Relative Motion Patterns:

relatively to an observer as 10 m.p.h.

- Cite Synergetics Notes, p.9 et. seq., 1955. Incorporated at SYNERGETICS SEC. 647, 1 Oct'72

"The compressively interprecessional cooperative and accommodative functionings of all structural systems are locally persistent constellations of resultant forcevectors, which are always angularly shunted. and regenerative ly re-shunted. inwards of the systems tangential lines i.e., at resultant angles less than 180 degrees in respect to the direction of origin of the generative force.**

- Clt TLKShGRITY, Art News Annual, p. ,20. Dec'61

See Icosahedron as Local Shunting Circuit Holding Patterns Precessionally Shunted Pattern Relay Valving: Valvability Fall-in, Shunt-out Focus - Angular Shunting

See Boats at Anchor Retard the River's Flow, 1960
 Copper (A)
 Continuous Man (4)
 Design Covariables: Principle Of, 1959
 Environment Controls (1)
 Manifest: One, 1973
 Motion, 27 May'72
 Mass Production, May'72
 Ninety-two Elements, 9 Apr'40
 Pattern Strip Aggregate wrapabilitles, 19 Dec*73
 Radome Sequence (4); (B)
 Spherical Octahedron, Aug'72
 Solid State, 13 May'73
 Tensegrity, 20 Oct'72
 Tensegrity Sphere: Six Pentagonals (1)(2)
 Trespassing (1)(2)
 Water, May'6\$
 Wave Pattern of a Stone Dropped in Liquid, 6 Jul'62
 Omnidirectional Typewriter (4)

See Tensegrity Model of Self-interference of Energy, 25 har'75

Vector Equilibrium: Field of Energy, (A)
 Environment, 29 Kar'77
 Similar:
 See Omnidirect ioml Shutterable Sieve
 See Intershuttling
 See Jitterbug, 4 Oct*72
 Pattern Strip Aggrgeate Wrapabilltiea, 19 Dec*73
 Star Tetrahedron, 8 Oct'71
 Two, (2)
 Side Effector

(i)

See Primary vs. Side Effects No Sides

See Children as Only Pure Scientists, (A)

See Inadvertent • Sideways

Oblique Sideways

Side:

See Moon: Other Side of the Moon

Other Side of the Universe

Sieve:

"A sieve is an angular valve."

- Cite RBF at Penn Bell videotaping, Philadelphia, 30 Jan¹⁷⁵

siova:

See Omnidirectional Shutterable Sieve Dwelling Sieve

Sight:

"» . □ We nee in 60 separate picture frames per second as in a moving picture continuity. Each frame is a finite increment. Our brain's after image lag is so powerful that (it) gives a sense of absolute 'eacentricity*' to our only subconsciously packaged seeing."

- Citation at Eccentricity. Jun*66

Ott. HASA Ey-Wiy-?. 32 , Ja»'Ai6

Sight:

"Before the speed of light was measured, sight seemed ... to be instantaneous. . . . But neither light nor any other phenomenon is instantaneous."

- Cite NASA Speech, p.52_f Jon¹⁶⁶

Sight:

"Man aeaa only by omni-directional images illuminated within the experience-inventoried brain after images regeneratively fed-back by the energy of momentary sensorial scannings. It is significant that he gets direct or nondelayed visual report only from the actively radiant energetic centers of light, notably the stars. All other visual reports wait upon indirect routing by their superficial reflection from passive structures of energetic impasse, the planetary mass phenomena."

- Cite PREVIEWS, UI, p. 203,1 Apr*49

1HIB Sight: No Kan Ha a Ever Seen Outside of Himself:

"... It must be remembered

That no human has ever seen directly

Outside himself.

What we call seeing

Is the interpretive imagining in the brain

Of the significance and meaning

Of the nervous system reports

Of an assumed outsideness of self,

All of which organic design conception

Fay be that of a great intellect

Which is inventing Universe progressively

Evolving mathematically elegant

Integral equations

For each conceivable challenge

Including the invention

You and me."

- Citation and context at SENSORIAL IDENTIFICATION of Reality

Sight: No Man Has Ever Seen Outside of Himself:

"No man has ever seen outside of himself. He always sees in his brain."

- Cite Letter to Dr. R. Urmston, 8 Oct '64, p. 2

BS-fen Has Byer Scan Outside at Himself:

"No man has ever 'open' outside himself."

- Citation and context at Bra in* a TV Studio,. I960

See Brain's *TV Studio*

See Slides: Use of Slides in Lecturing, 6 Jul*62

You *it* I as Pattern Integrities, 22 Jan*75

Sight:

(1)

See Invisible Motion

Optical Motion Spectrum

Optical Tuning & Scanning

Perception

Seeability

Seeing

(2)

See Recall lag. 26 !fay»72

Senses, (1)

Television, 5 Jul*62

Twelve Universal Degrees of Freedom: General
Systems, (II)

Repetitive. 28 May*75

Celestial Radiation Accumulators, 28 Apr*77

Signal:

See Information Signal

signature of °od;

See Triangle ae Signature of God

Significance:

See Mutual Survival Principles, (2)

Silence:

"Silence in the untuned. Silence takes the electromagnetic place of
espace. Space is a sort of tactile error. . . the frozen thing.

"With awareness and consciousness you already are thinking; but the
point is that you didn't start out with the notion of doing some think-
ing; it wasn't your fault that you started to be conscious of something.

"Euler has the visual inventory. Aural sensing has no shape Our visual
sense verifies our tactile sense of shape. Smelling and sound have
no shape. Smelling has less shape than sound. Sound has a little
shape in reflecting bouncings of electromagnetic wave phenomena.
Visually, when we don't see something, we call it space. But hearing
is like smelling, when it is not tuned-in, it is silent. I've been saying
tuned-out, but what I've meant all along is silence."

- Cite RBF to EJA; 3200 Idaho, Wash.DC; 30 Sep'76

Silence;

"Space nothingness is the untuned. I now call it silence.

- Cite RBF to EJI; 3200 Idaho, Wash.DC; 29 Sep'76

Silence:

See Absolute Silence

Nothingness Silence

Fuller, R.B: Moratorium on Speech

Similar & PiBsimilar:

See Triangling (1)(2)

Simple:

"Corollary A is: The simpler, the more enduringly reproducible."

- Citation and context at Regenerative Design: Law Of (1), 13

See Modelability, (a)



Sjppjggt Knot:

"Look at any picture, point your finger at any part of the picture, and ask yourself: Which aspect is that, and that, and that? That's an area; or it's a line; or it's a crossing (a fix, a point). Crossings are loci. You may say, 'That is too big to be a point;' if so, you make an area by drawing a line around it. Here is the simplest knot drawn on the surface of a sphere:

"This identifies topology and knots at the simplest limit case.
 - Cite SYNERGETICS, 2nd. Ed. at Sec. 1007.24', 1 Jan'75
 glpislaat spngthing;

See Minimum Something Tetrahedron

(1)
 SjmBlcat Somhln£;
 See Tetrahedron, 26 Apr*77
Simplex:

"Chemistry seemed to laugh at our coordinate awkwardness as nature contrived all of our physical 'matter' entirely out of rational, whole integer simplexes.'*

- Citation and context at Cabalus (2) + (3), 1965
 See Complex k Simplex

Limit Minimum Simplex

Nuclear Simplex

Topological Aspects: Inventory Of

See Calculus, (2)0)* Regenerative Design: Law Of, (2)

Simplicity:

‘ ‘ It seems to be a law of nature that the more fundamentally simple and biologically propitious an evolutionary growth may be--- the more aesthetically satisfying and lastingly acceptable is its multireproduction, e.g., roses, stars, and blades of grass."

- e±tcjiE5eeICJrehite<Jture, ThaPrasAfttare-nw -- 106*
- Citation at Reproducible. 1968

Simplicity?

"The law seems to be that the more universal, the more symmetrical (see the helicopter versus the bomber); and the more symmetrical, the less the number of parts types. This is to say that the greater the superficial simplicity, and therefore the more adaptive the tool, the greater the required investment in anticipating teleology in the processing of proportionately larger blocks of self- and historically-relayed knowledge concerning SSgnlm experiences, principles, and their reciprocal involvements."

- Cite RBF draft Ltr. to Jim (Fitsgibbon?), Raleigh, NC, 1954-59

"We may hypothesis* that a* information increases exponentially--- explodes--- conceptuality implodes, becoming increasingly more simplified.*

- Citation at Conceptuality, 196?

See Circle as Simplest Complex k. Simplex Primary Structure Curvature: Simple Aesthetics of Uniformity Reproducible Most Economical - Simplest

See Environment Events Hierarchy, 1954

Calculus (2)(3)*

Conceptuality, 1967*

Patent, 1955

Reproducible, 1968*
 Regenerative design: Low Of (1)*
 Scenario Universe, 22 Apr*68
 Synergetics, undated
 Tetrahedron, Nov'71
 Structural System, Nov*71
 Mutual Survival Principles, (4)
 Awareness, 28 Apr'77

Simultaneous:

"All dimenaions are simultaneously considerable.

- Citation at Dimension. 29 Nov'72

"The big jobs are done in tension and the small Jobs in compression. We find that the tensions, because they are always curved, never can get straight and there is no meaning to the word straight in Universe. Therefore the tension members spiraling around must always come back into themselves. They are inherently self-closing;

maybe not within simultaneous experiences--- obviously not in simultaneous experiences--- but around comes Halley's ftomet. Every 70 years around she comes again. It is not a simultaneous experience at all. Several life times may be involved, and some of them may be coming around much more slowly, but there is an integrity of the tensions as around they come again. We fin4 an idea about some kind of closed circuit.**

- Citation at Tension. 5 Jul'62

- i.gnra pp.~i 1 77 Jnl'tQ'

Slt»uJ,yafieUyi

See Children*e Pictures of the Sun and the Moon

Instantaneity

Juggler

Overlapping

Nonsimultaneous

Radiation: Speed Of

Static

Synchronous

Unitary Conceptuality

See Dimension, 29 Nov'72* Interacconmodative. 13 Mar*73 Meaningless, Oct*60 Tension, 5 Jul'62* Visual Symphony (2)

Sin;

"I'm the only man I know who can sin. I find everybody else really too innocent. They don't really know what they're doing. I find that people who seem to be the most offensive are fantastic innocents. They really couldn't know what they're doing because they'd be mortified at the idea of doing something so unbecoming. But I've really had enough experience, such a fantastic amount, that I really know what it is to sin. And that would be to cheat on the great accounting system of Universe, trying to take something out and hang on to it.

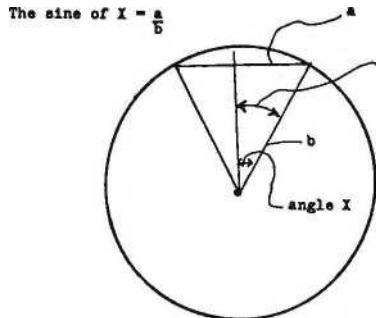
` ` I could very easily transgress. I could rest and sleep and make all kinds of money. The opportunities keep coming in all the time. But I have no desire to sin, I assure you. The point is: I know how. There are many things I did in my life that wouldbe sinful if I did them today. I still feel I'm entitled to make experiments, but once I find out--- do it again? No. That's sinful."

- Cite RBF in Barry Farrel Playboy Interview;/q972 - Draft. p<40.

See Good & Evil Ininorality

"The courage to adhere to the truth as we learn it involves, then, the courage to face oneself with the clear admission of all the mistakes we have made. Mistakes are sine only When not self -admitted. Etymologically, sine means omission where admission should have occurred. An angle is a sinus, an opening, a break in a circle, a break in the integrity of the whole human individual. Trigonometrically, the sine of an angle is the ratio of the length of the chord facing the central angle considered, as ratioed to the length of the radius of the circle whose center is also the apex of the angle, or sinus, considered. The angle is the angle of error of viewpoint of the individual whose circular integrity has been violated. The relative site of the chord opposite that angle of error as proportioned to the radius (taken as unity 1) of the circle of experienced knowledge of the individual; and being the sine of the angle considered, it is also the relative magnitude of the individual's sin. (Drawing attached.)"

- Cite RBF Ltr. to Bro. Jos. Chuala, p.3; 7 Nov*75



- Cite RBF Ltr. to Bro. Joa. Chuala, attachment; 7 Nov*75

Seo Emotion, Hay'05

Singing Early in the Morning:

See Superstition, 1938

Single Bonding:

See Chemical Bonds

See Atoms & Compounds: Difference Between

See Physics & Chemistry: Difference Between, 8 Apr¹75 Model of Nonbeing, 11 Sep*75

See Frame

See Machines vs. Structures, 13 Nov¹75 New York City, {7}

Sinti* Intmr Pilfersntlala: (D

"In synergetics we find the difference of one whole integer frequently Manifest in our geometrical interrelationship explorations. Beyond the one additional proton and one additional electron characterising the hierarchy of the already-discovered family of 92 regenerative chemical elements and their shortlived transuranium manifestability by high-energy physics experiments, we find time and again a single integer to be associated with the positive-negative energetic pulsations in Universe.

"Because the energetic-synergetic relationships are usually generalised relationships independent of else, these single rational Integer differentials are frequently found to characterize the limit magnitudes of asymmetric deviations from the zerophase vector equilibrium.

"The minor aberrations of otherwise elegantly matching phenomena of nature, such as the micro-weight aberrations of the 92 regenerative chemical elements in respect to their atomic numbers, was not explained until Isotopes and their neutrons were discovered a few decades ago. Such discoveries numerically elucidate the whole-integer rationalization of the unique"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 310.11 and .12, 10 Nov*74

RBF DEFINITIONS

Single Integer Differentials: (2)

"isotopal system's structural-proclivity agglomeratinga,"
- Cits SYNERGETICS, 2nd. Bd. at Sec. 310.12, 10 Nov*74

See Odd Ball Rational Whole Nwabere

SlnXfl Oit₁e_{rn}si:

See Environment, (A)

atoaUar-A Plural:

' • Compressions are plural. Tension is singular."

• -etTe—&merfencs:~nruri-urbeui

• Citation at Tension & Compression. Dec'71

See Love *k* Hate, Oct*71

Tension k Compression, Dec*71*

Synergetics, 11 Oct'73

Potential vs. Primitive, 12 May'77 Environment, (A)

Sink? Sinking:

See No Sinking: Man Cannot Sink

See Angular Slnuo Takeout

See Angle, 7 NOT'75

Six:

"There are alx vectors or none."

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. »71,
Haverford, Penna.

Six:

"Six unique vectors constitute a tetrahedr®al event."

- Citation at Event_f 11 Oct*71

- Cite ~SINKRGETICS~~CprnllAri>i v c 11 ui tl, A >uima"*

"You have elx vectors or none for every energy event.

- Cite RBF to EJA, Washington, DC, *J* Oct. *71.

RBF DEFINITIONS

Six:

"The number of edges are always divisible by six in a structural system."

- Cite P. PEARCE, Inventory of Concepts, June 1967

SAs:

"The number of all the lnaa--- which la to say the number of all the yactora--- in Univeraa, ia alwaya a number which ia divisible by six. There are no exceptiona. Now theae alx eagea are the alx eSgea of the tetrahedron..."

- Citation k context at Quantum. Jun*66

Six:

"The minimus set, affording macro-micro separation of universe is a set of four local event foci. These four stars have an inherent sixness of relationships. This four-foesix-relationship set is definable as the

MMHMh tetrahedron."

(Adapted.!

OMNIDIRECTIONAL HAU), p. 11,0, I960

- Citation at Tetrahedron. 1960

Slat:

"It is a synergetic characteristic of minimum structural systems (tetra) that the system is not stable until the last strut is introduced. Redundancy cannot be determined by energetic observation of behaviors of single struts (beams or columns) or any chain-linkage of same which are less than six in number, or less than tetrahedron."

- CTE_ hulutx a|rti >»i MT T ma'gft pH -liQSO'e-)
- Citation at Strut, 1950's

Sjxness:

"There is a systematic interrelationship of basic fourness always accompanied by a slxness of alternatives or freedoms.

- Citation and context at Pulsation. 9 Nov'72

"Experiments show that there are six positive and six negative degrees of fundamental transformation freedoms, which provide 12 alternate ways in which nature can behave most economically upon each and every energy-event occurrence. Ergo, there is not just one 'other'; there are always at least 12 'others.'"

- Cite SYNERGETICS text at Sec. 537.12; Dec'71

"The connection between the six degrees of freedom and omnidirectionality is, of course, the vector equilibrium, which combines the threeness of the cube in relation to 20 as unity \square VE."

- Citation & context at Vector Eauillhr-1 um, 25 Aug*71

MBMHMI ^{Six} Degrees of Freedom:

six

"Experiments show that there are positive and

six negative degrees of fundamental transformation freedoms, which provide twelve alternate ways in which nature can behave most economically upon each and every energy event occurrence."

- Citation *k* context at Environment Events Hierarchy (6), Jun>66

__ - -Jwr*66-

EVtiJT- 3E£ Fil.o3 |

"The rhombic dodecahedron • • • it8 twelve facets represent the planes perpendicular to the six fundamental degrees of freedom."

- Citation and context at Rhombic Dodecahedron, 19 Apr*66

'The number of vectors (structural or force lines) cohering each and every subsystem of Universe is always a number subdivisible by six, i.e., consisting of one positive and one negative event, each of three vectors, which add up to six. This holds true topologically in all abstract patterning in Universe as well as in fundamental physics. The six vectors represent the fundamental six. and only six. degrees of freedom in Universe."

- Cite RBF Ltr. to Drof. Theodore Caplow, 18 Feb. '66.

See Cosmic Event

Degrees of Freedom

Frame of Reference: Six Schemata Powering: Sixth Dimension

Twelve Universal Degrees of Freedom

See Artifacts (1)

Closed System, 21 Oct'65 Coherence. 18 Feb'71: 11 Feb*73 Conceptuality, 1 Apr'72 Dimensional Reference Frame, 1972 Energy Unit, 17 Jan'74 Environment Events Hierarchy, (6)* Point, 28 Oct`63; Oct'59 Polar Vertexes, 19 Feb'72 Pulsation, 9 Nov'72 Rhombic Dodecahedron, 19 Apr'66* Synergetics, 1 Apr'72; 20 Jun'66 Vector Equilibrium, 25 Aug'71* Cosmic Hierarchy, 23 Jan'77 Technology: Enchantment vs. Disenchantment, (1) Will, (1)

Six - Five " One:

"The difference of one between the spheric domain of the rhombic dodecahedron* e elx and the nuclear sphere* s five---or between the tetra volume of the octahedron and the three-tetra sections of the tetrahelix---these are the crime wave pulsation propagating quanta phenomena that account for local aberrations, twinkle angles, and unzipping angles manifest elsewhere and frequently In this book.^{1'}

- Cite SYNERGETICS text at Sec. 985.08; RBF rewrite, Beverly Hotel, NYC; 8 Jan*74

Six - Five " One;

See Octahedron as Annihilation Model, 30 Dec*73

Volumetric Hierarchy, (2)

Nuclear Cube, 23 Feb'76

Spherical Interstices, 9 Jul'76

EJA.: "Rob Grip is worried that your new sphere is .499

and not a clean 5. Also, you are talking about three-dimensionality for the first time. I don't understand. You used to say that 'Time is not the fourth dimension.'?"

RBF: "I say .499 because that is the closest that Heisenberg is going to let us come.

"And the sphere emerges from the primitive hierarchy when it begins to spin. Spinning Is Just one of the degrees of motion freedom. Spinning and orbiting give you the sphere--- at the point where frequency comes into time-size.

"I have done a new piece for you on dimensionality in answer to your very good questions about the relationships between the six motion freedoms and the six degrees of freedom. And I have discovered that Just as there are in reality 12 degrees of freedom, so there are in reality 12 motion freedoms.

"All spheres are potential spheres. The sphere that the mathematicians have been dealing with in the primitive"

- RBF to EJA by telephone from Pacific Palisades, CA; 8 Aug'77

Six Motion Freedoms & Degrees of Freedom; (B)

"hierarchy is only three-dimensional because it is timeless and sizeless and prefrequency. Where you begin with insideness and outsideness is three-dimensional. But when the somethingness enters---when you go beyond primitive conceptuality, then you have to go beyond the primitive three-dimensionality. It was only that static three-dimensionality that the mathematicians used to talk about in their coordinate system.

"But with frequency you have time-size and you come to fourth-, fifth-, and sixth-dimensionality. It is true that I say 'Time is not the fourth dimension,' that's why I say 'time-size'."

- Cite RBF to EJA by telephone from Pacific Palisades, CA;
8 Aug'77

Six totlon Freedoms *It*, Degrees of Freedom:

"You are right that what we are talking about here---in the articulation of the primitive hierarchy---is more than what we usually mean by dimensionality.

"In addition to dimension, what we are talking about is the Interaction of the degrees of freedom, the six positive and negative motions---as well as the power factoring... the identification and quantation of the full behavior potential of energetic structurings."

(MB: RBF had said that we are probably dealing with up to the 24th-dimension. when EJA objected to using dimension in this way. - eja.)

- Cite RBF to EJA, in presentation by Chris Kittrick and Rob Grip in back room at 3500 Market St.: Phila. PS; 11 Aug'77

"There are the six positive and negative exercises of the motion freedoms, but the freedoms themselves come from the fact that the minimum system in the Universe consists of six vectors: the tetrahedron. The tetrahedron has a minimum of six edges. I want you to try to think about a minimum something. A something, a substance, has an insideness and an outsideness.

You cannot have a surface without the other surface. We teach kids that in two dimensionality there is only one surface, but we're always kidding them---we do that on a piece of paper or on a blackboard when they both have more than one side: therefore we have extracted a plane very improperly.

"And we talk about a point which is dimensionless. A line was $\square\square\square\square$ * one-dimensional; a plane was two-dimensional; and a cube is three-dimensional. I say we don't have dimensionality less than four dimensionality. If we have something it is four-dimensional. It is only recently that we have had a microscope. If we took an engineer's scale we get down to 1/50th of an inch---you can really pick that off with the naked eye. You get down to 100th, you get a glass."

- Transcript P*» RBF interview with Dr. Michiel Bruwer, "You get down to 1/200th of an inch and you can't see it at all. Long before people had microscopes there was a black speck against a white background: it was too small, it was under the dimensions that you and I can differentiate. You have a speck of 200th of an inch; you can see it as a speck but you couldn't resolve anything about it as a polyhedron. This is where man invented the idea of a point. You could point to it, but it was subdimensional—he said.

"I started to see how we could make the mistake of points, and lines, and planes as something that you put together and find that you make reality. I started with my reality, and then if-there's a point to it, well, there's something there; and If I put a really powerful magnifying glass to it I'm going to find there is a crystal. It is a polyhedron and it has an insideness and an outsideness. Anything that is substantial has an insddeness and. an outsideness. Any substance has something that stands below it: sub-stance, withinness.

"I am going to take the minimum something. I take a rock and I get a child to hit the rock; you keep hitting it and"

- Cite transcript p.15, taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

"you finally get to a something, You can't get to something less than four corners. It may be kind of flat and look like a flat triangle but it has really an altitude and you find that the minimum is four corners and six edges and four faces. You cannot get a rock with less than three faces arouhd a corner. If it looks flat, it is just so many faces.

"The tetrahedron is fourfold symmetry: four minimum absolute faces. A cube has only three. The minimum something has four faces of symmetry, four vertexes of syimetry. Now that is then the minimum something, degrees of freedom. I cannot have something less than four corners and I cannot have a face of less than three edges so that the minimum something has six edges altogether. Any one face has three edges so these six edges are vectors in that structure and they really are the defining set of events and with every turn to play in Universe we always get six moves so the minimum something is a minimum play.

- Cite transcript p. 15, RUF taped interview tilth Dr. Michael Bruwer, Rltx Carlton Hotel, Chicago; 20 Feb'77

"You always get six edges. They can be at all kinds of angles so that's where the degrees of freedom are. We find in topology that all some-things have vertexes, faces, and edges, but the numbers of the edges in Universe is evenly divisible by six. These are the six degrees of freedom and they can be positive or negative and they are always there. They are not on a plane; they are omnidirectional.

"The six motion freedoms are complex consequences of the six degrees of freedom. If you want to get an instrument held in position, it takes six restraints. If I have just five restraints, then the tetrahedron will change shape. Shape requires six restraints. Six restraints are what give structure.

"A minimum system is a tetrahedron; a minimum structure has six restraints, so anything that holds its shape has a minimum of six restraints so that the system itself can spin or the system itself can orbit. The system itself can inside out. There are systems behaviors and the six degrees of freedom are internal to it."

- Cite transcript p.16 RBF taped interview with Dr. Michael Brdwer, Rits Carlton Hotel, Chiacog; 20 Feb'77

Six Motion Freedoms * Definition. Q.E., Freedom: (5)

"So there are six internals and six externals. The six system motions... will be part of the larger system in order to have them stop: they will be frozen in part of the larger system, they are going to have to lose one of those freedoms. ... we come to the six positive and the six negatives and there really are always 12 and they alternate economically.

"If he doesn't have these six degrees of internal restraints, he's going to be very unstable internally.... You see if he doesn't want to get on with the system, he spins by himself... Oscillating is ambivalence approaching and avoiding,... Inside-outing I saw as being deceptive, putting the wrong surface on themselves or the other way: giving up this game person and being a real person---when he really believes in the game so it is almost an unnatural thing....

"Precession I see as an effort I make to manipulate you, to cause you to move... because it is really at 90 degrees... you are looking this way... very inadvertent.

"I am saying that society doesn't realize that the most"

- Site transcript n.17, RBF taped interview with Dr, Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

"powerful social behavior is precessional... where my effect is inadvertent. If you are a strong psychiatrist and your patient thinks well of you, he orbits around you literally.

11 society is going in orbit in various realms...literally, the weak ones around the strong ones.

"We get such a static picture of people standing with one another in a house... we don't think of this. The mother will be in orbit about somebody else and the children will be in orbit about her.

"...Torquing is a squeeze, all right. You go through the wringer, as they say. That's torquing.

"...while oscillation is expansion and contraction: like we eat our food and then we get rid of it. So our friendship proceeds. We see so much of each other and then we stop, much as I am going to do with you. I would like to give you so much and let you have something and then you can study that and then come back for more. That's oscillating to me. You put on food and expend it---put on metaphysical fuel and exnend it."

- Cite transcript p. 18. RBF taped interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

See Absolute network behavioral Phases Behavior Potential Proclivities: Inventory Of Motions: Six Positive u. Negative Energetic Functions Structural Functions

See Basic Motions

Motions: Six Positive & Negative

Six Motion Freedoms:

(2)

See Equilibrium k Disequilibrium, (1)

Six-Ridge Tetrahedral Globe:

(1)

"As we take a close-up view of our little Spaceship Earth we see that the three-quarters of it which is covered with water has a greatest depth of about six miles, which is about the same as the six-mile altitude of its greatest dry land mountain peaks. We find that these ten-mile maximum variations of the spherical Spaceship Earth's 8,000-mile diameter are comparatively negligible. If we are looking at a 12-inch diameter globe, the distance between the outermost mountain peak and the innermost ocean depth is only 1/80th of an inch,

which visually is an almost undetectable amount. As we look at a 12-inch globe, the thickness of the ink with which an ocean is depicted is deeper in proportion to the globe than in the real Earth globe's ocean depth in respect to its diameter.

"Three major mountain ridges of the Spaceship Earth converge in the Antarctic continent. From the South Pole one runs northwardly in the high continental plateau of Africa, and thence into Europe culminating as the Alps. A second ridge runs northwardly under water and emerges as Australia Malaysia, and later as Indo-China. A third ridge consists of South America's Andes which runs northward through Central America to terminate"

- Cite BEAR ISLAND STUHY, galley p.6, 1968

Six-Ridge Tetrahedral Globe: (2)

"in North America's Mexican mountains.

"In the northern hemisphere, the northern ends of these three southern-hemisphere-emanating ridges are interconnected by fourth, fifth, and sixth ridges, respectively. The fourth consists of the Alps, Asia Minor's highlands and islands, and the Himalayas. This fourth ridge runs between Europe and Indo-China and interconnects the northern terminals of ridges one and two. The fifth ridge consists of the China-Kamchatka mountains, and the Aleutian and North America's Rockies, which joins the northern end of ridge two with the northern end of ridge three in Mexico. The sixth ridge runs from Mexico and the terminals of ridges three and five via El Paso, Texas, and is thereafter momentarily broken through by the Mississippi; it continues as the Ozarks and the Appalachians and reaches north-eastward as a chain via Newfoundland, Labrador, Greenland, Iceland, British isles, Scandinavia, and Urals to final juncture with ridges one and four at the Alps.

"These six main ridges have for long been seen by physical geologists and geographers to constitute the now distorted- sunken here and risen there--- six edges of a spherical tetrahedron."

- Cite BEAK ISLAND STORY, galley p.7, !yt>8

Six-Ridge Tetrahedral Globa: (3)

"The spherical tetrahedron's four spherical triangle areas are roughly to be identified as: (1) the Indian Ocean and its abutting countries; (2) the Pacific Ocean; (3) the Atlantic Ocean (including Europe); and (4) the northern portion of North America (U.S.A., Canada), the Arctic Russia and China, . • *

"The spherical tetrahedron's twisted ridges tell the evolutionary history of Spaceship Earth's contractual shrinkings and yieldings to primary force events of complex universal energy transactions. The Earth sphere's shrinking and ridge twisting is like that of cooked green peas."

- Cite BEAR ISLAND SI'UKY, galley p.7, 1968

See Architectural Aesthetics? Six S0s

^slxthlng of the Circle*

See Foldability: Six Cases of Foldability of Great Circlesj 22 Nov'73

StoTAEWF T,gaaa.i

See Proton & Neutron

Quantum: Event-paired Quanta

RBF DEFINITIONS

Six-Wave (Sexay e) Phenomenon of Number;

"...Six dimensional" provides " for the six-wave (sexave) phenomenon of number."

- Citation and context at Powering: Sixth Dimension. 29 Nov*72

See Frame of Reference: Six Schemata

Hexagonal Vector Pattern

Interrelationships: Fourness & Sixness

Minimum Six

Powering: Sixth Dimension

Powering: Sixth Powering

Tensegrity: Stability Requires Six Struts

Foldability: Six Cases of Foldability of Great Circles

Interrelationship Twoness

Basic Event

Motions: Six Positive & Negative

See Coherence, 11 Feb*73; 18 Feb*71 Dimensional Reference Frame, 1972 Energy Event, 7 Oct*71 Event, 11 Oct*71 □ Geometry of Thinking, 16 Dec*73 Insideness & Outsideness, 11 Oct*71 Integer, 15 Oct'72 Line, 7 Nov'72 Minimum System. 26 May'72 Minimum Set, 18 Nov'72 Norm: Tetrahedron as Norm, 15 May'72 Pulsation, 9 Nov'72* Quantum, Jun'66* Relevance, 22 Jun'72 Rhombic Dodecahedron, 29 Nov*72; 27 Jan'75 Strut, 1950s* Structure, 16 Dec'73 Tetrahedron, 1960*; (1)(2); 1965 Universal Joint: Tetrahedron, 9 Nov'73 Pauling, Linus, 1965

Sea Vectors Are Real, 23 Fay*72 Positional Differentials, 1 Feb'73 Interference, (517.10) Nov»71 Structural Quanta. 9 Nov¹73 Restraints, 8 Aug'77

SLXVeeq: Sixteen-.TM:

See Spherical Triangle Sequence, (iii)

Sixty Degreeneaa:

"Sixty degrees is the vector equilibrium neutral angle relative to which life-in-time aberrates."

- Citation & context at Neutral Angle_T 16 Dec¹73

Sixty Degreeenesa:

"All the cosmic triangling of all varieties of angles always averages out to 60 degrees."

- Citation and context at Sphericity of Whole Systems. 26 Sep*73

Sixty Degreeeness;

‘ ‘ Energetic geometry discloses the rational fourth, fifth, and sixth powering modelability of nature¹s coordinate .transformings as referenced to the 60° equiangular

isotropic vector equilibrium.”

- riin nnr in rji_t

- Citation at Fourth Dimension. 21 Dec*71

"The metaphysically permitted frame of reference for all the asymmetrical physical experience of humanity is characterized by the 60-degree coordination with which synergetics explores nature's behaviors--- metaphysical or physical."

- Citation at Frame of Reference, Oct*71

Sixty Degreeenesa:

With regard to Z-cobra open triangular spiral which make up the tetrahedron: ‘ ‘ Notethe approximately 60 degree angularly precessional reactions or resultants."

- Cite HBF Marginals on Synergetics Illustrfdation #2,

7 Oct. 1971, Washington, DC.

"Among the Phoenicians and the Polynesians . . the sixty degreeeness was known to them and it was the king*s capability. The common people on the island were kept in just by having ninety degreeeness- with which they were not able to do any important kind of mathematics at all. But what you could do with sixty degreetfess was very powerful. So the sixty degreeenes is part of the coordinate system that I am talking about. When we begin to integrate our arithmetic on a sixty degree basis, then we begin to find some coinciding with the topological interactions of systems, particularly the vector equilibrium.*

- Cite Tape transcript RBF to EJA, Chez Wolf, 18 June 1971. 3\$

"If we accept 60 degreeeness we find that instead of getting only four right triangles around a point in a plane, or eight cubes around a point in space, we get six 60-degree angles about the point in the plane, and 20 tetrahedra around one point in space. Furthermore the circumferential modular frequency of planar or omnidirectional patterning will always be in one-to-one correspondence with the radial frequencies of modular subdividing. When we do this, we find we have made a model of the spontaneously coordinate structure which nature actually uses / the vector equilibrium/.*

- Cite Conceptuality of Fundamental Structures (Kepes), p.72,1965

"... The particles which make up cement are sifted sand and gravel, which, though they look rough, pack averagedly as spheres would pack--- in 60-degree angular packing. Few people think of cement that way, but if it is shaken down, agitated well, and lubricated together with a colloid, it will automatically avail itself of nature's tetrahedral structuring in 'closest packing' pattern."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes 1965, p. 86.

RBF DEFINITIONS

Sixty Degreeness:

"There are in closest packing, we find, always alternate spaces that are not being used so that triangular groups can be rotated into one position or 60 degrees to an alternate nestable place. ... In other words you take the vector equilibrium, rotate it 60 degrees to the next nestable position and suddenly it is polarized."

- Citation & context at Vector Equilibrium: Polarisation.

IPiul'62

~~—Cite Oregon~~

Sixty Degreeness:

"... Whereas we can only get eight cubes around a point ... 90 degreeness uses up all the space around a point. When I am dealing in 60 degreeness, when I am using tetrahedron as unity, we can get the whole volume of 20 tetrahedra around one point. The tetrahedron is unity. We are getting 20 around a point instead of eight. . . . If I have a volume of 20 around a point then two to the fourth power is 16 plus two to the second power. . . It is very easy to make models of the fourth dimensionalities."

- Cite Oregon Lecture #4, pp. 137-138.6 Jul»62

"s. V*

.While) ^w «.,iThe cubes always and only co-occur in the eternal ^vcosmic vector field and are symmetrically oriented within the field, none of the cubes* edge lines are ever congruent or rationally equatable with the most economical energetic vector formulating which is always rational of low number or simplicity as manifest in chemistry. Wherefore humanity's adoption of the cube's edges as its dimensional coordinate frame of scientific event reference gave him need to employ a family of

irrational constants with which to translate their findings into their unrecognised isotropic vector matrix relationships where all nature's events are most economically and rationally intercoordinated with omnisixty-degree . one-, two-, three-, four-, and fivedimensional omni rational frequency modulatability."

- Cite SYNERGETICS draft at Sec. 92.13, 19 Nov'72

See Vector Equilibrium: Field of Energy, (C)(D)

Sixty Degreeeness: vs Mnety Degreeenesa;

"It could be that in always only coexiatant action-reaction

180°-nesa begets 90°-nea8)

and j

90°-neaa begets 180°-nea8 J

ergo (active)

and 60°-nesa ia neutral, ergo (potential)

- Citation at Precession. 8 Dec'72

Sixty Deereeness: vs. Ninety Degreeeness;

"Perpendicularity (90-degreeeness) uniquely characterizes the limit of three-dimeresionality. Equiangularity (60- degreeenesa) uniquely characterizes the limits of fourdimensional systems."

- Cite SYNERGETICS draft at Sec. 965.04, 17 Nov'72

Sixty Degreeeness: vs. Ninety Degreeeness:

"... ./hat shows uo as so very important in all an our synergetics is the sixty degree coordination whether it is circumferential or radial, giving a sixty degreeeness. You have a fundamental coordination that way that you cannot getjin a ninety-degreeeness where the hypotenuses of the nintey degree angles will not be congruent and logically integratable with the radii."

_x ~ Citetape transcript RBF to EJA, Chez Wolf, 18 June 1971. p. 35. SEC, 3
2.'©'Z1

Sixty Degreeai_VB. Ninety Degreeeness;

"I use 60 degrees as normal instead of 90 degrees.

- Citation at Normal. 2 May*71

KBFDEFINXT1UNS

"I am quite confident that I have discovered the coordinate system employed by nature and it uses 60 degrees instead of 90 degrees. Also the lines don't go through a point but they are 60-degree convergences even though the lines don't ever get together. They get in critical proximities--- and there are the domains of the convergences--- and so forth even though they are open as you get to the non-closed convergences."

- Cite Oregon Lecture #4, p, 133. 6 Jul '62

See Precession & Degrees of Freedom, (1)*

Vector Equilibriums Field of Energy, (A)-(D)

Normal, 2 May'71*

Spherical Octahedron, 2y Nov*72

Domains of Convergences, 7 Nov'73

Model of Toothpicks & Semi-dried Peas, (1)(2)

Sixty ^DWgeg a a Ngjjn:

"I use 60 degrees as normal instead of 90 degrees

Citation at Sixty Degrees. 2 May'71

See Babylonian Mathematics Cosmic Neutral Closest Packing of Spheres Equiangularity Hexagon Octet Truss Spherical Octahedron Tetrahelix: Continuous Pattern Strip Vector Equilibrium: Field of Energy Sixty Degreeeneaa vs« Ninety Degreeeness

See Aberration Limit, 22 Jun'72

Fourth Dimension, 21 Dec'71*

Frame of Reference, 21 Dec'71*

Dihedral Angles of Tetra & Octa, 16 Dec'73

Energy & Number, Oct'71

Frequency, 2 Nov'73

Nestable, 11 Jul'62

Neutal Angle, 16 Dec'73*

Normal to Universe, 10 Sep'74*

Pi, Nov'71

Precession, 8 Dec'72*

Sphericity of Whole Systems, 26 Sep'73*

Synergetics, 14 Kay*73

Tetrahedron: Coordinate Symmetry, (A)

Three-way Great Circling: Three-way Grid, 17 Feb'72

Universe, 26 Sep'73

Vector Equilibrium: Polarization, (1)*

Vector Equilibrium, 26 Aug'75

Zero Volume Tetrahedron, 10 Dec'75

Dymaxion Airocean World Map, (a),{c), (g)-(i)

Gravity: Speed Of, 21 Oct*72

Triacontrahedron, jl Jul'77

Site:

"Size is special cane."

- Context and citation at Shape; Energy Has Shape. 25 Sep'73

Site:

"Site is physical and is manifest by frequency of length, area, volume and time. Size is manifest in the four variables of relative length, area, volume, and time; these are all four expressible in terms of frequency."

- Citation and context at Prime State. 21 Mar*73

Site;

"Site is always special-case experience."

- Citation and context at Eguianjularity. 25 Sep* 72

Size;

"The relative size of the vector equilibrium begins with the initial omnidimensional geometrical configuration of reference. Vector equilibria, as with the tetrahedra or other polyhedra, are conceptually valid vector equilibria or tetrahedra, independent of size. Size is where relativity becomes generated. The eternality of synergetics is conceptually experientiable independent of the successive experiences of relativity of time and size."

- Cite RBF rewrite at SYNERGETICS Sec. 445.SS-, 22 Jun'72

Site:

"Size comes with comparative experience."¹

- Citation and context at Otherness. 28 May*72

Size:

"... velocity being a product of time and size modules and mass being a volume-weight relationship..."

- Citation and context at Time. 27/2 May'72

Size:

- Cite SYNERGETICS Corollaries, Sec 240., by RBF 11 Oct.'71 Haverford, Penna.

Size?

"Vectors are size.

No vectors - No size.

No size - No vectors."

- Cite SYI4.RGETICS Corollaries, Sec. 240. By RBF 11 Oct. 1971, Haverford, Penna.

Size:

"Frequency and Size are the same phenomena."

- Cite RBF to EJA, Bear Island, 23 August 1971, Synergetics Sept. '71 draft, Sec. 882.1.

ITIF- JFC

Site:

"Siae alone can come to zero--- not conceptuality. We have a elielesa nucleus for the jitterbug pumping model."

... The point is the microaomic turning around between going inwardly and going outwardly."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

Size:

"There are three different aspects of size: linear, aerial and volumetric and each one has a different velocity." In coordinate symmetry "as they move in toward the opposite vertex, all these velocities come to zero at the same time. But because if the 60-degreeness, the six edges and the four faces and the symmetry were never being altered, they were not variables. The only variable was size. So size and size alone can come to zero. The conceptuality of these aspects never changes,"

- ~~GHie mmr~~ → HUI, m H u till! m-.—
- Citation and context at Coordinate Symmetry, 31 May'71

SIZE - SEC 518.02

Size:

"The word locally means locally in time and space.

By space we mean size— a function of time."

22 April 1971

- Citation at Local. 22 Apr'71

SUa: (1)

"We can say an angle is an angle independent of the length of its edges. Likewise, a triangle is a triangle independent of its size. By Size we do not refer to the angle, but to the length of the edges, or magnitude of the faces or volumes, described by the linear boundaries. How long the edges are can be determined experimentally only in the terms of the repetitive multiples of some given pattern experience. The given experience module has a fundamental time consideration. All experience of size refers to the duration of the patterndescribing events. And the observer's time sense refers to any of his own afterimage consideration of one of his integral recycling organs.

"A basic time cycle is a circle or a loop back.

"Therefore an angle is subcyclic, for it is only part of a circle.

"Angles, being cyclic, are subsize, for size begins with one cycle."

- Cite RBF holograph with old Synergetics draft, circa 1970

Size:

he refers to the size aspects to other experiences.

"That he had found the linear coordinates of an XTZ- rectilinear inter-
relationship useful in

analyzing omnidimensional pattern experiences does not pre-empt
the arithmetical evaluation of alternatives in dimensioning our experiences.

"In book (SYNERGETICS) I must eliminate the words three- dimensional as meaningful, and always use omnidirectional observation of multi-dimensional characteristics, with angle and frequency of cyclic reference as the only requirements."

- Cite RBF holograph with old Synergetics Draft, circa 1970

Site:

"Size and intensity are sensorial comparing functions of the special case experiences by brain and not by mind. Mind is concerned only with principles that hold true independently of size yet govern the relative size relationships."

- Cd . 12.3 Nov*69

* Citation & context at Brain & Mind, 13 Nov'69 SEC Sl'j.otl

SHe: (*)

"Concept of an experience's relationship to other experiences, defined in term of cyclic repetition of any one experimental demonstrable self-terminating or singlecycle experience. (A triangle, a tetrahedron, or a sphere, etc., is a triangle, a tetrahedron, or a sphere independent of size. An angle is an angle independent of the length of its edges. All of Plato's solids may have the same length edges because their differences are

entirely angular. An angle is inherently a subdivision of a single cycle. Therefore an angle is sub-size.)

"Size begins with one specific cycle's completion. Angles are conceptual independently of size. Size is linear. As linear size of an object is doubled, surface is fourfolded and volume is eightfolded--- ergo areas increase at a velocity of the second power and volumes at a velocity of the third power--- ergo size variation relationships are deceptive and not superficially predictable by any one experience. As we double the length of a ship its surface is fourfolded. Inasmuch as the power to drive a ship through the sea and air at a given speed is directly proportional to its surface, when we double its linear

- Cite «' / ORJ MEANINGS, "Ekistics," Vol #28, Oct '69

jiir- sec. 523. » H\

Size;

"size, we fourfold its rate of expenditure of energy but we eightfold its payload capacity. A ship's size is popularly thought of in terms of her length. Therefore it comes as a

surprise that a man with a ship twice the length of another's can make eight times as much profit. That is why shipowners and sailors talk to one another in terms of tonnages, which is based on volumetric displacement of water by weight."

- Cite WORD MEANINGS, "Ekistics," Vol. #23, Oct '69

Size:

' 'Size and time are synonymous

- Cite GENERALIZED PRINCIPLES, p. 6 - 28 Jan '69,

sTzE-sec

Size:

"Site is a measure of relative magnitude of separate linear, areal, volumetric, weight and other energetic experiences."

"Conceptuality operates independent of size."

- Cite NASA Speech, p. 99, Jun'66

Size:

"Size is simply three different things: linear, areal, and volumetric rates of change."

"So you have three rates of change in the phenomenon called size."

- Cite OREGON Lecture #6 - pp. 210, 209 respectively

10 Jul •62

- ~~GtW-Carbondale Draft~~, ..NiTIIRF'S COOROfTtATION ¶ VI.

"SUE -5e<7sz?.»i\

Site:

"The phenomenon size consists of frequency modulated linear, that is, vectorial, dimension.'^{*}

- Cite OMNIDIDIRECTIONAL HALO, p. 144 , I960

Size:

"The relative size of a triangle la a secondary observer induced consideration and depends upon the frequency modulated edge increments of the triangle as ratioed to some other physical experience entity."

- Cite OMNIDIRECTIONAL HALO, p. U4, I960

Site:

"Shape Is Independent of site.¹¹

- Citation & context at Shape. Oct'59

Siia;

"Arithmetical size dimensionality is identified geometrically with relative frequency modulation

- Cite COLLIER'S, p. 114, Oct'59

Size:

"• • is not a generalized conceptual principle J*]

Whether referring to the size of an object in respect to

other objects or the sizes of any one object's subdivision, size emerges exclusively as a frequency concept uniquely differentiating out each •specializedcase. •"

- Cite INTRO, to OMNIDIRECTIONAL HALO, p. 119, '959

S/3F- *ttti*. Slf.cil

Size:

"Generalized shape conceptioning is independent of size. A triangle is a triangle independent of size."

- Cite Intro, to OMIDIRCWPCONAL HALO, p. 119, 1959

DwiftlgnUlw

"Synergetical size dimensionality is identified geometrically with relative frequency modulation."

- Citation and context at Dimensionality (2), 28 Oct¹⁷³

Site Dimensionality:

"Arithmetical size dimensionality is identified geometrically with relative frequency modulation."

- Cite COLLIER'S and SYNERGETICS "Corollaries," Sec. 240.46 and "Modelability, Peering," Sec. 777*

Size- $\langle \rangle$ le9UYe:

"Isotropic vector matrixes ... are inadvertently, i.e.. subjectively activated by the size-selective metaphysical consideration initiatives, or . . . objectively and physically articulated in consciously tuned electromagnetic transmission..

- Citation and context at Isotropic Vector Matrix, 30 Nov*72

Size:

See Independence of Size

Magnitude

Presize

Sizeless

Subfrequency

Subsize

Time-size

Zerosize

Oil Tankers: Size Of

Rigid " Sized

Structural Performance & Size Time-angle-size Aspects

See Acceleration: Angular k Linear (1)(2) Brain k Mind, 13 Nov'69*; Coordinate Symmetry. 31 May*71* Equiangularity, 25 Sep'72* Frequency, 16 Feb'73 Local, 22 Apr*71* Otherness, 28 May'72* Prime State, 21 Mar'73* Reality, 23 Aug'71 Rigid, 24 Sep'73 Shape: Energy Has Shape, 25 Sep'73* Shape, Oct'59* Time, 27 May'72 Synergetics vs. Model (A) Structure, 27 Dec*74 Infinity =* Frequency, 19 Feb'76

Sizeless:

"The vector equilibrium is absolutely dead center of Universe and will never be seen by man in any physical experience--- yet it is the frame of reference. And it is not in rotation and it is sizeless and timeless."

- Script RKFto Ba?R_r--CarhondalaTDamc, 4-"Kay-1971 -Pez9>
- Citation at Vector Eauilibrium, 1 May'71

See Conceptuality Independent of Sixe No-sixe Conceptual Model Ze-rosixe

Prime

Subfrequency

Zerophase

See Conceptual Tuning, 24 May*72

Frequency, 2 Nov*73

Mind Ae Reality, 27 Mar*73

Multiplication By Division, 4 Nov*73

Omnidirectional, i960

Point, 20 Feb*73

Synergetics, 24 Sep*73

Tepee: Half-spin Tepee Twist, 20 Feb*73

Tetrahedron, 24 Sep'73

Timeless. 1 Apr'72

Vacuum, 17 Feb*72

Vector Equilibrium, 1 May'71

Prime, 18 Dec*74

Tensegrity Vector Equilibrium, 28 Jan'75

Model vs. Form, 8 A_{pr}*75

Life, 5 Jun'75

Nuclear Cube, 11 Dec'75; 23 Feb*76

Six Motion Freedoms & Degrees of Freedom, (B)

Skew; Skew-aberrata:

See Kadial-circumferAeJtlal, 9 Jan'74 Dynamic Symmetry/(3)

Skiing:

"That'a all skiing is— ths angular valving of gravity."

- Cite RBF to Mary-Averett Seelye, Trapier Theater, St, Albans School,
20 Oct`72

Skiing:

ⁿ...A ski compresses the snow into a grooved track of lev slidability."
7

Citation *Sc.* context at Airplane Flight as Lift. 4 Oct'72

See Surfing: Surfboarding

See Design Science: Education For, 1 Feb'75

Skinner; B.F.:

"I know and like Skinner. He is sincere and cosnitted to his theories. I observe that he does not differentiate between brain and mind. (See my book 'Intuition.') Assuming only brain, chromosomes, DNA-RNA, and that life is entirely physical it is logical for him to see everything as mechanistically behavioral and omnlexplicable by humans because he excludes from consideration an a priori, eternally inexhaustible, mysterious integrity governing Universe; only a few of those □ reliably guiding principles have thus far been discovered by humans,"

See Female, 17 Oct'72; May*65 Male & Female, 19 Dec'71

Skinning;

"When you transfer the projected data from the surface of a sphere to a plane, you have to break open the spherical akin in order to 'peel' it. There will be various angular cuts in the periphery of the akin when it is laid out flat, just as you take the akin off an animal. The openings along the edges are called sinuses. The sinuses on my map occur in the water. None of the cuts go into the land. Therefore, I am able to take all of the data off the Earth globe and make it accurately available in the flat."

- Cite RBF to Wm. Marlin, Architectural Forum, p.71, Feb»72
Sm,npAn&:

"As in skinning an animal, a fruit, or a vegetable to provide a flat skin stretch-out, the development of a flat map of the complete world involve*s arbitrary piercing of the world ball's surface map-skin, thereby making one or more holes or gashes from which W to start the stretchingout and peeling-off process of the skin until it is liftable from off its ball center. After the data has been further stretched it may be laid out as one or more flat map sections. If the skin-ning is accomplished in separate peelings and those sections have curved peripheries they may be tangentially only as 'gears' Or 'fans', which destroys the chance of forming a continuous one-surface comprehensive wbrld map.

"To provide a continuous one-surface world map--- while peeling off the sections of the globe--- the transformation must be such that the pieces have straight and matching edges when peeled off and flat-tened out."

- Cite Undated Sheet: "THE DYMaXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

"Typical of all the finitely conceptual objects or systems, the tiger's skin can be pierced and slotted ooen. Thereafter, by enlarging the slotted hole by gashes in various directions, the skin can be peeled off all in one piece. It can be made to lay out flat by making a lunar-gash from the skin's edge into any remaining domical area of the skin. The slitting of a paper cone from its circular edge to its apex allows the paper to be layed out as a flat •fan,' intruded by an angualr sinus. . . The surface contour of every object or system--- be it a complex creature such as crocodile, or a simple cube or a dodecahedron can thus be 'skinned' and laid out in the flat."

- Cite NEHRU SPEECH, p. 13. 13,Nov'69

sysrfM __ sec

Skinning:

See Angular Sinus Takeout, Dec*61 Thinkable System Takeout (1)

"At the heart

Of the heart

Of the Applewhite

Heart

Are ever

The black seeds

Whose skins

Like the Skin Of its stem

Are its skin kin To the barks

Of the appletrees Ad Jfinitum,

"As the Sun's radiation Is phtosyntheslzed Into regeneration

Of biologically accommodated Intelligent life Around planet Earth

By unique differentiations

Of total electromagnetic Spectrum

Into most locally effective Pigmentations. '*

- Cite RBF Valentine to the Applewhites, "with dearest love for them from Uncle Bucky," 14 Feb *72, 3200 Idaho, Wash. D.C., U.S.A., Earth.

Skin Pigmentation:

See Race, (1)-(4)

See I-'embrane

Sieve

Walla

See Plastics, 10 Aug'70 Good & Evil Sequence (1) Octahedron as Photosynthesis Model, 11 Dec'75 Montreal Expo'67 Dome, (A) North Face Domes, 20 Sep'76 Human Beings &. Complex Universe, (9) (10)

Skirt; Skirts:

See Angular Sinus Takeout, Dec'61

SKybrffak

See Done: Montreal Expo '67 Dome Sequence, (4)

Sky Ocean:

See Airocean

See Floating City Habitable Satellite Spac j Structurea Skybreak Bubble

(2)

See Dwelling Service Industry (5)

Inventability Sequence (1)

Shy Harbor:

See Heaven, 13 Nov*69

See Horisontai Skyscraper Crystalline Asparagus

SfrYgcraparfl:

(2)

See Buildings as Machines, 13 Nov*69 New York City, 13 Mar'75; (1)-
(12) Invented Jobs, 20 Sep* 76

Sky Tug Helicopter:

See Air Delivery & Submarine Cities (3) Service Industry, 29 Aug'64

Sky:

(1)

See Air

Biosphere Heaven: Heavens

See Order & Disorder. 5 Jul'62 Visual Symphony (2)

Slang:

"Slang 18 the human drive to say more with less. Slang gains its users by its poetical economy."

- Cite Dreyfuss Preface, "Decease of Meaning."

28 April 1971, p. 20

SA*ng:

See Freeh,

3 Oct»71

See Rationalization Sequence, (3)

Slave-eliminating Machine '

See Invention Sequence, (2)

Slave Mentality:

See Life Is Not Physical, 29 Jun*72

Slave Profection: Slave Discipline:

s« rc?66

See Academic Tenure

Divide & Conquer

Energy Slave

Industrial Hypocrisy

Serf: Serfdom: Serf Complex

See ComprehensIrenesb. 3 Not'64 Energy Slave (1) lApor: American Labor, 1960 Specialisation, 1970

Sleep:

"Sleep ie the great normalizer. The brain can only do its subconscious sorting when we are asleep. It accommodates the asymmetries and restores the symmetrical."

(Above observation was a propos Arthur Clarke's contention that sleep is an intolerable waste of time.)

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb'73

"I've finals learned to accept the fact that apparently nature intends us to get to a point where we're supposed to sleep. For years I managed to get by on Just two or three hours, letting myself sleep a half-hour ever four, or six or whatever it was. It worked fine, but it was a terrible inconvenience for my wife and she made me stop it. You can theorise about what sleep is, but it seems to me that each day we just get more and more asymmetrical until we have to sleep to get back into symmetry again. So I know I have to sleep and I know that if I use the reserve energies I'll have to take time to fill those reserve tanks. They're in an inconvenient position and they have small nozzles, and it takes longer to fill them. But the point of all this is that I'm so convinced of what's happening that I don't have any personal option at all. So just being tired is not enough reason to take it easy. I know that I get to the point where I'm so fuzzy-,imded that I'll mess things up more than help them, and then sleep is something I don't consider sinful."

- Cite RBF in Barry Fowler Playboy Interview, 1972 - Draft, p. 39

Sleep:

"Though one-third of our time is pre-allotted to the discontinuance of consciousness as sleep, the rotation of night as a shadow around the Earth results in a rotating wave of shadow sleepers, while two-thirds of all mankind are at all times continuously awake."

- Citation & context at Continuous Man (2), 1963

See Back Pack, 20 Sep'76 North Face Domes, 20 Sep'76

See Paired Congruency Reciprocal Involvement

(2)

See Congruence, 25 Jan*72

Sleeping & Thinking: (1)

Q. "Do you practice meditation? Is there a kind of Dymaxion sleep?"

RBF: "I have never practiced it and I have never used

either of those terms. I try to comprehend what my faculties may be. I can go to sleep in 30 seconds. Animals can go to sleep and still spring instantly into action. I thought this might be a good way to make the most of your time and energy, as a runner has a second wind—drawing on his reserve tanks. But it takes much more time and piping to replenish the reserve tanks.

"So I decided to try and see if I could sleep at a higher frequency than the daily and nightly periods of the earning-a-living game. So I slept whenever I felt like it. You cannot put out unless you are putting in. After two years I found that I was sleeping only a half-hour every six hours, or getting only a total of two hours sleep a day and all the while I was Incredibly healthy.

"That may be something like the idea of meditation... we have all these messages coming in... I like to focus on some

- Cite RBF to World Game Workshop; Phila., PA; 22 Jun'77

RdF DEFINITIONS

"familiar object such as a boat I particularly like... and in 30 seconds I am asleep: that's the most I do in the way of meditation.

"But I do a great deal of thinking, trying to put events together and sort out the significance of my experiences. By employing word tools we are able to compound the experiences of total humanity. I found a lot of nonsense coming out of my mouth. So I let my wife do the talking for me for all our everyday needs as I was resolved to say nothing until I was sure what its effect would be on other human beings...

So I just kent at work... paying no attention to others.'

- Cite RBF to World Game Workshop; Phila. PA; 22 Jun'77

See Awakening

Dream

Subconscious Sorting

Awakeneas & Asleepness .Waking Up

See All-acceleration Universe (1) Conscious & Subconscious, Jun'66
Continuous Man (2)* Metaphysics, 2 Jul'62 Packaged, Jun'66 We-me
Awareness, 31 May'74 Invented Jobs, 20 Sep'76 Equilibrium & Dise-
quilibrium, (1)(2) Human Beings fc Complex Universe, (15)

Slenderness Ratio:

"The Greek architects found experientially

That when a stone column's heaight Exceeds eighteen diameters of
its girth it tends to fail by buckling.

The length to diameter ratio

Of congressional columns

Is called its slenderness ratio. Steel columns are more stable Than
stone columns.

Steel columns are structurally usable rfith slenderness ratios as high
as thirty-to-one. But such columns are called long columns.

A short column is one whose slenderness ratio Is far below that of the Greek column.

Short columns tend to fail by crushing Rather than by buckling.

A twelve-to-one slenderness ratio Provides a short column.

- Cite BrtAlh & hlhij, p.127, bay'72

See Cigar Shape

Length-to-girth Ratio

See Sphere, 2 Mar'66

Tension, 15 Oct'64

Slides? Use of Slides in Lectures:

"A lot of people tease me about how I start to give a lecture and have someone get out the projector and then we never get around to using the slides. I am so convinced though that what I have been saying to you--- about the fact that men do not see outside themselves, they only see in here--- that I am quite sure you have the best illustrating capability in sight. If I put it on the wall here it tends to make you lazy and short circuits. Not until I am quite confident that you are constructing in here, in your head, do I feel confident that it is all right to expose you to the slides."

- Cite Oregon Lecture #4, p. 140. 6 Jul'62

Graphics vs. Words:

"I hope that I have been successful in communicating this to you conceptually without recourse to pictures. No man has ever seen outside of himself. He always sees in his brain. I think it is as easy to stimulate the brain conceptioning by words as it is by graphics. I often find

in lectures that I don't have to show the slides which I had been prepared to do because I found that people had conjured up in their own brains from my words the very picture which I had intended to show but had gone on spontaneously to describe in advance. It is my intuitive surmise that the pictures thus conjured up are more powerfully planted in the other man's brain than those resulting from the beams of light bounced off a photograph back to the human eye lenses, retina and nerve connections and after to be scanned and IMAGE-ed (imagined) in the brain.

- Cite Letter to Dr. ft. Urmston, 8 Oct '64, p. 2

Sllldgg; Graphica ya. 'orda;

See Model, 22 Jan'75

See Lecturing

Slingshot:

See Charting Alternating Experiences (4)

Slinea:

See Precession, (II)

See Flying Slippera

MMMB Slw:

"Very.very slow changes humans identify as inanimate.

Slow changes of pattern they "all animate and natural."

CltU HDF I>H,rfodu<!tiluM t<j Gene Yuungbluud

- Citation at Animate Inanimate, Oct¹70

Slower fc Closer vs. Faster &. Far Apart:

"A little body moving at sufficient velocity could have the same effect upon another body with which it interferes as could a big body moving at a slower rate,"

- Citation & context at Interference (2), Jun*66

See Energy Magnitudes: Order Of

Fast & Slow

Frequency: High & Low

Local Radius va. Wide Arc

Rates & Magnitudes

Slow: The Slower We Get the More Crowded We Get

See Environmental Events Hierarchy (4)(5)

Domains of Actions, 9 Jul'62

Freeways, Mar*66

Gestation Rate, 1 Mar*77

Sias: The Slower We Cat the More Crowded We Cat:

(D

See Airplanes: Far Apart in the Sky but Slowed Down When Close Together on the Land

Ships: A Fleet of Ships Needs More Room at Sea Than When Docked Side by Side

Population Density: Manhattan Jet Dispersal

See Balloon (C)

Freeways, Mar'66

Pneumatic Structures, 25 Sep*72

Slowdown;

See Eternal Slowdown

See Now, U Feb*72

S|QW Sinn Death:

**See Death: Slow Death by Slums vs. War as Quick Death
Death by Want**

See Change Fast & Slow Speed Velocity Lag: Lag Rates

See Death: Slow Death by Slums

See Building Industry, (2)

Buildings: Multiple Occupancy, 30 Apr* 74

Conformity. 10 Oct'63

Empty, May'70

Invented Jobs, 20 Sep'76

Office Buildings, 28 Jun'72

Reverse Optimism, Aug'64

Weapons Technology, (2)

Snell:

**See Big & Little Element: Smallest Chemical Element Little Nuclear-
smallest Tetrahedron as Smallest System**

See Explosion

See Interference, (2); Hov*71

Saellable You:

See Hearable You, 22 Nov⁸73

See Translator, 22 Jun*74

See Olfftctoral Sense

(1)

Odor: Odors

See Fail-safe, 1? Oct'72 Harmonics, (1)(2) Wind Stress & Houses, (9)
Silence, 30 Sep'76

(2>

See Fuller, R.B: Meeting with Fernandez-Moran, (1)

Gravity, (e)-(k)

Spoke Screens:

Sea Privacy, 22 Apr¹61

Smythei Verify: RBF Patent Attorney;

Sos Billboard Model

stmiiswint frat;

See Scenario Universe, 19 Jul*76

Snake Swallowa ita Own Tall:

See Interference, Feb*72

Snake:

See Children ae Only Pure Scientists, {A)

Snowflake:

See Design, (1)

Snow kound;

"A child, when playing in sticky snow, may make a big mound of snow and hollow it out with his hands or a shovel to make a cave. Then, looking at the hollowed mound from outside, he may discover that he has made a rough dome. He might then conclude that whatever makes that structure stand up and span space is not dependent on what was at the center because the snow has been removed from the center, 'hatever makes it stand up has to do with the circumferential interactiond of the snow crystals and their molecules and the

latter's atoms. Ke may find out bji experiment that he could put not only one hole, but many holes through the snow dome shell and it continues to stand up. It becomes apparent that it would be possible to take a pneumatic balloon, pair the molecules, and get rid of all the molecules at the cenxter that were not hitting the balloon--- for it is only the molecules that hit the balloon at high frequency of successive bounce-offs that give the balloon its shape.**

(For text immediately following see Tensegrity Geodesic Grid)

- Cite SYNERGETICS ILLUSTRATION #96, caption.

(Same text: b.exico, pp. 46-47)» 10 Oct'63

"In the case of the pneumatic bag . . . what makes the net take the shape that it does is simply the molecules that happen to hit it. The molecules that are not hitting it have nothing to do with its shape. . .

••When you were a little child, the-first time you went, out in a fairly deep snow, or the first time you were allowed to go out on your own, you tended to make a mound of the snow. It was a fascinating thing because you could push it together and it would take shapes, it had coherence.

I am sure that almost every child with mittens on builds himself a mound and then starts chipping and working away at the mound and makes a hole in it and he makes a cave. He finds that he can get in it and fam what he discovers is that the structural Integrity has nothing to do with the snow that used to be at the middlei It has something to do with the circumferential set of action of molecules there that you are accounting for. So we develop a strong intuition about this when we are very young. What I saw that might be possible was that we might hollow out the pneumatic network and we could do away with the molecules that weren*t doing the work, if we had the ones that were doing the work neatly paired."

BALteo/J - *SEcS* " Cite Oregon* Lecture #5» ESS*© 9 Jul¹62

Snow Mound:

See Balloon

Soap Bubbles:

See Bubbles

"You'll find that energies are so distributed in Universe that the number of times large amounts of energy is available at any one point to do large things is very much less frequent than the number of times small amounts are available to do small things. The things we're talking about here, the social adjustments are very big. They're magnificent, the most marvelous part of the whole show. They don't get done overnight, but they're actually happening so fast that I can't believe it. I've seen in my lifetime rectification, rectification, rectification. And we really are getting there, I'm convinced of it."

- Cite RBF tape transcript for Barry Farrel Playboy Interview, Feb `72. Deleted. See draft p. 64. " "

See Coral Reef

Marine Life Analogy of Humana

See Orbital Escape from Critical Proximity, (4)

Social ficononiXca-' Majority Control of Social E-conomica

1975 =

See Economic Accounting System: Human Life-hour Production, (1)

Dymaxion Artifacts, (>)(2)

See Design Revolution: Pulling the Bottom Up Standard of Living

See Disarmament, (1)(2)

Old Man River Project, 20 Sep*76

"In the early days of the auto on a lonely road— when you saw another car coming— there was always a third coming into view or already in view. Three cars frequently come to approximately the same highway point at approximately the same time. This is not surprising because when, having first taken away the two points from the system to accommodate the axis of the observer, we always have the topologically constant relative abundance of interference crossings, areas, and lines. Edges are lines. The car paths are reality lines, traces, with universal threefoldness of energy-event trajectory vectors. Universe keeps sorting its event traces into bundles of three. The social highway experience of three cars is the W—I inexorably present tricomplementarity relationship of the little local triangle on the Earth's surface complemented by the three other great-circle triangles of the terrestrial spherical tetrahedron always produced in all system formation and transforming. Critical proximities impose three triangulations."

- Cite RBF to EJA, 3200 Idaho, 17 Feb'72 as rewritten by RBFH8 Feb •72

"In the early days of the auto on a lonely road--- when you saw another car coming--- there was always a third. Three cars always come to approximately the same point at approximately the same time. This is not surprising because when we take away the two points for the axis of the observer, you always have the constant relative abundance with its three edges. Edges are lines. The cars are really lines... They are trajectories. They are simply averaging out. Universe tends to keep sorting, then, this way.

"We are really relating the social highway experience of three cars to the complementarity of the little triangle on the Earth's surface with the other three triangles. Critical proximity imposes the generalisation. The triangle imposes the triangle."

- Cite RBF to EJA + BO'R, 3200 Idaho, Wash, DC, 17 Feb'72

See Probability Model of Three Cars on a Highway

Spherical Triangle Sequence

See Sphericity of Whole Systems, 26 Sep*73

Three-way Great Circling: Three-way Grid, 17 Feb*72

Social Ignorance:

See Synergy: Degrees Of, (6)

"Despite intermittent aubmiasiveneBa to runaway mouentuaa of residual ignorance, nan garde noet dearly and secretly his freedom of thought and initiative. Therefrom emanates the aocial-industrlal relay, from self-starters to group starters.

Citation & context at Understanding. 1 Apr¹49

Socialism:

"Socialism is just a boring way of speeding up the mess."

- Cite RBF in Corcoran Gallery Address, Washington, IXJ 23 Feb '72

Socialism:

"Socialism means universal austerity*"

- Cite RBF to EJA Carbondale 2 April 1971

"The word soelallsn was Invented to describe equal sharing in the Inadequacies of agricultural life support, ergo, austerity for all. Who wants universal austerity? The whole concept of socialism originated from an agricultural (and only dawning) industrial era which is now finished and is kept effective by 'Hing-in-state' as an ignorance- sustained conditioned reflex of society.ⁿ

- Cite YORTY LTR, p. 5, 1 Apr »?1

Socialism:

". . . Disarmament is stalled in the U.S. because the country cannot keep its economy going through the 'irrigations system' now fed at the top through annual weaponry undertakings without seeming subscribing to 'socialism.' In wartime emergencies, national management of economic activity is exempt from charges of socialism, but by custom and law such centralised authority is forbidden in peacetime. To avoid this embarrassment and to keep our economy healthy, wartime emergency powers are extended to meet the threat of the next war. This extension is called 'cold war.* The U.S. knows that the world needs and wants disarmament and that its socialism-avoiding subterfuge becomes increasingly evident to the rest of the world and thus less tenable. The government find powerful Washington lobbies of the armaments contractors, supported by the labor unions, are seeking ways to keep the economic irrigation system fed from the top while also attaining progressive disarmament,"

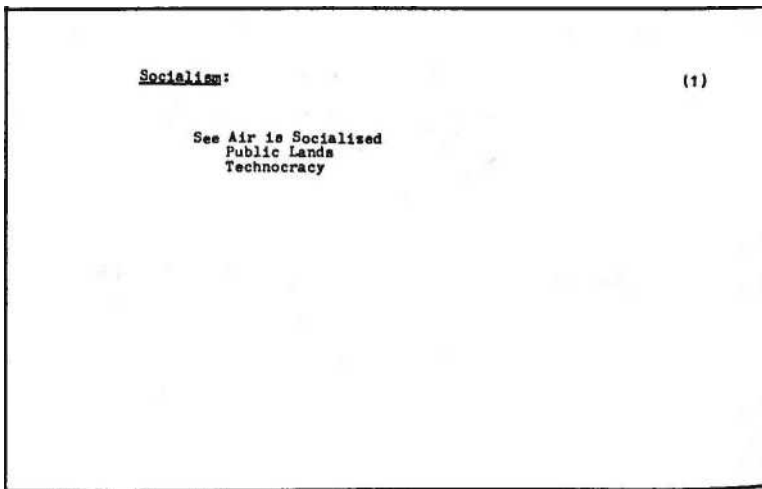
- Cite THE PROSPECT FOR HUMANITY, Sat. Review, 19 Sep*64
Socialism:

"Socialism was one of yesterday's ways of dealing with inadequate wealth. Socialism is now as obsolete as the stone hammer. So also is undeveloped static property, or gold capitalism. Cold coins wear out; land erodes. That is why capitalism is obsolete. Industry and biology are metabolic; they grow."

- Cite I&I, THE DESIGNERS AND THE POLITICIANS, p. 304. 1962
Socialism:

"Scjaligni--- the theory of austerity for all and the sharing of the inadequacy with slow approach to certain untimely demise."

Cite ARCHITECT AS WORLD PLANNER. July*61



See Acceleration of Change. 1938

Design Revolution: Pulling the Bottom Up, (7)(8) Initiative, 10 Aug'70
No Energy Crisis, (B)(C)

Social Justice:

See Television: Third Parent, May*65

"Now I would ask the question if this isn't of some importance this matter of fooling ourselves into thinking that we see and feel the modern when it is unfeeling and unseeable.

I should think that it would have very great significance. It could have something to do with why it is at the present moment that our technology is so developed that we could feed and make everybody technically more successful than any man has ever been before, and yet we don't have the ability socially to organize ourselves to do anything about it. We seem to be on the road to blowing ourselves up. We have more and more emergencies of higher and higher frequency, so I would say that our social capability is lagging. And I would say that much of our social disabilities have to do with our being preoccupied with certain myths. What I then intend to do in giving you the subject

"Trends to Invisibility," is to really try to examine if I can, the ways in which we have deceived ourselves, and then examining ways in which we might be able to organize ourselves towards informing ourselves more effectively regarding where we are in our Universe and what we might do about it."

- Cite Oregon Lecture #1, pp. 22-23. 1 Jul'62
Profrlcpq: TgtrabSdral °90NXn^aVlQn PX:

"...The tetrahedron can be extrapolated into life in all its experience phases, thus permitting man's entry into a new era of cosmic awareness."

- Citation and context at Synergetics. 28 Oct'73

"I have received your paper on 'Organizational Structure' entitled 'Mechanics of Group Dynamics'. It is splendid. I find it fascinating to observe your extension of my work into your social problems. I have intuited that they should be so extendable because of their fundamental and general nature. Colonel Lane made use of my tetrahedral coordinate system in logistical and maintenance procedures in Marine Corps Aviation. A Catholic priest, high in the councils of Rome, identified my coordinate system with the High Church's interpretation of the Heavenly Host. I myself have applied the tetrahedral coordinating system to the synergy of unique efforts of individuals of the chemical science world who themselves have discovered and verified the tetrahedral coordination of both the organic and inorganic chemical structuring. I was, therefore, aware of the extensibility of the principles but am therefore better prepared to judge and acclaim your efforts as extraordinary and representative of a major seasonal advance of the regenerative growth of our seeds.^{1*}

- Cite RBF Ltr. to Lewis E. Lloyd, Dow Chemical economist, Midland, Mich., 1 May*57

See Lloyd. Lewis E: Dow Chemical Economist

Social Sciences: Analogue to Physical Sciences Synergetic Accounting Advantages: Hierarchy Of Tetrahedral Dynamics

See Synergetic a, 28 Oct'73

Twelve Universal Degrees of Freedom (1)(2)

Social Sciencee; tP PhT?Xc^{a1} ScIMgffl:

"Our seeability la ao inherently local that we never see anything but aayometrlea. Sociologists have such trouble because they see (rather than principles) such a high frequency of asymmetries,"

- Cite ftDF baiza-BTuii* rCH55gT7-CM rJgb, -M ieiy IQ7J

- Citation t context at Asymmetry. 31 May*71

Social Sciences: Analogue to Physical Sciences:

"It is notable that the hard sciences, even mathematics, have the generalizations. But the social scientists, the behaviorists, have just the exceptions and not the general! cations•"

- Citation and context at Economics. 16 Feb*73

"Social relationships must follow the rational energy quantum laws of physics but at a complex level. Social behaviors must follow all the generalized scientific principles such as synergy and precession. Because precession imposes angles other than 180° upon all interactions of all moving systems of Universe there are no straight lines demonstrated in nature. The fundamental wave behavior of all nature is a consequence of the omni-intereffective precession. Kost of our social undertakings try to analyze subjectively and to persuade objectively individuals to move in 180 or straight- line paths. Such attempts are inherently futile, 'When society recognizes realistically that everything moves in an angular wave patterning,' society will be

able to accommodate its behavior in a more realistic and satisfactory manner. Democracy's right-left pulsations are imposed by nature's wave behavior, 'When society comprehends the omnirational isotropic vector matrix 60-degree angle coordinate system it may then be able to emulate the behavior of sailing ship masters and will learn how; to beat* which means angling first left and then right 45° off the course leading directly into the wind, in order to

- Cite NEHRU SPEECH, p.31, Nov'69

accomplish distances in the direction from which the wind moves. Society finds it easy to sail with the wind but has demonstrated a lesser capability in negotiating windward passages. To sail with the wind is to yield to evolutionary forces. To sail into the wind is to master forces."

(Edited.)

- Cite NEHRU SPEECH, pp. 31-32.13 Nov'69

Social Sciences: Apajogue frp Physical Scppe?;

"Though our social sciences have been earnestly seeking generalised principles which might give them the insights and design virtuosity enjoyed by physics, chemistry, etc. al they have until now had no important success. The reason we have introduced the general systems¹ vectorial geometry today is because it provides the connection between social and physical science. It opens the doors to powerful planning."

Cite Nehru Speech, pp. 29-30. 13 Nov'69

Social Sciences: Analogue to Physical Sciences: (A)

"I think the social sciences are going to be admitted, in due course, into the rigorously operative ranks of the physical sciences, but only as a consequence of physical science entering the social field. Modern physical science and industrial technology sprang from the discovery of natural law. There are natural laws operative in both individual and collective human behaviors. So far, however, the social scientists have failed to find any of the quantitative values governing the natural laws in human behavior. But the physical scientists, through cybernetics, behavioral science, and electrical probing of the brain, and so on, are finding some of those behavioral laws and their chemical, physical, and mathematical relationships..."

"We can say that reform-intending social laws have been needed when man did not understand adequately the physical laws. The 1895 'It is forbidden to stick your head out of the railroad car window' should not be needed today..."

"I think the social scientist ought to rejoice that he..."

- Cite RBF in AAUW Journal, p.176; May'65

S.QClal Science?: Analogue to Physical Sciences:

"has been unable to find absolute social formulas. We might say to the social scientists, 'It is just as scientific to discover that there is no formula as it is to discover a formula.'

"It was more difficult, socially and scientifically, to discover zero than to discover one or two."

- Cite AAUW JOURNAL, p.176, May'65

spstel AgaigCM- fcg-£turgl.g*I Sslfiagw

"... By my definition of Universe all that was relegated to metaphysical nebulosity is now embraced by finite Universe along with the physically energetic, wherefore all the hitherto 'inexact sciences' may become rigorously defined, enjoying equatable treatability at optimum degree of determinability*ⁿ

- Cite INTRODUCTION TO OMNIDIRECTIONAL HALO, pp.124-5, 1959
Social Sciences: Analogue to Physical Sciences:

"... Most socio-economic phenomena defy the exact treatments effective and necessary in chemistry, physics, astrophysics, etc., our case is different for it grew out of mathematical treatment ..."

- Cite Ltr. to Ji# Fitzgibbon (?), Raleigh NC, p.jj, undated
Social Sciences: Analogue to Physical Sciences:

--- For a discussion of triads and triangular structure in social organization and fundamental physics see correspondence between Prof. Theodore Caplow, Dept, of Sociology, Columbia, 24 Jan'66 and RBF reply of 18 Feb'66.

See Closed-sphere-system Democracy

Circuitry: Thermionic & Political Analogy Exponential Model vs. Limits to Growth Grid: Crisscross Right-angle Grid in Civil &.

Agrarian Law

Individual: Theory Of

Interference as a Social Model

Metaphysical & Physical

Organic World: Biological World as Model For Society

Organization

Precession: Analogy of Precession & Social Behavior

Relativity: Marriage of Social & Natural Law

Synergetic Hierarchy

Social Problems: Tetrahedral Coordination Of Prediction: Socio-economic vs. Engineering Laws of Nature vs. Laws of Man

Social Sciences; *aalg.gBS__ta Phraljal-Scleassa:

(2)

See Acceleration of Change, 1938 Air Space, May'65 A syren e try, 31 May'?1* Democracy, 13 Nov'69 Economics, 16 Feb'73* Energy, 28 Apr'48 Intellect: Equation Of, 28 Apr'48 Least Resistance, 1938 Local Squareness, 9 Jul'62 Marx. Karl, 6 Jul'62 Public Opinion Polls. 4 Jan'70 Rudder Sequence (i)(4)(5) Synergetic Hierarchy, 31 May'71 Design Science 4 World Came (A)-(C) Scrap Sorting & Mongering (2) Navy Sequence (2) Structural Sequence, (C)

"The creative control, or streamlining, of society by the scientific-minded (the right-makes-mightist) is in direct contrast to attempts by scheming matter-over-mindists (the might-makes-rightist) to control society by increasing instead of lessening, resistance to natural flows through such devices as laws, tariffs, prohibitions, armaments, and the cultivation of popular fear."

"By controlling direction it becomes possible, scientifically, to increase the probability that specific events will 'happen.'"

- Citation and context at Rationalization Sequence (2 (3), 1938
SpcXe&x: Control Of:

See Least Resistance, 1936

Society Does Not Understand Nature;

See Synergy, 4 Mar'69

Sociology:

"Sociology perils such fantastical asymmetrical extremes that we're looking at special cases instead of principles.

, . . Such a high frequency of asymmetry. . . And not knowing this, they don't realize that communism induces capitalism."

- Citation and context at Communism. 31 May*71

See Earth Fault: Society Is Living in a Sort Of Earth Fault

Fuller, R.B: As Harbinger of Society

Metaboïics

Metabilical Cord

Organic Model: Biological World as a Model For Society

Precession: Analogy of Precession k Social Behavior

Self-considerate Society

Superstition of Social Superiority

Design Revolution: Pulling the Bottom Up

Standard of Living

Behavior k Environment

Conditioning

See Average Human Being, 1 Apr'73 Culture, 27 Jan*77 Dome Over Manhattan, 26 Apr'77 Ego, 9 Nov'75 Fear, Feb*72 Franklin, Ben 22 Jan'73 Selfishness. 22 Jun'75 Symmetry & Asymmetry, Dec'71 Truth. 1967

Unselfishness, □□□□□ Jan*72

See Social Adjustment

Social Economics

Social Highway Experience: Three Autos

Social Ignorance

Social-industrial Relay

Social Justice

Socialism

Social Organization

Social Problems: Tetrahedral Coordination Of

Social Sciences: Analogue to Physical Sciences

Society: Control Of

Society Does Not Understand Nature

Sociology

soft Rgyoimion:

See Revolutions: Soft <k Hard

Soil:

See Topeoil

Solar Panel Water Heating?

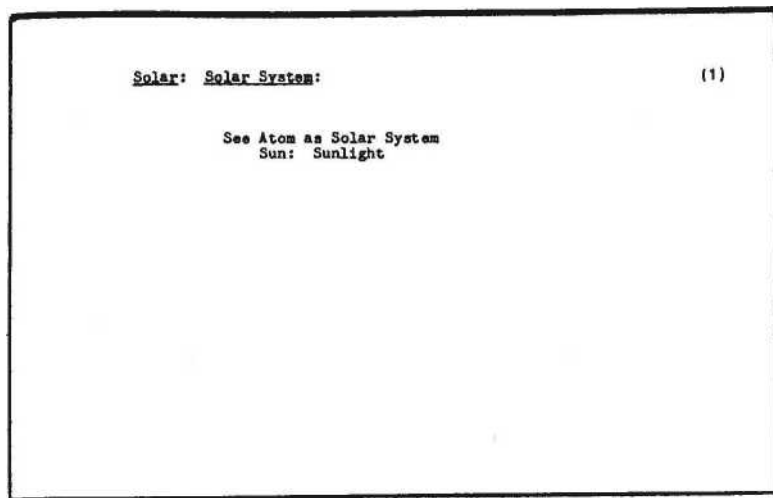
See Now House, (4)

See Income Energy Wind Power Sun Energy Wind Power • Sun Power

See Precession (b)

"The model of the aolar system itself la a flattened polyhedron,"

- Cite RBF to EJA, Bererly Hotel, Hew fork, 18 June 1971



See Black Hole <1)

Regenerativlty, 17; Jan'75

Solori: Paolo:

"Solori is the example of the sculptor ae politician. A bunch of people living together in the desert may be very attractive but what's that got to do with architecture?

He is just a politician. I am not interested."

- RBF to Lady architect Hay-Adams brunch. Wash De; 8 Feb'76

Solori. Paolo:

"I know Paolo Solari very well and think very well of him as a human being. I find him very inspiring to many other human beings in his humane viewpoints.

"I think of him more as a sculptor than as an engineer, so I'm very sympathetic with his hope to serve humanity by what he gives you as an idea. But I do not think that is probably the way it is going to go, I think everything we produce will be produced mere mobilely and with much more flexible kinds of relationships for humanity All humanity is now prone to become world beings so we're going to have to accommodate the comings and going in very new places."

/ For follow-on entry se East-west Mobility Of World Man, (1)(2}_7

- Cite RBF to "Town Meeting of the Air," Wash,, DC; 10 Sep'75

Solidff:

'Solids... are themselves only wave complexes."

- Citation and context at Nsnlnterrerrine Zero Pointe, 9 Mar'73

Solids:

**"The superficially deceptive microaggregates Which defied differen-
tiating resolution, Into their myriads of separate parts, By the instru-
mentally unaided Human sight,' "**

- Cite INTUITION, p.40 May '72

Solids;

"Solids are high tide aspects of faces."

~~-pLi-ta RBF to Eji, Rlarkstoiwi Hotel, Chicago, ~31 May 1971-~~

- Citation and context at Tidal, 31 May'71

Solidq;

**"The omniinteractions impinge on your nervous system in all manner
of frequencies--- some so high as to appear *801 id* things, some so
slow as M seeming to be 'absolute voids.**

- Citation At Halo Coneeot, 25 Apr*71

Solid State:

"Science evolved the name 'solid state' physics when, immediately after World War 11. the partial conductors and partial resistors— later termed 'transistors'— were discovered. The phenomena were called 'solid state' because without human devising of the electronic circuitry, certain small metallic substances accidentally disclosed electromagnetic pattern-holding, shunting, route-switching, and frequency-valving regularities, assuredly produced by the invisble-to-humans. atomic complexes constituting those substances. Further experiment disclosed unique electromagnetic circuitry characteristics of various substances without any conceptual model of the

'subvisible apparatus.' Ergo, the whole development of the use of these invisible behaviors was conducted as an intelligently resourceful trial-and-error strategy in exploiting invisible and uncharted-by-humans natural behavior within the commonsensically 'solid¹ substances. The addition of the word

'state' to the word 'solid' Implied regularities in an otherwise assumedly random conglomerate, what I have discovered goes incisively and conceptually deeper than the blindfolded assumptions and strategies of solid state physics— whose transistors' solid state regularities seemingly defied discrete conceptuality and scientific generalization and kinetic omnigramming.”

- Citation and context at Atomic Computer Complex (4) (5), 13 <ay'73

Solid State:

“We have physics of the 'solid state.' a very late phase of physics very improperly called 'solid.' Even in the 'solid' state the voids between the atoms are as voids of interstellar space. The nucleus itself is as empty as space itself. But the concept that you could make everything solid was a most comfortable kind of concept.”

- Cite SYNERGETICS draft at Sec. 525.03, Nov'71

in Solid State:

"Take the simple word solid. We have physics of the 'solid state,' a very late phase of physics, very improperly called, 'solid,' Even in the 'solid' state the voids between atoms are as the voids of space, and the nucleus itself is as empty as space itself. But the concept that you make everything solid was a most comfortable kind of concept."

- Cite MERGERS & ACQUISITIONS

Vol. 1, No. 1., p . 44, 1965

SM-IPS: sec. 515.

Solid State:

'One of the words we use a great deal 1b solid. Infact, in quite modern physics in relation to defense and so forth we have solid state physics. It is a very strange phrase for the physicists to use because they have discovered that there is nothing solid. I don't know why they insist on using the words, but it seems to be good for bureacracy to have a solid state, and so you can handle it academically that way, but let's not get fooled because we haven't found anything solid. . . "

- Cite Oregon Lecture #3, p. 109. 5 Jul*62

See Translator
See Atomic Computer Complex,
Particle, (1)



<4)<51*

See Entity

Liquid vs. Solid

Matter

Particle

Rules of No Actual Particulate "Selida* Tensegrity: Miniature Tensegrity Masts Bodies: Solid Bodies Liquid Solid

No Solids

See Halo Concept, 25 Apr'71*> Jun'71 Invisible Circuitry, (2) Meaningless. Oct'66 Noninterfering Zero Points, 9 Mar'73* Powering, 11 Jul'62 Radiation: Speed Of (C) Structure Sequence, u); 15 Oct'64 Synergetics, (p.J3) undated

Solving: Solution:

See Finite Solutions

Problem Solving

Problem: Statement of the Problem

Somersaults:

See Intertransformability Systems, 28 Apr'77

Something:

"We'll have to cut out this word something. I'd like some day to do something about this word 'something. • Some. Thing."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

"These young scientists... said I had the answer to the age-old problem of how you start your accounting... of whether you start with two, or one, or zero..., I gave them awareness and otherness, identifying the secondness with otherness.... The topology of the windows of nothingness. Somethingness is the same tunability of systems. Nothingness is ultra or infra, an untunability between the crests of waves of other systems, where there is no tuning at all."

- Cite RBF to EJA, by telephone from Phila. office; 7 Oct'75

"All the characteristics of a system are absolute because each of its components is the minimum limit case of its respective conceptual category, for all conceptuality, as the great mathematician Euler discovered and proved, consists at minimum of points, areas, and lines. Goldy further clarifies and simplifies Euler by saying that an area is a nothingness; a plurality of areas are framing off separated views of nothingness. A point is a somethingness. A line is a relationship between two somethingnesses.

J.

"An enlarged seemingly single somethingness may prove to consist of a plurality of somethingnesses between which the defined inter-relationship lines fence off the nothingness into a plurality of separately viewable nothingnesses. Points are unresolvable, untunable somethingnesses occurring in the twilight zone between visible and supravisible experience."

- Cite GOLDILOCKS Jis. p.A1, 9 Jun»75

"There is a fourfold twoness: one of the exterior, cosmic finite {'nothingness'}) tetrahedron, i.e.† the macrocosm outwardly complementing all {'something'}) systems and the interior microcosmic tetrahedron of nothingness complementing all conceptually thinkable and cosmically isolatable 'something' systems."

- Citation & context at Two Kinds of Twoneas. (A)(B), 10 Nov'74

"The third power accounts both the untuned nothingness and the finitely tuned somethingness."

- Citation and context at Nothingness. 16 Nov'72

RBF DEFINITIONS

SomethingnessZfc. Nothingness:

"In synergetics the total mass somethingness to be acceleratingly expended is 10 F*, with always a bonus 2 : Me and the Otherness. In synergetics the total nothingness and somethingness involved in both inbound and outbound field is 20 F>. (Nothing `` 10. Something - 10. Both □ 20.) The multiplicative twoness of me and the otherness.

$F3 = * \text{ Unexpected nothingness } F' + \text{ Expected } \underline{\text{somethingness}} F -$

- Cite SYNEHGnTICb draft at Sec. 960.13, 16 Nov'72

s,Qn<?thlnK~jQftthlnK-gjnpihlnj:-nothlng-

(D

See Binary

Conceptuality & Konconceptualty Kow-you-aee-it-now-you-don*t
Pulse Pattern

See Resolvability Limits, 30 Anr*77

See Space Nothingness & Time Somethingness Unstructurings & Restructurings Cosmic Discontinuity & Local Continuity Interference & Noninterference Visible & Invisible

See Cosmic Discontinuity k Local Continuity, 15 Jan'74

Fourfold Twoness, 10 Nov'74

Minimum of Four Tetrahedra, 22 Feb'77

Nonthing, 11 Sep'75

Out-lining, 22 Mar'76

Quantum Sequence, (1)

Self k Otherness; Four Minimal Aspects, 9 Jun'75

Two Kinds of Twoness, (A)(B)*

Windows of Nothingness, (1)

Nature in a Corner, 20 Jun'77

See Somethingness k Nothingness

Time-s ometh i ngne s s

Thing: Things

Nothingness - Untuned Somethingness

Simplest Something

Point-to-able Something

Minimum Something

See Tetrahedron, 26 Apr*77

SojMthliur SpjmhWmsgj;

(2)

See Bunch, 5 Mar¹73

Jitterbug, 4 Oct¹72

Lot, 5 Mar'73

Tetrahedron, 20 Feb'73

Triangle, 20 Apr'72 Two Kinds of Twoness, (G) Thinking, 23 Feb'72

One-dimensional Polarity, 11 Sep'75 Two-dimensional Polarity, 11

Sep(75 Minimum Tetrahedron, 22 Feb'77

Son of Cod?

Sae Man as Son of God Trinity: Equation Of

Sonica:

Sea Ultraaonica

Sorting:

"Men sort, classify, and order in direct opposition to entropy--- which is the law of the increase of the random element--- increase of disorder. Men sort and classify internally and subconsciously as well as externally and consciously, driven by intellectual curiosity and brain.

All 92 chemical elements can be inhibited into complementary and orderly interfunctioning in the integral organic process of man. Man seems to be the most comprehensive antientropy function of Universe."

- Cite RBF in AAUW Journal, p. 175, May '65

See Angular Sorting

Antientropy

Problem

Irrelevancies: Dismissal Of Parting the Strands Scrap Sorting & Mon-gering Subconscious Sorting Brain-sorting Tuning-in & Tuning-out

See Biological Life (1)

Boltzmann Sequence (1)

Cosmic Fish, 8 Feb¹73

Ecology Sequence (B)

Comprehensive Universe (2)

Frequency, 1970

Man:: Interstellar Transmission of Man, May'72

Metaphysical k Physical, Jun*66; 1970

Monitor, Feb*73

Problem, 2 Jun'71

Stardust, May* 6\$

Communications Hierarchy, (3)

Children as only Pure Scientists, (1); 22 Apr'77

S.O.S.;

"There's no S.U.S. on land— only at aeal"

- Cite KBF to EJA, W70

Soul;

See Life ie Not Physical, (1)(2)

Sound Name:

See Universal Language, 21 Sep'74

Soundi Speed Of;

See Cosmic Structuring, (1)

See Aural

Babbling Hear Music Tastebuds of Sound

See Music, 4 Mar*69

Radiation-gravitation: Harmonics, 3 Jan'75

Harmonics, {1)

Wind Stress **8c** Houses, (9)l10)

Limit Speed, 11 Sep'75

Sound Word:

(1)

See Names

Sound Name

(2)

See God, May¹72

Democritus, 6 Jun'69

Names, 20 Jan'75

Thinktionary, 27 May'75

Fuller, R.B: Moratorium on Speech, (1)

Source?

See Cosmic Source Mysterious Source

Sovereignty: (1)

Q. (Sen. Percy): "What do you mean, sovereignty is dead?"

A. (RBF): "I am a student of large patterns. And as I look around I try to see what evolution is trying to do. We sometimes forget how important is the role of Universe. I have just been telling you that all the things that came in-since I was-born, automobiles, jet planes and the Queen Mary, radio, satellite communications, they were all unexpected, they were all surprises, and none of them were the result of conscious and deliberate development.

"I do not look on it policywise. I see it as a worldwide biospheric pattern of honey bees and chromosomes.

"The continental congress in Philadelphia has been so movingly described this morning, how people designed a democratic and marvelously representative government. But the congressman went back home on foot or horse. The city of Washington got one or two letters from Europe a month; and everyone knew what was said and went home and talked about it. Democracy flourished in a one-to-one correspondence of stimulation and response. With the advent of telegraph we lost all this;"

- Cite RBF at Senate Foreign Affairs Subcommittee on UN, Washington, DC, 15 I'ay'75 (EJA live notes)

Sovereignty; (2)

"The effect of telegraphy on the news was mostly one-way, despatches from the field; by and large they provided no response. Democracy works on one-to-one correspondence, but now our communications are not working that way. In 1940 I explored the technology of communications, how if everyone voted daily would it affect the frequency of telephone use. Now we wonder if there might not be some electromagnetic patterns from the brain with all of humanity manifesting some kind of high-frequency electromagnetic, yes-or-no-field. If the satellite sensors are mapping our beef cattle, might they not also have a capability of picking up how humanity feels about a question. It's all going to be completely different from the ways of the past, you mentioned world government. There could be a sort of city management concept taking its orders from a consensus of humanity. Of course the majority might often be wrong, but with such instant communication errors would be recognized soon enough to correct them. Measuring what humanity is really thinking.

"Servomechanisms work this way. All this is technically looming into view."

- Cite RBF at Senate Foreign Affairs Subcommittee Hearing on "Unilateralism and the Role of the United States in the World" on May 15, 1975, Senate Office Building, Washington, DC

Sovereignty:

"Sovereign nations and states are examples of now obsolete but seemingly natural phenomena which were in fact concepts arbitrarily invented by the pirates."

- Cite NASA Speech, p. 22. Jun'66

"Elimination of All World Sovereignities: All the customs barriers disappear as man goes from guarding the local roots of his originally exclusive agrarian metabolic life support into a world-around imperishable metals-sustaining impoundment of cosmic energy, and eternally regenerative energy, labeled industrialization in the world economy.

"The high performance necessary to sustaining all life can only be realized by free access to all sources everywhere,"

- Cite WORLD-AROUND PROBLEMS THAT HAVE TO BE SOLVED BLOODLESSLY BY DESIGN SCIENCE REVOLUTION, NY Times, 29 Jun'72

See Leaders: Take Away the Leaders

Transnational

United States: One of the Most Difficult Sovereignities

To Break Up

World Man

Desovereignization Sequence

Planetary Democracy

Ideologies Become Supranational

Spaceship Earth

Homogenizing of Nations

Competition: Elimination Of

See Individual Economic Initiative, 13 Jul*74

Economic Accounting Syetem: Human Life-hour Production, (1)

Culture, 27 Jan'77

³«Y»rtlmtY = POTTIIOT

(D

See Countries

Geographical Identity

Nation

Political Mandates: Inventory Of Realm

See Cosmic vs. Terrestrial Accounting, (1)

Dollar Bills: \$200 Billion One-dollar Bills

Circling Around Earth, (3)

**Linear Programing, 5 Jun*73 Pirates: Great Pirates. (2) Spaceship
Earth, 21 Jan'77 United Nations, 29 Mar'77**

See Fuller, R.B: A Propoa Ben Franklin, (1)

See Amtorg Engineer®

USSR

See Intuition Sequence (4) Literacy. 18 Aug*70 Patent, 22 Aug'70

RBP DEFINITIONS

"Silence la the untuned. Silence takea the electromagnetic place of
apace. Space ia a sort of tactile error. . . the frozen thing."

- Citation & context at Silence. 30 Sep*76

Space:

"I've finally arrived at the definition of space that I've been looking for all along. I've said space is the untuned nothingness, but the point is that space is simply whatever is untuned electromagnetically!"

- Cite RBF to EJA. on RBF's debarking from supersonic •Concorde' flight from Paris, at Dulles Airprort, 2 Jul'76

Space:

"Space la finite as a complementary remainder of a finite system take-out from finite Scenario Universe,"

- Cite RBF rewrite of SYNERGETICS, 2nd. Ed. at Sec. 526.1?
3200 Idaho, Wash., DC; y Feb*70

Space:

"Human awareness'a concession of 'space'* acknowledges a nonconceptually-defined experience."

" Citation and context at Oemi-intertaneency. 17 Feb*73

Space:

"The space la a priori mystery that the space vehicle goes in."

- Citation and context at Spaceship (E), Feb'73

Space:

"The multiply furnished but thought-integrated complex called space by humans occurs only as a consequence of the imaginatively recallable consideration of an insideness-and-outsideness-defining array of contiguously occurring and consciously experienced time-energy events."

- Cite SYNERGETICS text at Sec. 780.10, 20 Oct'72

Space:

"I don't start with space. I start with nothing.

- Citation in context at Vacuum,. 19 Feb'72

Space:

"There is no shape of space. There is only omnidirectional nonconceptual 'out' and the specifically directioned conceptual 'ins.' Space has no identifiable meaning.

"In* is individually unique as a direction toward the center of any one system--- but 'out' is common to them all.

"The atmosphere's molecules over any place on Earth's surface are forever shifting position. The air over the Himalayas is enveloping California a week later. The stars now overhead are underfoot twelve hours later. The stars themselves are swiftly moving in respect to one another. Many of them have not been where you see them for millions of years; many burnt out long ago. The sun's light takes eight minutes to reach us. We have relationships--- but not space."

- Cite SYNERGETICS draft, MSB at Sec. 526ff, Nov'71

Space;

"Critical proximity accounts for the whole universe as we observe it, the collections of things and matter and noncontiguous space intervals."

~~--- Gibe RDF luseil Lu SYNERGETICS-CCOlic-eyLuallty, Crittcei-Proxlimy), Ehleag07~f- June 4»?4~~

- Citation at Critical Proximity. Jun'71

Space:

"Space is the absence of events. Space is the absence of energy events, physically. Space is the absence of events, metaphysically."

- Cite SYNERGETICS Draft - "Conceptuality: Space" - May, 1971

Space:

"There is no universal space nor static space in universe. The word 'space' is conceptually meaningless except in reference to intervals between high-frequency events momentarily 'constellar' in specific local systems. There is no shape of universe. There is only omnidirection nonconceptual 'out' and the specifically directioned conceptual 'in.' We have time relationships, but not static space relationships."

- Cite SYNERGETICS Draft - Conceptuality: Space - Kay 1971

RNF DEFINITIONS

Space:

"The omniinteractions impinge on your nervous system in all manner of frequencies--- some so high as to appear 'solid' things, some so slow as seeming to be 'absolute Voids.'"

- Citation at Halo Concept. 25 Apr*71*

HUE DEFINITIONS

Space :

"The word locally means locally in time and space.

By space we mean size— a function of time."

- G|xe EBP to E«JA, Somerset Club, Beeton;—22 April 197

- Citation at Local_f 22 Apr'71

Space:

"Alan Watts: But I mean there is a common assumption--- It is ordinary common sense--- that space is nothing at all.

Fuller: That's novent. I call it no-event.

I don't like the word space anymore because it implies something. We have only frequencies. We have events and no-events. We have the unique energy packages."

Watts: But any sort of solid energy package seems to

me inconceivable without a special ground.

Fuller: It doesn't bother me at all about the no-event.

Watts: Well, how can you talk of curved space, the

properties of space?

Fuller: But you can't talk of straight space. There

are no straight lines. Physics has found nothing but waves.

- Cite WATTS TAPE, p. 52» 19 Oct'70

RBF DEFIN IT 10IIS

Space:

"In view of their limited range capabilities in respect to the electromagnetic spectrum and the relative rates of transformation which we speak of as motion, it is not surprising that the passengers aboard the skyship Earth make the mistake of talking about, 'Space¹ which is as meaningless as 'up' and 'down.' There is no static geometry. There are momentarily existant geometrical relationships. There are events and lack- of-events. The electromagnetic spectrum is a manifest of the gamut of unique frequencies of event recurrence. There are no 'solids,' no 'surfaces,' no 'continuums,' no straight lines or planes, h'e have only events and no-events--- the events being finite and their energies limited. . . .

"We are talking about no event, so let us contract those two words into one word, novent. meaning nothing occurs."

- Cite BEAR ISLAND STORY, galley p.6, 1966

Space:

' 'Space is the absence of energy events.'

{Adapted.)

- Cite caption to SYNERGETICS ILLUSTRATION #94 - "Function of a BalJoon as a Porous Network." 1967

 Space:

"• • • There la no static apace frame of universe.

The word 'apace' la conceptually meaningless and dimensions may only be expressed in magnitudes of time, energy, frequency concentrations, and angular modulations. Time can be expressed only as 'relativity' in toy terms of relative frequency of reoccurrence of any constantly recycling behavior of any chosen sub-system of universe."

- Cite NASA speech, p. 49, Jun*66

~~QOARDOKPALR-DRAW-IY:26~~

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Space;

"Velocity is the complementarity of time and space. Time and space are simply functions of velocity.

Velocity is really the reality. You can examine the time or the space Increment, but they are never independent of one another. They are unified as velocity."

~~fh-rgftn Lrmirff p, 29g i 12~~

- Citation at Velocity. 12 Jul'62

RBF DEFINITIONS

OMIMB Space Capsule:

"The word 'capsule' has hidden from man the fact that what science is really working on is a little house; not much room to move around in, no garden of roses outside, but nonetheless, a little house with a six

billion dollar mortgage."

- For citation and context see Space Technology (2), 10 Oct '63

See Autonomous Living Technology Packet

Space Technology

Space Travel

See Conceptuality Independent of Site & Time, 5 May*74

Space FjJUn-

See Allspace Filling

See Bubble Bursting, 20 Jan'78 Human Beings in Complex Universe, (4)

SpflGfl_a Ngrftuned Anxi_{ff} \$..Frequency information:

"This moment in the evolutionary advance and psychological transformation of humanity has been held back by the non- physically-demonstrable, ergo non-sensorial, conceptionless mathematical devices and their resultant incomprehensibility of the findings of science. There are two most prominent reasons for this incomprehensibility: the first being the non-physically-demonstrable mathematical tools, the second being our preoccupation with the sense of static fixed 'space' as so much unoccupied geometry imposed by square, cubic, perpendicular, and parallel attempts at coordination, [T^atiie.E.-tha.a regarding 'space' as being merely

systemic angle and frequency information which is presently nontuned-in within the physical, sensorial range of tunability of the electromagnetic equipment with which we personally have been organically endowed."

- Cite SYNERGETICS 2 draft at Sec. 100.33; 22 Feb'77

SpagQ N,Qtt)in&nogg & Tlfig goMthlngneaa:

"The only instantaneity is eternity.

"All temporal (temporary) equilibrium life-time-space phenomena are sequential, complementary, and orderly diaequilibriona transformations of space-no thingness to time -somethingness and vice versa. Both space realizations and time realizations are always of orderly asymmetric degrees of discrete magnitudes. The hexagon is an instantaneous, eternal, simultaneous, planar section of equilibrium, wherein all the chorda are vectors exactly equal to all the vector radii: six explosively disintegrative, compressively coiled, wavilinear vectors exactly and finitely contained by six chordal, tensively-coil-extended, wavilinear vectors of equal magnitude."

28

V Dec'73

- Cite SYNERGETICS text at Sec. 1032.21,

Space Nothingness & Time Somethingness:

"The only instantaneity is eternity. All temporal (temporary) equilibrium life-time-space phenomena are sequential, complementary, and orderly transformations of space-nothingness into time-somethingness. and vice versa. Both space realizations and time realizations are always of orderly asymmetric degrees of discrete magnitudes."

- Citation and context at Hexagon. 22 Feb*73

See Articulated &. Unarticulated

Cosmic Discontinuity & Local Continuity

Somethingness t Nothingness

Tuning-in 4 Tuning-out

Interference & Noninterference

See Jitterbug, 4 Oct'72

Hexagon, 22 Feb'73

space Program;

'•We are nothing but a space program. We are eo physically negligible as to be approximately space itself."

- Citation and context at Twelve-inch Steel World Globe (3)14> 17 Jul*73

Space Prongram:

See Outlaw Area, Jun¹66

Spaceship Earth;

"Competition among nations holds us back. With 135 countries in the world, we have a spaceship with 1)5 absolute admirals--- each of whom wants to sink the rest of the ship."

- Cite RBF quoted in Lincoln Star, front page, Lincoln, Nebraska; 21 Jan'77

Spaceship Earth-

"Spaceship Earth: I invented the term at the University of Michigan in 1951."

- Cite R3F at Penn Bell videotaping, Philadelphia, 29 Jan*75

"Though brilliantly theorized to be so several thousand years earlier, it is only for the last 500 years that we humans have had proven to us by Magellan's circumnavigation that we indeed are dwelling aboard a spherical planet. It is only for five years that, having 'seen ourselves as others see us' from humans-on-the-Moon advantage, that we are beginning to realize that we are indeed living on a once superbly-

equipped spherical spaceship and that we are a space program.

"Despite our considerable resource of present-day theoretical knowledge, all humans continue to reflex in the manner to which they have been powerfully conditioned throughout millions of misconceptioning years. As a consequence, even today we all seem to see the Sun rising and sinking, think in terms of 'up*' and 'Down', 'wide, wide world', the four corners of the Earth', and our 'air space', which misconceptions have no correspondence with the realities of Universe."

- Cite RBF Address to MENSA International, Chicago, IL, 22 Jun'74

Spaceship Earth:

(A)

But when I question has Spaceship Earth metaphor he becomes annoyed and distressed. "It is a spaceship. That's not an analogy. It's a fact," he says.

"But a spaceship is built by man, all the factors have been designed for a particular known purpose. The earth is an organic thing on which we live," I argue.

"The planet is designed--- superbly designed--- by a greater intellect than that of man," he says. "And it's moving through space."

"But are we passengers or an organic part of it?"

"We've got three billion and a half passengers on board."

"What about the plants, whales, horses--- are they also passengers?"

"A passenger is someone taking passage aboard a vehicle," he says with a sharp edge of impatience. "You are aboard a"

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY), p.158, Feb'73

"vehicle moving at 60,000 miles an hour through the heavens and you're aboard as a passenger. I'm sorry but your objection is invalid.

So decreed Justice Fuller. I tried a different angle having, apparently, failed to make myself understood: "There's an organization just formed in San Francisco called Living Creatures Associates. It's a press agency claiming to represent other species--- whales, garter snakes, foxes--- represent them publicly on their own terms, with a right to exist on this spaceship, then, in the same way as I do. With some rights that conflict, perhaps, with those of men."

"Did the foxes invite them? Did the daisies elect them?... I have no objection to other people's doing what they do but nothing could be more remote from me," says Fuller.

"I call this a do-gooder organization, idealistic and so forth. And their effectiveness approximately zero.. I think it is

a very nice manifest of VI consciousness of man. He's beginning to think about things."

"The idea is that., we must accept the rights of other beings."

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY), p.159, Feb'73

"What happened to those dragons?" he replied. "What happened to the flying creatures of a few million years ago? What happened to their rights? What about the rights of volcanoes when the whole Earth was volcanic? Who took their rights away?"

"But it's a fact that certain birds and animals are dying because of man's actions. Don't we have to take responsibility for that?"

"We have to take the responsibility of being responsible. So far we have not been very responsible. You don't say to a new child, 'You better go back in there, you're not very responsible...' They're just using words--- foxes and daisies. ... I say: What might I do that made it logical for man not to do these things? That's what I'm caring about. That's what design science is...

(See Tree. Feb'73)

He was shocked that I found fault with his Spaceship Earth analogy.

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY), p. 160, Feb'73

"I invented this phrase, Spaceship Earth, a number of years ago when I was trying to get man to--- trying to help him, personally, particularly young people, to shake themselves loose of preoccupation with the powerfully conditioned reflex that there is something called Earth and something called space, this Heaven and Earth idea. I used to have students say to me 'I wonder what it would be like to be on a spaceship?*' And I'd say: *What does it feel like?*

"The relative size of things.. When you get to the size of our Earth in space, 8,000 miles' diameter--- the Sun's corona when you look at it with filters through a telescope we can actually see it--- in the larger magnification one of the flames would be about an inch. One inch of flame is often an altitude of over a hundred times the diameter of our Earth. The size of our Earth would be undetectable in one of those flames.

"The distance to the next nearest star to ur Sun takes light coming 700 million miles and hour four and two-thirds years to get here. So somewhere between that kind of distance we have a tiny invisible spot of 8,000 miles* diameter, our planet,

- Cite Rasa Gustaitis, WHOLLY ROUND, p.161, (HRAW.NY) Feb*73

"going around the Sun at 60,000 miles an hour. And the Sun itself, and the galactic system... sum totally we're making something like a million miles an hour right now."

Now usually when someone mentions a multidigit number to me , I blank out. But Fuller has led me into those interstellar spaces. That's Fuller the poet, conveying reality, not describing with words,

"So we couldn't be more of a spaceship and we couldn't be tinier and we couldn't be more beautifully designed... If we were to say that man was God, if that's what you're objecting to, that this design is so much better, then OK. But nevertheless, I call it a design... The space is a priori mystery that the space vehicle goes in. And you don't think that it's a mysterious thing that he had the capability to get there? It's all part of the same mystery."

"People who listen to me say, 'Here's a man who's selling screw-drivers. . . They don't realize how mysterious screwing is.'"

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY), p. 161, Feb'73

"...I've been identified only with the physical so far.

I went through 25, 30 years of people saying: this the the bathroom man, or the automobile man--- that's all they thought about me. It's only in the last couple of years that they discover I'm a thinker. And I started as a thinker, I didn't start with bathrooms. I started off with God and my charge was to work on the physical. That's where I had the capability; that's why we're here. I accepted this. And to find myself identified, then, with just being a fishing-pole salesman!

I find this thing echoed when you say that about my analogy, 'cause I use a very good tool there. I have helped to shock man into realizing he's on board a space vehicle. He's a passenger on it and he's intimately related to it.**

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY), p.162, Feb'73

"Your Senate hearing gives me a short but welcome opportunity to talk thus about all that man has learned from his two million years aboard our spaceship Earth, wherefore I wish to point out vigorously to you that we are indeed aboard an 8,000-mile-diameter spherical space vehicle. We were excited during the Christmas days when we first looked at the Earth from the Moon. But I heard our President speaking 'down to earthedly' to the astronauts about their going up to the Moon. There is no 'up' or 'down' in Universe. We find so-called practical men saying, 'Never mind that space stuff, let's get down to earth.*"

"And we retort 'Where is that? Where is 'down' and what and where is that non-space existing theory avoiding Earth?'

"Despite their ignorant urging of 'Never mind that space stuff, let's get down to earth,' we find that our little 8,000-mile-diameter planet Earth, together with the Moon, is flying formation at 60,000-miles-per-hour around the Sun."

- Cite HBF at Senate Hearings, p. 9, 4 Mar'69

"Earth is a beautifully designed spaceship equipped and provisioned to support and regenerate life aboard it for hundreds of millions of years, even until the time when so much energy of Universe has been collected aboard Earth as to qualify it to become a radiant star, shortly before which man will have anticipatorially resituated himself on other planets at nonincineratable distance® from the Earth nova."

- Cite RBF at Senate Hearings, * p.9, 4 Mar'69

"I just say to all of you: 'Hullo, astronauts,' You're all astronauts. I'm sure you're not thinking of yourselves as astronauts or you wouldn't have the word for somebody else. But you're all astronauts, you never have been anything else. You've just got to catch on that you're all

astronauts. It's a very small little ship we've got here; it's superbly equipped and every part of it is reciprocal; there are no labels on it which say anything belongs to anybody. Everything that's there is to regenerate all of life."

- Cite RBF in "The Listener" transcript by John Donat, 26 Sep'68

"Once upon a time and aboard a spaceship there were almost four billion passengers, each so small and the ship so large that the passengers wandering about on its spherical deck, pulled feetward toward its center of gravity, could see only about one two-millionth of the ship's total deck surface at any one time. Usually they told, only a millionth

of it in their entire lifetime. As a consequence they did not realize that the only locally irregular surface on which they walked did not stretch away as a plane to infinity and was in fact a finite or closed spherical surface system.

"That spaceship had been given the name 'Earth' by its passengers, this name being descriptive of its hard-packed dust, dirt, and rock-surfaced deck stretching away surrounded by water seemingly to infinity. So impressed have the passengers been with that stationary, egocentric, two-dimensional content that they have for long, and as yet, begin their children's education with plane geometry--- its surfaces and lines--- stretching away to infinity. , , .

"Three-quarters of Spaceship Earth's surface Is covered with water and only about half of the dry one-quarter is both

- Cite DEAR ISLAND bTURY, galley pp.2-3, 1968

"habitable and suitable for providing vital support of the passengers. This meager ten percent of the spaceship's surface with its vitally hospitable damp surface is divided into many small fractions scattered so remotely from one another around the Earth's sphere and with such

vast and formidable waters, mountains, deserts, and ice Intervening, that as a result each of the local groups of inhabitants of the various areas--- for 99 percent of the period of their known presence on Earth--- have been unaware of the other groups' existence or whereabouts aboard the spaceship.

"Equipped materially to take care of its passengers for millions of celestial travel years, but needing additional energy to produce, maintain, and regenerate its complex, interchemically exchanging, life-support system, it was designed by the conceivor of the vast, ever and everywhere nonsimultaneously transforming Universe, that the additional and vital energy W^* constantly transmitted to the spaceship by the electromagnetic radiations emanating from enormous, fiery, unmanned, automated mother spaceships traveling in company with, but at great distances from, the little Spaceship Earth."

- Cite BEAR ISLAND STORY, galley pp.3, 1968 "And to make things even more challenging and intelligence-invoking for the passengers, no instruction book on identification of the parts and what they do and how to operate them came with the spaceship. Because some of the red berries were healthily sustaining while other red berries were poisonous, the passengers were forced to learn by trial and error about the myriad of life-advantaging principles that have been secretly built into the integral metabolics of Spaceship Earth and that spaceship's complementary universal environment, which is ever energetically transforming and evolving. This was made possible by the apparently ample tolerance for their many errors which was included in the design of the ship and the celestial support system. Though often obvious for millions of years, most of these vital advantage-giving principles long have remained unrecognized for what they are and can do; it would seem to be a part of the designed scheme of Universe that— for the nonce, anyway— nothing is quite so invisible to Spaceship Earth's passengers as the obvious. ...

"As all of the Spaceship Earth's passengers see all their experiences only by image-ination in their brains, we too may imagine ourseleves aboard the little spherical, 8,000-mile

- Cite BEAR ISLAND STORY, galley p.3, 1968

Spaceship Earth: (d)

"diameter Spaceship Earth with its then atmospheric, ionic, and radiation-shielding Van Allen mantles, speeding integrally at 17 miles per second in a vast elliptical orbit around our 92-million-miles distant, fully automated energy supply ship--- the Star Sun--- in the presence of our 10-trillion- miles further distant, next nearest star.

"These two stars are our Spaceship Earth's nearest prime energy, life-giving and life-sustaining, regenerating supply ships. As do also the myriad® of even further away supply ships, these two stars 'fly formation' with our Spaceship Earth in the vast inconceivable ocean of time. The energy supply ships are flown at a distance sufficient tp prevent their heat and radiation from drying up and incinerating the many forms of life aboard Spaceship Earth.

"Large though 8,000 miles may seem to the human passengers, who are only one-thousandth of a mile tall Spaceship Earth's diameter as seen from another planet is only a tiny pinpoint of Sun-reflected light similar in appearance to the Spaceship Mars or Venus as seen from Spaceship Earth."

- Cite BEAR ISLAND STORY, galley p.4, 1968

` ` After at least two million years of experience aboard it, many of the almost four billion amateur astronauts aboard Spaceship Earth have become theoretically well Informed regarding a few behavioral characteristics of a meager fraction of the celestial phenomena. But

none of them--- excluding possibly the Russian and U.S.A, professional spacemen /the three bears. Goldilocks, and her father_7-- as yet consciously and realistically sense that their own planet is a spaceship and see and feel themselves zooming through Universe upon that spherical ship. ...

/~See Up and Down Sequence (A) - (B) *J*

` ` Because the Spaceship Earth is also spinning equatorially at 1,000 miles per hour as it orbits the Sun at 60,000 miles per hour, when we launch a tiny, two- or three-man-carrying, capsule by rocket from our Earth Spaceship, we must give the capsule an additional acceleration boost of approximately 16,000 miles per hour in order to break out of Earth's gravitational, pull.' This means that we on our big mother Spaceship Earth must give our small space 'launches' a local space speed of 76,000 mph., or 16,000 mph. faster than Spaceship Earth's"

- Cite BEAR ISLAND STONY, galley pp.4-5, 1968

"Sun-orbiting speed. Aboard Earth we are accustomed to the idea of big ships carrying small lifeboats; launches, tenders, and gigs. 'We must now think of our space-rocketed capsules as small boats launched outwardly from our bigger spaceship.

"But these speed variations of our spaceship and its launches become minuscule and negligible in comparison to the speed of Spaceship Earth as a solar system component as that solar system itself orbits within our galactic nebula's even greater perimeter motion and our galactic nebula's collective motion in respect to the other nebulae."

- Cite BEAR ISLAND STuKY, galley p.5, 1968

"To my esteemed and beloved friend friend. Buckminster Fuller, who provided much more than the title of this book."

--- Barbara Ward Jackson --- 23 May'66

[N.B. This debt to R.B.F. acknowledged only 1n

her presentation copy to him.t..and buried in text at p.15.3

resentation copy v. Press, N.Y.

- Cite Lady Jackson inscription in RBF p of her SPACESHIP Earth, Columbia Uni 1966, inscribed 23 May'66

"In fact, I can think of only one way of expressing the degree to which interdependence and community have become the destiny of modern man. I borrow the comparison from Professor Buckminster Fuller, who, more clearly than most scientists and innovators, has grasped the implications of our revolutionary technology. The most rational way of considering the whole human race today is to see it as the ship's crew of a single spaceship on which all of us, with a remarkable combination of security and vulnerability, are making our pilgrimage through infinity. Our planet is not much more than the capsule within which we have to live as human beings if we are to survive the vast space voyage upon which we have been engaged for hundreds of milenia--- but without yet noticing our condition. This space voyage is totally precarious. We depend upon a little envelope of soil and a rather larger envelope of atmosphere for life itself. And both can be contaminated and destroyed. Think what could happen if somebody were to get mad or drunk in a submarine and run for the controls. If some member of the human race gets dead drunk on board our spaceship, we are all in trouble. This is how we have to think of ourselves. We are a ship's company on a small ship. Rational behavior is the condition of survival."

- Cite Barbara Ward, SPACESHIP EARTH, Columbia Univ. Press, NT, 1966, P.15.

"For at least 2,000,000 years men have been reproducing and multiplying on a little automated spaceship called Earth, in an automated Universe in which the entire process is so successfully predesigned that men did not even know that they were automated, regenerative passengers on a spaceship and were so naive as to think they had invented their own success as they lived egocentrically on a seemingly static Earth.**

At Hugh Kenner's house in Baltimore, in response to an inquiry from the Baltimore SUN, RBF said that to the best of his recollection this citation was his earliest reference to spaceship Earth in print. --- 3 Oct'73. J

- Cite PROSPECT FOR HUMANITY, Sat. Review, 19 Sep'64

See Earth

Planet Earth

Competition: Elimination Of

Sovereignty: Elimination Of

Spaceship Earth;

(2)

See Antientropy (A) Man as a Function of Universe (B) Miniature Earth, 28 Apr¹74 Know-how &. Know-what, 11 Nov'74 Millay, Edna St. Vincent, (3) Wealth, 20 Sep'76 Building Industry, (11) United Nations, 29 Mar*77

Spa9 structure

See Floating City

Moon Structures

Habitable Satellite

Satellite Environment Controls

Sky Dwelling

Sky-island City Skybreak Bubble

Spa.c? Strwctwrc:

12)

See Biosphere. (1)-(4)

Necklace, Nov'71

Spa₉e Tgcftnogy: (1}

"In contrast to the hone arts let us look at the space rocketry world. At the present moment we have the enormous, major governments subsidised weaponry race into space undertaken by both Russia and the United States. In order to be able to put a man in space--- to stay in space, not to make a few orbits--- in order to give man, in effect, live continuously in outer space for weeks and months and possibly years, we have to solve scientifically the problem of mastering the ecological pattern of the human being and the metabolic pattern of the human being. We have to realise that the energy events that take place metabolically in supporting man ecologically on Earth involve energy transforming functions of trees, worms, water, sunlight, the slowly forming topsoil, et. al. The delicately balanced pressure and heat of energy exchanges and chemical transformations involve very large ecological domains to complete the cycles of a man-supporting environment process on Earth. We are going to have to compress the total ecological domain of man from approximately a one-mile radius process into a ten-foot radius process. We are going to reduce the total volume of energy transformation patterning several millionfold. In order to be able to send that man off into"

- Cite MEXICO '63, p. 11, 10 Oct '63

"space, we have to scientifically anticipate and effectively service all his processes and psychological reflex requirements. In order to be able to do that we are, in effect, building a little house---* a little space house. We had been using the word 'capsule,' which has hidden from the fact that what science is really working on is a little house; not much room to move around in, no garden of roses outside, but nonetheless, a little house with a six billion dollar mortgage,

"In this strange battle of man to anticipate offensivedefensive weaponry battles in the cold warring, the battle to attain the moon, or protracted living upon a platform in space, has brought about a race in capital funding initiatives between Russia and the United States specifically in relation to this little house, amounting to six billion dollars. This staggering amount is now appropriated to hire scientists to go to work to design and produce one little sky house, the first scientific human dwelling in history. It must be capable of sustaining man as a metabolic success anywhere in Universe. It won't be a very charming little house. It won't be 'good architecture' by the tradional a-la-mode"

- Cite MEXICO '63, p.11, 10 Oct *63

"aesthetics. Above all I want you architects at this Seventh World Congress of the I.U.A. to realize that what the space scientists are working on is in fact the design of a house: that is architecture. The scientists are in your business competing with you in the solution of all the problems that a house for regenerative man involves. It involves every one of the fundamental principles ever discovered by man in Universe. The scientists are attending to the dwelling problems that you have failed to attend to or have left to someone el»se to solve, as for instance, the plumbers, ./hen the prototype moon dwelling and its space autonomy mechanics are developed, and it has been satisfactorily test orbited for 100 days, and that house has finally taken man

successfully to the moon, or to a space platform, there to dwell for months, then we will have history's first scientific semi-autonomous dwelling. In that sky dwelling we will have the energy exchange processes, internal and external to man's ecology, becoming locally regenerative.

"This process and its scientific tooling and instrumentation must become locally regenerative on an extraordinarily satisfactory basis before we shoot man to the moon or in'* - Cite MEXICO >63, pp.11-12, 10 Oct '63 "to protracted space orbiting. We are not going to pick the finest, healthiest world specimens, the best coordinated human specimens we have, and send them off to space to live in some highly inadequate and swiftly deteriorating condition. All the world will be hooked up by TV to observe the details of man's first home life in the sky. The technology will have to be performed superlatively before we shoot man to the moon or sky platform. This means that the problems will be solved on Earth and not in the sky. The mechanics of solution will be produced here on Earth. The establishment of this capability here on Earth also is going to make possible a very different kind of dwelling technology right here on Earth. We will no longer have to have water pipes and sewer systems. Mankind will suddenly start mass-producing the space house prototype's pipeless, wireless, trackless ability to deploy man around the Earth's surface as well as in space. Man will be able to take position anywhere on the face of the Earth, as an eagle takes firm, safe poise on his beautiful mountain peak vantage. with many able to readily reach such points by rotoflight and able to survive at' such remote spectacular points at very high living standards, comfort, and low cost with swift ability to'

- Cite MEXICO *63, p.12, 10 Oct '63

"reconvene in cultural centers, etc. • .

"For the first time in the history of man on Earth we are actually applying the highest scientific capability to that extraterrestrial space dwelling, underwritten inadvertently and exclusively by weaponry supremacy ambitions for celestial control of world fire power. This celestial supremacy involves, however, an unprecedented weaponry system requirement: that of making man a successfully semi-autonomous biological intelligence system remote from Earth where he will be unable to survive normally by himself, as detached reconnaissance soldiers have been able to do in all previous history. A surprise event thus entered into the age-old weaponry system evolution, the significance of which has not as yet been publicly nor politically apprehended or comprehended.

"All weaponry up to this moment in history has been designed primarily to kill men with maximum scientific skill. Here we discover the as-yet uncomprehended surprise. Now for the first time in history the space weaponry race has forced the weaponry system directors inadvertently to design a"

- cite MEXICO '63, pp.12-13, 10 Oct '63

"means of housing and servicing men (or women or both) anywhere in Universe which means under vastly more difficult conditions than on Earth and. because of the superman requirements of the service, at a higher standard of satisfaction of living fundamentals than any men have ever known.

"Tents won't do in airless space. If you spit in space the spit goes into orbit and you retro-orbit. There is no sewer system in space. There is no gravity to pull matter down the drain. There are no water supply lines, no electric wires, no supermarkets. Because of the completely un- Earthly condidns within Which our men at the new space front have to operate, science has now been invoked for the first time in history to 'enshrine living man.' That is the surprise!

"Science has always been a complex of independent and subjective economic slave disciplines, primarily concerned with the harvesting of information, rather than with the practical application of that information. To provide the unearthly sky dwelling for our celestial fire-power soldiers, science has at last been brought to bear objectively and

- Cite MEXICO '63, p.13, 10 Oct '63

"integratively upon the generalized problem of converting man's combined ecological and metabolic patterning in Universe from a random matrix of happenstance interferences, of unknown miles of overall dimension, into a compacted metabolic coordinate system of high certitude of controllability ergo a local ecological success under approximately any conditions other than those of falling into the Sun or other stars. The sky house man must be trade capable of taking position at will, either by interior or remote control, approxirately anywhere in the dynamic intercoordination of physical Universe. Yet, by virtue of entropy, that is of inherent local loss of energy of all local systems in Universe, the sky house may not be perpetually independent and self-regenerative. It is ultimately dependent upon the good will replenishment of that local and remote ecological system by the organized energetic activities of other men acting both as individuals and as vast teams, coordinated under the predominant will of organizations of men on Earth.*

- Cite MEXICO '63, pp.13-U, 10 Oct '63

See Autonomous Living Technology Packet Fuel Cell

Moon Structures

Moon Trip

Space Capsule

Space Structures

World Game: Men landing on Moon

Airspace Technology

Walls vs« Airspace Technology

See Dwelling Service Industry (3)-(6)

General Systems Theory, 4 Jan*70

Science: Cause of Science for Man, 14 Mar'71

Spherical Triangle Sequence (VIII)

Tolerance Sequence, Jun*69

Plastics, 10 Aug'70

Dome: Rationale For (I)

Spaea-tlma:

See Time-apace

Space Travel:

"... The icosahedron is stuck locally with no way to get to another continent. The vector equilibrium is how you get from one sphere to another, from Earth to Liars.'*

- Citation and context at Icosahedron As Local Shunting Circuit. 22 Jun'72

Space Travel:

Synergetics draft Secs. 1009.71 - ff, 15 Feb'73

Hyper, World Me*, 4 Apr'73 - p. 38; let *k* 2nd Cole.

780.22-780.28

1009.65

See Astrogator

Cosmic Transmission Eye-beamed Thoughts Man: Interstellar Transmission of Man Man's Universe Penetrations Travel: Extraorganic Travel World Game: Men landing on Noon Space Capsule Planets: Probable Myriads of Consciously Operated

Planets

Moon: Humans Reach Moon and Return Electromagnetic Transmission of Human Organisms Extraorganic Travel

See Atomic Computer Complex (7) Biosphere (1)-(3) Disparity, 1960 Icosahedron as Local Shunting Circuit, 22 Jun*72* Invisible Circuitry (1)(2) Radiation, Hay*72 Spaceship (2)j (e)(f) Orbital Escape from Critical Proximity, (1)

Space / Upo_C£UDied Geometry:

See Space as Nontuned Angle & Frequency Information 22 Feb'77

Space talking:

Synergetics draft at Secs. 1009.66 - ff. 14 Feb'73

See Air Space

Allspace Filling

Available Space

Conceptuality & Space

Curved Space: Bent Space Domain

Field of Omnidirectional Nothingness Interspace

Interstitial: Interstitial Space No Geometry of Space Nothing

Nothingness of Areal k. Volumetric Spaces

Novent

Otherness w'e Call Space

Spheres A. Spaces

Static Invalidity of Solid Things vs. Empty Space Thinkability vs.
Space Time-space Vacuum

Volume Void

See Critical Proximity, Jun'71* Face, 20 Feb`73 Halo Concept, 25
Apr'71* Infinite. 15 Oct'72 Local, 22 Apr'71* Omniintertangency,
17 Feb'73* Vacuum, 19 Feb'72* Velocity, 12 Jul'62* Craphable. 27
May'72 Events &. Novents, Nov'71 Silence, 30 SeD*76* Tuning-in &
Tuning-out, 17 May'77

See Space Capsule

Space Pilling

Space Nothingness k Time Sonothingnees

Space Program

Spaceship Earth

Space vs. Conceptuality

Space Structures

Space Technology

Space Travel

Space Walking

Space / Unoccupied Geometry

Space as Nontuned Angle k Frequency Information

Space `` Nontunability

Spar Crystals:

Sea Iceland Spar Crystals

Sparking & Nonsparkine:

See Copper, 15 Aug'70

Sppafclnfi:

See Speech

Spear:

'"Vectors are like spears. I could 'massage¹ any object into a spear shaep, point and thrust-throw it in a discrete direction. I intuitively liked those directional vector 'spears.' I felt that they tended at least to embody all the energetic qualities of represented experiences."

- Cite "Bucky" by Hugh Kenner, p. 105; probably from Snyder or Fqr-rel, Summer'71

See Javelin

Vector

See Geometry of Vectors, 10 Oct*64

i pedal Case:

Q. "You look at the world in such a different way. .

. . Why?*

RBF: "It's just because all people are special.

Everyone is a special case."

- Cite RBF to Sue Liberman at WAMU*FM, taping, Wash, DC: 26 Apr*77

Special Cage;

"Structures are always special case. Structures are operational. Operational - physically realised. Structures always have unique size. By definition, a structure is a complex of energy events interacting to produce a stable pattern.

"An energy event is always special case. Whenever we have the experienced energy we have special case. The physicist's first definition of physical is that it is an experience which is extracorporeally, remotely, instrumentally apprehensible. Metaphysical are all the experiences that are excluded by the definition of physical. Metaphysical is always generalized principle."

- Cite SYNERGETICS, 2nd. Ed., at Secs. 1075.10-11, 27 Dec'74

SBMi.aLCa.aj:

- Special case is always realised by its energetic Information..

Time incrementation is special case Information."

Citation *k* context at Energy *k* Informat.1 r.n, 27 Dec '71

"The physical is always experientially and analogue case.

- Citation and context at Limit-Limitation, 4 Nov'73

Special Case:

"Though special-case experiences exemplify employment of eternal principles those special cases are all inherently terminal; that is, in temporary employment of the principle

- Citation and context at Eternal. 13 Mar'73

Special Case;

"The facts of experience are always special case.*

- Citation and context at Order. 13 Mar'73

Special Case:

"Special case always has frequency and size-time."

- Cite SYNERGETICS draft at Sec. 1011.3*, 17 Feb'73

Special Case:

"Polarized precession is special case. Omnidirectional precession is generalized."

- Citation and context at General Case. 16 Feb'73

Special Case:

"The special cases seem to go racing by because we are now having in a brief lifetime experiences which took centuries to be recognized in the past."

[sr]

- Cite SYNERGETICS draft at Sec. 1005.5\$, 16 Feb'73

Special Case;

"And all the categories of creatures act individually as special case... but... they are all interacting one another synergetically,..."

- Citation and context at Linear and Spherical Analysis. 16 Feb'73

Special Case:

"All special case events are generated in critical proximity."

- Citation and context at Critical Proximity. 15 Feb'TJ

Special Case:

..Ever-multiplying Universe's special-case experience!!.

- Citation and context at Cosmic Fish. 8 Feb'73

Special Case:

"A vector is ... an abstraction of a special case, as are numbers abstract (empty sets) or special case (filled sets),"

- Citation and context at Vector. 26 May*72

Special Case:

"The human brain apprehends and stores each sense- reported bit of information regarding each specialcase experience. Only special-case experiences are recallable from the memory bank."

- Cite Dreyfuss Preface, "Decease of Meaning." 28 April 1971, p. 5

SPeciAt. C4je - sec

Special Case:

"Experience is always special case."

•• Cite RBF to EJA Carbondale 2 April 1971

Set dot CASF- sec

SpgSjal, Cat)?:

"The physical is always special case."

- Citation and context at Generalisation Sequence (1), Jun-Jul»69

Special Case:

"If you try to remember all of the special case experiences of which your life is composed, your brain will be very quickly overloaded in the given category of recall. It is going to take too long to get this information back and sorted out to use. Instead of trying to deal in all the special cases, deal with exactly the opposite; work towards the great generalizations."

- Citation at Generalisation k Special Case. 26 Aug*66

"... **Th® generalisable was always present in the special case.**"

- **Citation and context at Principle. 9 Jul'62**

"Now there is, in the universe, a vast order. It never lets you down. I throw a coin in the air and it returns and hits the floor every time. Nature is never at a loss what to do when she takes over after you and I sign off. Nature never vacillates in her decisions.

The rolling oceans cover three-fourths of the Earth. Along the beaches, the surf is continually pounding on the shore. No two successive local surf poundings have ever been the same, nor will they ever be the same. They typify the infinitude of individualism of every special-case event in the universe. While there is great music

in the pounding of the surf, as the infinite creative integrity of the universe is manifest, I cannot identify man, who hears this music, as the creator. I therefore do not use the word 'creativity' in man's employment of a priori infinite variety."

~ Citation and context at Creativity (1). spring'66

- tTle riLKGune A ACTjUKITIOMS' ,~¥ol 1, No.3

— . X3

COOCFTVAUTY - *CASE* •

"Weightless, abstract human mind reviews and from time to time discovers mathematically reliable and abstractly statable interrelationships existing between and amongst, but not 'in*' or 'of,' any of the special-case experience components of the relationship.

"When a long-term record of testing proves the relationship to persist without exception, it is rated as a scientifically generalized principle. Whenever human mini discovers a generalized principle to exist amongst the special-case experience sets, the discovery event itself becomes a new special-case experience to be stored in the brain bank and recalled when appropriate. Amongst a plurality of brain-stored, newly understood experiences, mind has, from time to time, discovered greater and more significant understandings, which in their turn as discoveries, which are 'experiences,' constitute further very special-case experiences to be stored in the recallable and reconsiderable brain bank's wealth of special-case experiences."

- Cite SYNERGETICS text at Sec. 504.04; galley rewrite, 6 Nov'73

See Abstraction of a Spacial Casa

Brain

No Generalised Boat

General Case

Generalisation k Special Case

Generalisation of the Special Case Filled Set Time-limited

Site

Whole to Particular Pre-special-case

Special Case:

<2A)

See Black Hole (1)

Cosmic Fish. 8 Feb'73*

Creativity (1)*

Critical Proximity, 15 Feb*73*

Education Revolution (1)

Evolution, 1970

Einstein: General Theory k Special Theory, 4 Mar'73

Eternal, 13 Mar'73*

Frequency, 16 Feb'73

Generalization, 17 Feb'73; 26 May'72

Generalization Sequence (1)

Is, 24 Apr'72

Limit-limitless, 4 Nov'73*

Local, 23 May'72

Lever (11)

Linear & Spherical Analysis, 16 Feb'73*

Order, 13 Mar'73

Phy.ii.e.al-I.i Always flpm'la-l---41-7?

Principle, 9 Jul'62*

Physical, 12 Nov'75; 4 Nov'73; Jun'69

Sped*! $C_{\text{flM}}; (2^0)$

See Physical Sciences, 1959

Physical Life, 22 May'73

Rigid 24 Sep'73

Spheric Domains. 6 Nov'72

Things, 17 Feb'72

Truth, 16 Feb'73 » 31 Jan'75

Vector, 26 May'72*

Conceptuality Independent of Size k Time. 2 Jun»74

Radial Depth, 20 Dec'74

Energy & Information, 27 Dec*74

Identity, 24 Jan*75

Spherical Triangle, 23 Jan'75

Pattern Integrity, 6 Nov*73

Number, 7 Nov'73

Real World, 12 May'75

Verbs, 12 Nov'75

Metaphysical k Physical, 13 Nov'75

Universe, 11 Dec*75

Modules: A k B Quanta Modules, 20 Dec'73

Special Case:
(2C)

See Seven Minimum Topological Aspects, 12 Feb*76

Height, Length <fc Width, 19 Jul'76

Trigonometry, Ifl Jul*76

Radiation, 11 Feb'76

Human Beings & Complex Universe, (1)

I Borikidth One Eve and a MicroBCope:

"I find it surprising that society thinks of specialisation as logical, necessary, desirable, if not inevitable. I observe that when nature wants to make a specialist she's very good at it, whereas she seems to have designed man to be a very generally adaptable creature--- by far the most adaptable creature we know of. If nature had wanted man to be a specialist, I am sure she would have grown him with one eye and a microscope on it. She has designed no such creatures. I observe that every child demonstrates a comprehensive curiosity. Children are interested in everything and are forever embarrassing their specialized parents by the wholeness of their interests.

Children demonstrate right from the beginning that their genes are organized to help them to apprehend, comprehend, coordinate, and employ--- in all directions.^h

- Cite RBF at Franklin Lecture, Auburn, Ala. 1970

Specialist Born with One Eye & a Microscope:

See Degenius, 26 Sep'68

Specialization:

"Specialization is the divide and conquer of the intellectuals by the muscle men."

- Citation and context at Divide and Cnnguag. Sequence (E) 5 May*72

Specialization:

"The omniconmitment

OfW the twentieth century's

World-around society

To the synergy invalidated misconception

That specialization

Is desirable and inevitable, Tends to preclude humanity's Swift realization

Of its many misconceptionings

And its necessity to substitute therefore Tactically reliable information. Specialization is antisynergy."

- Cite INTUITION, p.41, May '72

Specialization:

"extinction is the consequence of overspecialization. Inbreeding concentrates special-capability genes, but only at the expense of losing general adaptability, i.e., the ability of the species to cope with the infrequently occurring large, surprising and hostile events of the environment melange, while prospering--- only temporarily--- during the long intervals of innocuous, high-frequency, low-magnitude, environmental changes."

- Cite Dreyfuss Preface, "Decease of Meaning" 28 April 1971, p. 10

Specialization:

"Specialization, being concerned with parts, is inherently preoccupied with the physical." . . .

"Specialization is antisynergetic."

- Cite Dreyfuss Preface, "Decease of Meaning" 28 April 1971, p. 8.

Specialization:

'Part of the scheme of specialization is that there has to be a head man."

- Cite RBF Lecture Town Hall Kew York 12 larch 1971

Specialisation:

"Specialization ia anti/synergy."

- Cite INTBDTIuN Draft Feb. »?1, p. 30.

Specialisation:

"Specialization la only a fancy fora of slavery wherein the 'expert* la fooled Into accepting hla alavery by making him feel chat in return he la In a aoclally, culturally preferred ergo, highly secure life-long position,"

- Cite I SEEM TO BE A VERB, Bantam, 1970

Specialisation:

"Because humanity has deliberately fractionated the formal study of residual reality into ever more minute specialisations. which continually know more and more about less and less, the residual preoccupations have lost sight completely of any of the comprehensive and infinitely inspirational mystery of totality."

- Citation k context at Perceptual Peephole as Fraction of Reality.
Dec'69

Specialization:

". • . Specialists working within the graduate school saw great possibilities for further specialization within their special subject and ... their energies then developed a linear acceleration instead of a comprehensive acceleration. They went out like rockets and became remote stars, remote one from the other. « . M

- Cite RBF Rhode Island Address, 26 Aug. '66.

"Life, as born, is inherently comprehensive in its apprehending, comprehending and coordinating capabilities. Every child is interested in the universe. His questions are universal. Development of specialisation has been either a forced training affair or is a product of inbred talent--- as two musician parents tend to produce musical aptitude children.

"Specialisation, as a consequence of educational or craft training, was invented by the great pirates. Pirates had to be forever on guard against those ambitious to displace them. They were worried only about the bright ones who might detect the pirates' secret stratagems. Consequently, the pirates deliberately and anticipatorially subdivided and conquered the bright ones as each one came along simply by making them specialists!*

—pniohj p. f¹?"

- Citation and context at Education (B), Jun'66

"There is a strong awareness that we have been overproducing the army of rigorously disciplined, scientific, game-playing academic specialists who through hard work and suppressed imagination earn their PH.D.'S only to have their specialized WHB field become obsolete or bypassed by evolutionary events in five years. Despite their honor grades they prove not to be the Natural Philosopher scientist-artist, but just deluxe quality technicians or mechanics.**

- Cite AAUW JOURNAL, May 1965, P. 173

Specialization: p j

"Whitehead pointed out that the men going into those graduate schools and then going into a very specialized area instead of having a broad focus were getting down to a very narrow focus and within that very narrow focus would become specialists themselves so they would be professors of specialization within specialization. The specialists would then become so linear, instead of comprehensive--- instead of being broadcast, they would be narrowly beamed--- and being very bright ones they would make great speed in their linear acceleration. It would mean that they would speed outwardly through the Universe and would become very bright stars in the firmament, but as stars, very remote from one another.

"He pointed out then that because the specialists had been very carefully picked as individuals of high intellectual capability and, of course, intellectual integrity would be implicit. Their own integrity would make clear to them how little anyone outside their specialization could possibly know about their area of inquiry. They wouldn't feel any pride about it--- it would just be a fact that no one else in the public would tend to know anything about what they were talking about. Because they would - Cite Oregon Lecture-#2, pp.39-40, 2 Jul'62

"tend to recognize that to be a fact in their own experience, they would also not presume to go into any other specialists' laboratory and assume what the significance was of the work going on there. They would be the first to say: I can't talk about that. So these specialists would tend to talk to each other about football or tennis, and would not have much that they would feel they could converse about."

- Cite Oregon Lecture #2, pp.39-40, 2 Jul'62

"...Your specialty: You have to have your little private tollgate that society will have to go through..."

- Citation and context at Intuition **of** the Child (2), Feb>73
M Specialisation Tollgate:

"Now, men in our industrial and educational system have become more and more specialised. Everyone, wanting economic security, has seemed to think that as specialist he could command the tollgate of an expressway to unique and essential information. He thought: 'A great many people will have to go through my specialisation tollgate and I'll have a special, education- guaranteed economic security.'**

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 29 Aug'64
Operating Manual for Spaceship Earth, pp.27-28, Oregon Lecture //1, pp.26-27, 1 Jul '62 Wood Design in a Dynamic Technology, p.9 University of Chicago Address, in totoim. 5 May*72

See Categoryitis

Divide k. Conquer

Academic Tenure

Inbreeding

More & More About Less & Less

Nature Has No Separate Departments

Overspecialization of Biological Species and Nations Pirates: Great Pirates Specialisation Tollgate Whitehead's Dilemma Overspecialisation of the Sciences Generalists & Specialists

SpcGlflliMUon' Speciality
(2)

See See Computer (A)

Differentiation, 10 Oct'63; 10 Dec'64 Diplomats, 5 May*72 Education
(B)* Generalised Principle (2) Human Beings, 10 Dec'73 Intuition of
the Child (2)* Linear Programing, 5 Jun'73 Materials, 7 Nov'67 Nation.
Oct*70 Eternal Orderliness, 15 May'72 Orderliness Operative in Na-
ture (1)(2) Perceptual Peephole, Dec'69* Real Estate Development,
10 Jun'71 Sensorial Reflex, 13 Mar*73 Organic &. Inorganic, May*49
Nonthing, 11 Sep'75

See Charting Alternating Experiences of Man 4 Nature, (1)

Synergy: Degrees Of, (5)

Synergy of Synergies, JI May'?1

Viral Steerability: Angle-frequency Design

Control, 22 Jul'?1

See Lever, (2) Line, 7 Nov'72

See Invisibility of Macro- and Micro- Resolutions, (1) Point-to-able
Something, 30 Apr'77

Spectrum;

"... Unique resonances and frequencies of the electromagnetic proto-
plasmic, pneumatic-hydraulic, and crystallographic spectrums...."

- Citation and context at Integer. 15 Oct*72

See Color Spectrum Electromagnetic Spectrum Extrasensoriality
Invisible Spectrum Optical Motion Spectrum Sensorial Spectrum
Sensorial-frequency-spectrum Inventory

Speculation:

See Irreverible, 6 Nov'73

See Lecturing

Moratoriura on Speech Viaion va. Speech Converaation

Cliche

Cussing

See Fresh, 3 Oct'71 Communicatlon, 21 Jun»?7

RBF DEFINITIONS

Speed:

"There is a question-asking-poosibility that omniscience may be transcendental\invelocity to the definitive physical speed of energy\pm-nipotence."

~~K-eirVe-0mn£directional Halo, -p_r m-163,-3960—~~

- Citation at Metaphyalcal & Physical. 21 Dec*71

Speed:

"Speed io a unit of rate which la an integrated ratio of both time and space..."

- Citation & context at Rate, 1938

Speed:

<n

See Eternity is Simply the Highest Speed Fast & Slow Instantaneity Intellect:
Speed Of Light: Speed Of No Speed Radiation: Speed Of Rate Sound: Speed Of Top
Speed Velocity Terminal Speed Limit Speed Gravity: Speed Of Cosmic Speed

See Metaphysical k Physical, 21 Dec*71* Rate, 1y38*

SpepdjL.QR:

'Naught had been spent but thoughtful hours."

- Citation and context at Copper (2). May '72

Spending: "Naught gets spent but human time As cosmically Inexhaustible energy
Is tapped exclusively

By intellect-discovered and employed Cosmic principles

**high to qualify as principles Must be eternal."

- Cite Muskie Telegram N.Y. Times 27 March 1971

Spending:

"The only thing that's expendable is what we do
with our time-- all the rest is cumulative."

- Cite RBF to EJA O'Hare Airport Chicago 25 March 1971

Spending;

"The Universe is a motion perpetual motion process. We see then
that the part of our wealth which is physical energy is conserved. It
cannot be exhausted--- cannot be spent, which means exhausted.
We realise that the wording spending is now scientifically meaning-
less; it is obsolete."

- Citation & context at Closed System: Conservation of Energy. 1968

See Afford Available Time Conservation Conservatism Economic Ac-
counting System Wealth

See Closed System: Conservation of Energy, 1968*

Economists. Jun'66

Unanswerable, 20 Jun'66

See Gyrocompass

Gyroscope

Sphere:

"Spinning and orbiting give you the sphere---at the point where frequency cornea into time-flies."

- Citation & context at Six Motion Freedom ft Deareea of Freedom (A)(B); 8 Aug'77

Sphere:

•The sphere is the tetrahedron or octahedron or Icosahedron.' I did write 'There are no others,' but I think it is stronger just the way it ie. They obviously can be of any frequency."

"The spun frequency of all three - superficial sphericity."

- Cite RBF Ltr. to EJA, 25 Feb'74

Sphere:

"Physically, spheres are high-frequency event arraye whose spheric complexity and polyhedral system unity consist structurally of discontinuously islanded, critical-proximity-event huddles, compressionally divergent events, only tenaionally and ornnl-interattractively cohered. The pattern integrities of all spheres are high-frequency, traffic-described subdivisioningss of either tetrahedral, octahedral, or icosahedral angular interference, intertriangulating structures profiling one. many, or all of their respectuve great-circle orbiting and spinning event characteristics. All spheres are high-frequency geodesic spheres; i.e., triangular-faceted polyhedra, most frequently icosahedral because the icosasphere isthe structurally most economical."

- Cite SYNERGETICS text at Sec. 985.22, drafted 30 Dec'73

Sphere;

"The Greeks defined the sphere as a surface outwardly equidistant in all directions fron a point. As defined, the Greeks* sphere's surface was an absolute continuun, subdividing all the Universe outside it from all the Universe inside it; wherefore, the Universe outside could be dispensed with and the interior eternally conserved."

- Cite RBF galley correction to SYNERGETICS at Sec. 224.07 28 Oct*73

Sphere: *

...The sphere (i.e., the high-frequency, omnitriangulated geodesic, spheroidal polyhedron) encloses the most volume with the least surface."

- Citation and context at Tetrahedron_f 26 Sep'73

Sphere:

"If you get too semantically incisive the reader loses all connection with anything he[®] has ever thought before. That might not be a great loss. But I like to assume that the reader can cope with his reflexes and make connections between the old words and the new and better words. For example, we have had to clear up what we mean by a sphere. It is not a surface; it is an aggregate of events in close proximity. It isn't full of holes: it doesn't even have the connections.**

- Cite SYNERGETICS draft at Sec. 1023.11, 20 Feb'73

Sphere:

"No sphere large enough for a flat surface to occur is imaginable. This is verified by modern physics experimentally induced abandonment of the Greeks' definition of a sphere which absolutely divided the Universe into all the Universe outside and all the Universe inside the sphere with an absolute surface closure permitting no traffic between the two and making inside self-perpetuating to infinity complex, ergo the first locally perpetual motion machine completely contradicting entropy. Since physics has found no solids or impervious continuums or surfaces, and has found only finitely separate energy quanta, we are compelled operationally to redefine the spheric experience as an aggregate of events approximately equidistant in a high-frequency aggregate in almost all directions from one only approximate event. Since nature always interrelates in the most economical manner,

and since great circles are the shortest distances between points on spheres, and since chords are shorter distances than arcs, then nature must interrelate the spheric aggregated events by the chords, and chords always emerge to converge, ergo converge convexly around each spheric system vertex, ergo the sums of the angles around the vertexes of spheric system never add to 3600."

- Cite SIKEROITICS text at Sec. 1106.23, 26 Jan'73

Sphere:

Every system is always losing energy. But they always have imports as well as exports. And physics has found no solids. Physics has found no continuums. So our only way of defining a spherical experience in modern scientific terms is an aggregate of events approximately equidistant in approximately all directions from one approximate event. That's the nearest we can come. It is then a Galaxy of very approximate event points. There being no continuum, these energy events have relationships. And the most economical relationships between circular or spherically arrayed points are not the arcs, but the chords. I've come to discovering how very powerful all this is as its going on in geodesic domes which is simply what I'm talking about: an array of points approximately equidistant from one point and making all the most economical chordal interrelationships which makes them always triangulated."

- Cite RBF Tel Aviv Address, p.7> 16 Jun'72

Sphere;

"It is not surprising . . . that ball bearings prove to be the most efficient compression members known to and ever designedly produced by man. Nor are we surprised to find all the planets and stars to be approximately spherical mass aggregations, as also are the atoms, all of

which spherical islands of the macrocosmic and microcosmic aspects of scenario universe provide the comprehensive, invisible, tensional, gravitational, electromagnetic and amorphous integrity of universe with complementarily balancing internality of compressionally most effective, locally and temporarily visible, islanded compressional entities."

- Cite RBF marginalia, SYNERGETICS text, Sec.-614.081> 1971

"The moment you know you are on a sphere or spheroid, (ou) wknow that none of the perpendiculars are parallel

to one another."

- Cite RBF to Slhb Seminar, U. Pass., Amherst, 22 July 1971.

Spheres:

"Spheres Are just very high-frequency geodesics

Cite RBF to EJA, Fairfield. Conn*, Ches Wolf. 18 June 1971.

Sphere:

"The sphere is an asymmetrical phenomenon. It is an inward-outward pulsative from the vector equilibrium."

- For citation and context see Vector Equilibrium: Spheres and Spaces. 31 May '71

Sphere:

"A sphere is an asymmetrical phenomenon. It is an inward-outward pulsative from the vector equilibrium.

The sphere's spaces are interchangeable."

- Cite RBF tape transcript, Blackstone Hotel, Chicago, 31 May 1971, P- 48.

Sphere:

"Spheres are high tide aspects of vertexes. Solids are high tide aspects of faces. Spheres in closest packing are high tide aspects of vertexes."

- Citation at Tidal. May'71

Sphere:

"Pi (>f) is irrelevant in synergetic® because the sphere is not experimentally demonstrable and the tetrahedron is the minlnuui sphere. Compound curvature starts with the tetrahedron. Pi drops out because chords are more economical than arcs. Chords of an omnidirectional system never add up to 360° around a point. They are always geodesics. A point on a sphere is never an infinitesimal tangency with a plane."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

Sphere:

"Imagination means man's communication of what he thinks it is that he thinks his brain is doing with the objects of his experience. His discovery of general conceptual principles characterizing all of his several experiences--- as the rock, having insideness and outsideness, the many pebbles, having their corners knocked off and flU developing roundness: he thinks there could be pure 'roundness*' and thus imagined a perfect sphere."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

'cowcf*'r»*<.> rY 5'E'C- VI f>)

Sphere:

"In further demonstration of the non-mirrored complementary phenomena, we note that compression columns become more and more effective as we make them fatter and fatter going from long, thin cylinders to cigar-shaped systems. By increasing the compression member's relative girth and shortening its height still further, we finally develop a compression structure that is spherical.

"The sphere is compressionally ideal. As a slender column it had to be loaded carefully on its neutral vertical axis to avoid eccentric bending. When it is a sphere, however, the compression loads applied from any direction are automatically opposed by one of an infinity of neutral axes. The sphere provides nature's optimum limit in structural opposition to compressive forces in universe--- ergo, the stars and planets and atoms are all spherical islands of compression."

- Cite GODDESSES, Sat Review, 2 Bar 68

Sphere:

"A sphere is a plurality of events approximately equidistant in approximately all directions from approximately one event at approximately the same time,"

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE. 1967

Sphere:

Topologically speaking, a sphere is a spherical constellation and vertexes between which there are always the most economical interrelationship which consist of chordal distances between the vertexes. These chords form multi-faceted polyhedra and the sums of the angles around all the vertexes of the polyhedral system will always be the number of vertexes times 360 degrees minus 720 degrees."

"` .Then we get into the sphere, I find that relatively few people really think in terms of spherical thinking. Spherical thinking has not been used too much because calculus seems to take its place in many ways, and it is important to realize that in spherical thinking the angles don't add up to 180 degrees."

_ Cite NASA Speech, p. 85 Jun'66 - cite, iv. h

Sphere:

"The greeks defined a sphere as 'A surface equidistant in all directions from a point.' As defined there could be no holes in the sphere* because if there were any holes the surface would be turning Inwardly around the holes rim, and radius would change and the holes would leave areas within them where radius would not be equal in all directions. The Greeks' definition inferred that there is some kind of continuous and impervious continuum which absolutely subdivides all the universe which is outside the sphere forever, from all the universe which is inside the sphere. Were there no holes in the sphere, there could be no possible energy traffic inbound or outbiund-- therefore entropy. Entropy-- the second law of thermodynamics showsthat every local energy system in physical universe is always losing or emitting energy. The minimum set of all energy transactions and transformation is physical universe itself. Therefore only universe as an aggregate of non-simultaneous energy event transformings is the only possible perpetual motion system. If we could have a local perpetual motion machine we could throw away the rest of universe. Therefore the sphere, as defined by

- Cite NASA Speech, pp.84-85, Jun'66

Sphere;

"the Greeks wae the first proposed fallaciously perpetual notion na-chine."

- Cite NASA Speech, p.85» Jun*66

Sphere:

"The best definition we make of spherical appearing system is 'a constellation of event foci approximately equidistant in approximately all directions from one approximate event at approximately the same time.* By the time we have been able to measure many of the distances others would have changed their positions and conditions."

- Cite NASA Speech, p. 85_t Jun'66

Sphere:

"The sphere is complex unity and the triangle simplex

unity. Here and here alone lie the principles governing finite solution of all structural and general systems theory problems."

-gite RBF Ltn. r.n Shnji Sadaoa, 15 Fet <66, p,

* Ci_{15^tm>66^d} cont«t at MJ siml« Unity

Sphere:

"The only definition of a sphere now tenable by experimental physics is: *A plurality of energy event foci approximately equidistant, in approximately all directions, at approximately the same time from the approximate center of progressive measuring actions."

- Cite Ltr. to Dr. Robt. W Horne, 14 Feb '66, p. 4

*Jl sphere Is plurality of events approximately equidistant in all directions from one event."

- Cite MUSIC, Caption to Figure 9, p. 65 10 Dec'64

Sphere:

"Now a sphere is defined by the Greeks as a surface equidistant in all directions from a point. No man has ever witnessed an impervious surface so we can't say that any more. The definition by the Greeks of a surface equidistant in all directions means it could have no holes in it because then the radius would change. This would be the first definition of antientropy that you would successfully subdivide an inwardness from an outwardness--- subdivide the Universe in two parts and have no traffic" between them. "But my definition of a sphere--- really like a Hilbert point system--- is a plurality of events approximately equidistant in one direction /sic_7 from one event. This is a very satisfactory one." It accommodates a "very high frequency of events, but it does change mathematics completely. You will find it affects us,"

- Cite LEDGEMJNT LAB. Address, p.50, 15 Oct'64

Sphere:

"Aiming of the compressions! loading of a short column into the neutral or central-most axis of the column provides the greatest columnar resistance to the compressing because, being the neutral axis, it brings in the most mass coherence to oppose the force. To make a local and symmetrical island of compression from a short column which axial loading has progressively twisted and expanded at girth, into a cigar shape, you have to load it additionally along its neutral axis until the ever-fattening cigar shape squashes into a sphere. In the spherical condition, for the first and only time, any axis of a spherical structure is neutral--- or, ergo, in its most effective resistant-to-compression attitude. It is everywhere at highest compression and tension resisting capability to withstand any forces acting upon it."

- Cite RBF expansion of Lodgement, p.32. See STNERGETICS text, 'Tension and Compression- Sphere: An Island of Compression.' Sec. 614.08. 15 Oct'64

Sphere:

. . As a condition of the sphere for the first time, any axis is a neutral axis, in the spherical condition, it has aptitude in any direction to withdraw the forces on it; it is not surprising that ball bearings become the most effective compression members ever designed by man. I am not surprised to find more or less spherical planets in the heavens tensionally cohered, compression at its most effective

- Cite LEDCEKJT, p. J2, 15 Oct'61>

Sphere:

"A sphere contains the most volume and the least surface and is in the most comfortable condition. These energy patterns are always the most comfortable and the most economical conditions."

- Cite Oregon Lecture //5, PP» 186-187, July *62

Sphere:

"Among geometrical systems a tetrahedron encloses the minimum volume with the most surface and a sphere the most volume With the least surface."

- Cite OMNIDIHCTIONAL HALO, p. 141, 1960

Sphere:

"We can state that the number of vertices of any system (including a 'sphere'¹ which must, geodesically, in universal energy conservation, be a polyhedron of n vertices) minus two times 360° equals the sum of the angles around all the vertices of the system."

- Cite UMN1DIRECTIONAL HALO, p. 152, 1960

Sphere:

A sphere is a multiplicity of discrete events, approximately equidistant in all directions from a nuclear center.**

Sphere;

"All the points in the surface of a sphere may be interconnected. If most economically interconnected they will subdivide the surface of the sphere into an omnitriangulated spherical web matrix."

- Cite OMNIDIRECTIONAL HALO, p. 150, 1960

Sphere:

"A sphere is a plurality of events approximately equidistant in approximately all directions from one event."

- Cite ITEM "0", p. May'55

Sphere;

"The regular six-chord-edged tetranedron encloses (defines) the minimum volume with the most surface of all geometric polyhedrons or structural systems; whereas sphere encloses most volume with least surface and the minimum sphere-defining structure is the regular six-great-circle- arc-edged tetrahedron of 109°28* central angles and 120° surface angles. As there may be no absolute division of energetic universe into isolated or non-communicable parts, there is no absolute enclosed surface or absolutely enclosed volume; therefore, no true or absolutely defined simultaneous surface sphere integrity. Therefore, a sphere is a polyhedron of invisible plurality of» trussed facets ('trussed* because all polygons are reducible to triangles or trusses and are further irreducible) and trusses are therefore basic polygons. Infinite polyhedron is infinitely faceted by basic trusses."

—7 J. J. ' • Cite MCHA LE Plate

36, caption.

TRIANGLE, p.10, Nov, Ji

“ TMTThe same language appears earlier in PENNA.

Sphere:

"No sphere is large enough to be flat."

- Citation and context at Dynamic r 1950

Sphere;

"In a compound curvature sphere of paper all the surface represents an intertriangulation of great circles wherefore each great circle helps the other. Each is a compression circle enclosed within a tension circle. If we try to flatten the sphere, its equator cannot move outwardly to accomodate the down thrust as did the girth of the paper cylinder. Therefore, no one circle can lever its compressive interior against polar points, and, disunited, fail. In the sphere, the pressure at one point must invoke an infinity of great circles to crush an infinity of points simultaneously in a progressively rolling radius as the sphere is gradually pushed inside out--- but never flattened--- and only rolls the wave to the equator, which holds. Even in its inside-outness the sphere maintains its comprehensive interaction of system, seeking to re-establish its shape. Thus do balls tendm to bounce."

- Cite IDEAS AND INTEGRITIES, p. 219 Preview of Building, Apr'49

Sphere;

"The sphere is not a minimal system because no completely enclosed surface exists and therefore no line spherical integrity. The sphere has a plurality of sides which makes it a polygon reducible to triangles and hence, tetrahedron.

"The sphere on the other hand encloses or defines more volume with the least surface than any other geometric figure.

"... The sphere is an invisibly multifaceted polyhedron--- each facet reducible to trusses and hence to triangles."

- Cite Undated typescript among Synergetics Papers (from RBF)

See Indispeneable Center. 19 Feb'72 Omnitriangulation, 2o Feb'75
Triacontrahedron, 13 May¹77 T Quanta Module, (10

Sphere Integrity:

See No Sphere Integrity

Sphere Polyhedron:

See Pi, 8 Feb'73

Sphere of Reference:

See Omnidirectional: Physical Existence Environment Surrounds, (3)

Spheres & Spacesi

"The aphere-to-space, space-to-sphere intertransfonnabillty la a conceptual generalization holding true independent of size, which therefore penults us to consider the generalized all space-filling complementarity of the convex (sphere) and concave (space) octahe-dra with the convex (sphere J and concave (space) vector equilibria; and also permits us to indulge our concentrated attention upon local special-case events without fear of missing further opportunities of enjoying total synergetically conceptual advantage regarding nonslmultaneously-considerable scenario Universe."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 123\$.22, U May¹75

"The spheres and spaces are disequilibriumous, i.e., asymmetrical phases of the vector equilibrium's complex of both alternate and coincident transformabilities. . .

By virtue of these transformations and their accommodating volumet-ric involvement, the spheres and spaces are interchangeably inter-transformative. For instance, □ each one can be either a convex or a concave asymmetry of the vector equilibrium."

- Citation and context at Interchangeable Intertransformativeness

"A sphere is a convexly expanded vector equilibrium and all spaces are concavely contracted vector equilibria and octahedra at their most disequilibriumous pulse moments."

- Cite RBF to EJA, 3200 Idah*, incorporated at SYNERGETICS Sec. 970.14 Oct*72

»/3

Spheres & Spaces;

"Considering spaces between is one way of looking at universe and the sphere is another way of looking at universe. This is typical of not being fooled by just looking at spheres or just looking at the little triangle locally on the surface of the big sphere where we had our big triangle. This is beginning to give us ways of seeing the complementarity at all times."

--Cite- Carbondale-Draft--- □Ha-turo t a -

- Cite Oregon #7, p.258, 11 Jul<62

See Mite: Positive & Negative Functions Resonance Field Allspace Filling: Octahedron & VE Vector Equilibrium: Field of Energy Vector Equilibrium: Spheres Spaces Interstitial: Interstitial Spaces Internuclear Voids

See Interchangeable Intertransformativeness, 22 Feb'73* Push-pull. 22 Feb'73 Sphere. 3< May*71 Valve, 20 Feb'72

X Configuration with Ball at the Center (2) Trigonometry: Spherical Trigonometry (3) Harmonics, (2)(3) Modules: A & B Quanta Modules, 20 Dec'73 Vector Equilibrium Involvement Domain, 24 Apr'76 Quantum Mechanics: Minimum Geometrical Founess.

(2)

Wave Pattern of a Stone Dropped in Liquid, 22 Jun'7?

Spheres become Spaces and Spaces Become Spheres:

See Spheres &. Spaces

Sohorea & Vertaxea:

See Push-pull Members. 28 Oct»?2

Sec. 722.02

Sphere: Synergetic Formula for the Volume of a Sphere;

"Here are a lot of illustrations for 'Synergetics. This one where we have 12 spheres closest packed around one, I did freehand. It shows all the geometries that occur from 12 spheres around one, and how they all appear as rational values. We show in the book (Sec. 982.60) that the value of the sphere itself turns out to be the number five, a whole rational number five, without any pi. where the volume of the tetrahedron is one."

(This is RBF comment on Illustration at y82.62.)

- Cite RBF to HUGH Kenner, Phila. PA, transcript p.11; 9 Jun'75

Scher.?? Synergetics Formula for Area &. Volume of a Sphere;

Synergetics: Sec. 982.60

SHiarfi: Synergetic Formula for the Volume of a Sphere:

See 0 Module, 29 Sep'76 Triacontrahedron, 13 May'77

See Calculus, i960

Infinity k Finit, Jun'66

Raft, 3 Apr'75

Sphere, 31 May'71

Zero Condition, 14 Feb'66 Geodesic Sphere, (1)(2) Halo Concept,
Nov¹71

"The concentric hierarchy was conceived from the outset and as early as 1934, but I had one value more to establish---which was the volume of the sphere of unit vector radius, which proved out at five,"

on EJA's "Cosmic Fish" ms. Chap. X,

- Cite RBF marginalia

p.B; 20 Nov'75

Sphere: Volume-surface Ratios:

"The largest number of similar triangles into which the whole surface of a sphere may be divided is 120. The surface triangles of each of these 120 triangles consist of one angle of 90° , one of 60° . and one of 36° . Each of these 120 surface triangles is the fourth face of a similar tetrahedron whose three other faces are internal to the sphere. Each of these 120 tetra has the same volume as have the A or B Quanta Modules. Where the tetra is 1, the sphere's volume is 5. Dividing 120 by 5 `` 24 quanta modules per tetra. The division of the sphere of volume 5 by its 120 quanta modules discloses another unit system behavior of the number 24 as well as its appearance in the 24 external vector edges of the vector equilibrium."

Cite RBF to EJA. 3200 Idaho. Wash., DC; incorporated in SYNERGETICS, 2nd. Ed. at Sec. 1053.36; 11 Dec'75

Spherics:

"A spheric is any one of the rhombic dodecahedra, the center of each of whose 12 diamond facets is exactly tangent to the surface of each sphere formed equidistantly around each vertex of the isotropic vector matrix."

- Cite SYNERGETICS at Sec. 426.Ji-, JO Nov'72

"Because the rhombic dodecahedra fill and symmetrically subdivide allspace, while simultaneously, symmetrically, and exactly defining the respective domains of each sphere as well as the respective shares of the interclosest-packed- sphere interstitial space, the rhombic dodecahedra are called 'spherics¹ for their respective volumes are always the unique closest packed, uniradius spheres' volumetric domains of reference within the electively generatable and selectively 'sizable' or tunable of all isotropic vector matrixes of all metaphysical 'considering' as regeneratively re-originated by any thinker anywhere at any time; as well as all the electively generatable and selectively tunable (sizable) isotropic vector matrixes of physical electromagnetics, saMalways re-originatable physically by anyone anywhere in,'Universe,"

- Cite SYNEKGETIUb draft at Sec.

426.22, 30 Nov'72

Spheric:

"I like to use 'spheric*' because it seems to take in more than 'spherical.' It would include the 'spheroidal.' Both a ball and a tomato are 'sbheric.¹"

» Cite RBF to Ell, 3200 Idaho, 1\$ Oct'72

Spheric Domains:

"All the well-known Platonic polyhedra, as well as all the symmetrically referenced crystallographic aberrations are symmetrically generated in respect to the centers of the spheric domains of the isotropic vector matrix and its inherently nucleating radiational and gravitational behavior accommodating by concentrically regenerative, omnirational, frequency and quanta coordination of vector equilibria which may operate propagatively and coheringly in respect to any special-case event fix in energetically identifiable Universe."

- Cite SYNERGETICS draft at Sec. 981.20, 6 Nov'72

Spheric Domain:

"Spheric domain ie prime volume."

- Citation and context at Vector Equilibrium. 1S Nov'72

Spheric PoMln v». Nuclear Domain:

So* Six - Five - One, 8 Jan¹74

See Domains

Prime Domains

Rhombic Dodecahedron

Spheric

Prime Volumes

See Coupler, 20 Dec'73

Rhombic Dodecahedron, 2 Nov*73

Domains of Interferences, 7 Nov¹73

sjah «ri £. gym =

See System Enclosure, (1)

"The spheric experience is simply an ultra-high frequency of finite event occurrences in respect to the magnitude of the tuning of the observer. (High frequency to the human may be low frequency to the molecule."

- Cite SYNERGETICS draft at Sec. 1023.13, 20 Feb'73

Sphere

Synergetics draft at Sec. 935.40, 14 May'73

Spheric Experience:

See Geodesic Spheric Experience

Spherical:

"Having the form of a sphere; includes bodies having the form of a portion of a sphere; also includes polygonal bodies whose sides are so numerous that they appear to be substantially spherical."

- Cite Patent No. 2.682.235, June 29. 1954 BUILDING CONSTRUCTION

Spherical Barrel;

' 'This whole spherical barrel system is non-redundant because of the triangular 'three-point' contacts of each of the three interfaces of the truncated cork star octahedra, but would be redundant with the trapezoidal interfaces of simply truncated tetrahedra formed inwardly on each and every geodesic sphere¹'s omnitriangular grid."

- Cite Ltr. to Shoji Sadao, 15 Feb '66, p. 4

Spherical Barrel: Kumasi Dome: (1)

"In this particular experiment the triangular 'corks,* (l.e., octahedral were small enough to render this 2.005 aluminum_/ foil of structural effectiveness. ...

' 'What is unique about this Kumasi dome is that the octa corks had their triangular radial great-circle plane surfaces mathematically guide! together only by two control holes in each of their abutting triangular great-circle plane faces ... to tentatively guide the approach of these surfaces toward one another and thereafter to cohere the whole spherical system in a loose manner. . . . Wire bands described all 31 of the basic great circles of the icosahedron's symmetrical subdivisions.. Fifteen of these great circles lie alternately along the edge of the icosahedron and then act as vertical bisectors of the next two icosahedronal major triangles. Of the 31 , the remaining ten and six great circles interact with the 15 great circles in such a manner

that they form approximately uniform tensional triangles overlying a six-frequency truncatable icosahedronal pattern, with the wires crossing over all the vertexes as well as the mid-faces of the system to impinge vertically on the edges opposite each of the verticals."

- Cite Ltr to Shoji Sadao, 15 Feb '66, p.2

Spherical Barrel: Kumasi Dome: (2)

"Thus it is found that 11 great circles act as the most effective 'spherical barrel' bands (where a 6 - 12 frequency, truncatable, icosahedronal pattern is employed) for each of the wires runs over the external surface centers of each of the octa-cork's triangular faces, thrusting each 'cork' inwardly toward the center of the system in such a manner that the tightening of the bands brings about a universal contraction of the sphere.

"As the tensional great circle bands were contracted progressively at Kumasi, it was found most practical to first tighten the set of six great circles. This left the sphere with a set of 12 'dodecahedronal*' 'mountain' bulges. We next contracted the 15 great circles. This brought the sphere into greater symmetry which was totally effective when the 10 great circles were also tightened.

"Where the great circle wire bindings crossed, they had to be tied together but not tightly, i.e., they were run through rings. They didn't need to be tied tightly together, merely guided."

- Cite Ltr. to Shoji Sadao, 15 Feb '66, p. 3

Spherical Barrel: Sphere as Complex Unity: Triangle as Simplex Unity;

- ` Everything I have said here adds up to the fact that the sphere is 'complex unity' and the triangle 'simplex unity.* Here and here alone lie the principles governing finite solution of all structural and general systems theory problems. Local isolations of infinite open-ended plane and linear edged (seemingly 'flat' and infinite) segments of what are "in reality vast spherical systems--- when taken out of context--- are hopelessly special-cased indeterminate situations.

"Unfortunately engineering has coirrnnitted itself in the past exclusively to these locally infinite and inherently indeterminate systems and have had to rely essentially on the test-ptoven local behaviors of small systems such as columns, beams, levers, et..al.. opinionatedly fortified with 'safely guesstimated' complex predictions. Not until we have universal finite omnitriangulated nonredundant structural system comprehension can we enjoy the advantage of powerful physical generalizations concisely describing all structural behaviors."

- Cite Ltr, to Shoji Sadao, 15 Feb '66, p. 5

TO/StCm-rY- 4s 6-721

Spherical Barrel: Fail-Safe Advantage:

"It should elucidate also the increased fail-safe advantage accomplished with each increase of frequency of triangular module subdivisions of the sphere's unitary surface; i.e., failure of one triangular cork in an omnitriangulated spherical grid leaves a triangular hole which is utterly innocuous.

Failure of one stave in a simple curvature barrel and the whole thing collapses.

"Failure of two adjacent triangular corks in a spherical system leaves a diamond-arched opening which is stable and innocuous; likewise the failure of five or six triangles leaves a completely arched pent or hex opening which is circumferentially corked and innocuous. Failure of one spherical tension member likewise leaves an only slightly relaxed, two-way detoured, i.e., diamonded relaying of the throughway tensional continuity.

Considerable relaxing of the spherical triangulated cork barrel system by many local tension failures can occur without freeing the corks to dangerously loosened local rotatability. The higher the frequency and the deeper the inter-trussing, the safer this type of spherical structure."

56 bt \ Cite Ltr * to Sadao» 15 Feb '66, p. 5 vs.

Spherical Barrel: Radial Compression Mp Circumferential Tension:

"This letter plus the structural portion of my discourse and illustrations of my Kexiaan speech to the U.I.A. (in WDSO Doc. II.) should make possible the elegant mathematical formulation of engineering theory governing the radial compression and circumferential tension behaviors unique and exclusively accomplished through three-way spherical gridding."

- Cite Ltr. to Shoji Sadai, 15 Feb *66, p. 4

- Sec

Spherical Barrel:

See Cork: Triangular Corke in Spherical Barrels

Three-way Great Circling: Three-way Grid

Spherical Comprehension:

"The second stage of /"comprehension is spherical..

- Citation and context at Comprehension. 16 Feb*73

Spherical Excess: (1)

"Spherical excess is the amount of angle by which the three internal angles of spherical triangles exceed the constant internal angular sum of 180 degrees--- which characterises all planar triangles."

- Cite Undated Sheet: DYMACION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION.

Spherical Excess: (2)

"The internal angles of spherical triangles always add to more than 180 degrees and the larger the spherical triangles the greater the 'excess.' Convince yourself of this infraction of your planar thinking by drawing a meridian of longitude which is a great circle from the North Pole to the Earth's equator, which is also a great circle. Meridians and the equator always intercept each other at 90 degrees. Draw a line along the equator a quarter of the way around the world, which is 90 degrees. Then draw a line returning by meridian to the North Pole, You will have completed a spherical triangle whose three angles are each 90 degrees and add to 270 degrees, or 90 degrees 'spherical excess.'"*

- Cite Undates Sheet: DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

Spherical Excess:

(1)

See Equimagnitude Phases

Hinimum Spherical Excess

See Fifteen, 22 Jun'72

Module: A Quanta Module & Basic Triangle, 20 Dec*73 Neutral Angle,
16 Dec'73

Projective Transformation, (4); (III)---(VII) Projective Transformation: Raleigh Edition, (1) Spherical Icosahedron, 13 Oct*71 Dymaxion Airocean World Map, (2) Vector Equilibrium, 26 Aug'75

Spherical Field:

"Physics' discovery of universally-multifrequenced, periodlc- event-discontinuity outness (in complementation to equally frequenced, event-occurrence in-ness) is Inherent in the always- experientially-verifiable, wave-duration frequency, photonquantum phenomena; wherefore synergetics had to redefine both volumes and surfaces in terms of dense (high-frequency) aggregates of only pointally-positionable, energy events' geometrical formulations, with spherical 'surfaces' being in operational reality a dense, outermost, single-photon-thlck, •cloud' layer, everywhere approximately equidistant in all directions from one approximately-locatable event center. For this reason the second-power exponential rate of area gain is not to be identified as a continuum, i.e., with a continuous system, but oqly with the high-frequency outermost layer population aggregate of energy-event points, 'ith numbers of photons and wave frequency per primitive volume, the relative concentration of given masses are determinable."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1052.20, 9 Jan'74
gpJITICAl

David Bohn, Foundations of PhvsicB_f Vol. 1, No. 4, 1971, p.369:

"...Einstein did in fact very seriously try to obtain such a description in terms of a unified afield theory. He took the total field of the whole Universe as the primary description. This field is continuous and indivisible. Particles are then to be regarded as certain kinds of abstraction from the total singularity⁶⁸ reglon*f intense field (called

RBF CoroenLi^{J'}~ '

J2PF² + 2, where P - prime No and F - frequency."

"... of conceptualities. BF»s segment 'scenario' of limited) conceptual-
ality." ---/

- Cite RBF marginalia at QUANTUM THEORY AS AN INDICATION OF
NEW ORDER IN PHYSICS. p.369, done Aug'73

UN>VE<S4L -sec, /0S1.3T\

See Circumferential Field

Embracement

Halo Concept

Radial-circumferential

Sphere of Reference

Vector Equilibrium: Field of Energy Spherical Point System Unified
Operational Field

±ahtrlc»l ariv

See Gears: Spherical Gears

See Tensegrlty Geodesic Grid: Three-way Grid Omnirattonal Control
Matrix Great Circle Subdivisions of Spherical Unity

Sphere - Icosa;

See 0 Module, 29 Sep'76

".Ve can take an icosahedron and put a sphere congruent to each of
the 12 vertexes and if we place a light inside and project the shadows
of the chords out on to the sphere, the result is a spherical icosaha-
edron. The 20 equilateral triangles of the planar icosahedron can be

symmetrically subdivided into six small right triangles by perpendicularly bisecting each angle. The angles of each small triangle are 90° , 60° and 30° and therefore each of the sides is different in length. In the spherical icosahedron, however, the angles are 90° , 60° and 36° with the last angle 60° more than the corresponding angle in the planar icosahedron.

This is due to spherical excess."

- Cite SYI-I-RG./A'ICS, "Numerology p. 13, Oct. '71.

"An icosahedron 'exploded' onto the surface of a sphere; bears the same relation to an icosahedron as a spherical triangle bears to a plane triangle; the sides of the faces of the spherical Icosahedron are all geodesic lines."

Cite Patent No. 2,682,235, June 29, 1954

BUILDING CONSTRUCTION '

See Icosahedron

Projective Transformation: Raleigh Edition

Tensegrity Icosahedron

See Sphere, 25 Feb*74

Central Ball: Central Sphere, 13 Nov'75

Spherical interlocking

"When unit radius spheres are closest packed, they have a space between them whose volume is exactly tetravolume-1 as ratioed to the spherically occupied tetravolume-5 with a combined space occupancy of tetravolume-6."

- Cite RBF Ltr. to William Hess; 9 Jul*76

- Incorporated in SYNERGETICS 2 draft at Sec. 1032.101

"All of \mathbb{H}^* Jitterbug; 7 stages are rationally concentric in our unified operational field of 12-around-one closest-packed spheres that is only conceptual as equilibrated. We note also that per each sphere space between closest packed spheres is a volume of exactly one tetrahedron: $6 - 5 \approx 1$."

- Citation & context at Octahedron as Annihilation Model, 30 Dec*73

"Synergetics Isotropic Vector Matrix omnisymmetric, radiantly expansive or contractive growth rate of interstices which are congruent with closest packed uniradius spheres or points, are also rational. There is elegant, omniuniversal, metaphysical, rational, whole number equating of both the planar bound polyhedral volumes and the spheres, which relationships can all be discretely expressed without use of the irrational number π , (π^*),

3.14159, always required for such mathematical expression in strictly XYZ coordinate mathematics."

- Cite SYNERGETICS draft at Sec. 970.13, 18 Nov'72

"A sphere is a convexly expanded vector equilibrium and all inter-closest-packed sphere spaces are concavely contracted vector equilibria or octahedra at their most disequilibrium pulsative moments."

- Cite SYNERGETICS draft at Sec, 970.tr, 18 Nov*72

Spherical interstices:

See Interstitial: Interstitial Spaces Spheres & Spaces

fahwlf*!. Majdgs

See Prime Dichotomy, (2)

Gravity has been described as the nostalgia of things to become spheres. The nostalgia is poetic, but the phenomenon is really more of a necessity than it is a nostalgia. Spheres contain the most volume with the least surface: gravity is circumferential: nature is always most economical. Gravity is the most effective embracement. Gravity behaves spherically of necessity because nature is always most economical."

- Cite SYNERGETICS, 2nd. ed. at S«c. 646.21, 30 May'75

"Here we have clarification of the Copernican nostalgia* or synergetic proclivity of the circumferentially arrayed spheres to associate symmetrically sound the nucleus sphere or the nucleus void which, as either configuration--- the vector equilibrium or the icosahedron--- rotates dynamically producing a spherical surface."

- Citation & context at Gravity (i), 12 Jun'74

Spherical Nostalgia:

See Spherical Necessity, 30 May'75

Sae Nucleus (1)

Omnidirectional; Physical Existence Environment Surrounds

Vectorial Geometry Field, 22 Nov'73

"The spherical octahedron* a three inside-out symmetrically unique diameters and the three unique external chords produce two unique sets of three nonparallel lines each, but with one set coordinating at $\theta > 0$ degrees and the other set coordinating at 90 degrees."

- Cite SYNERGETICS draft at Sec. 527.23, 2y Nov'72

"Each of any three great circles of a sphere not having common polar crossing# must cross each other twice in a symmetrical manner in which the six crossings must produce either two similar polar triangles and six similar equatorial triangles, or must produce eight equilateral and equiangular triangles all cases of which are spherical octahedra, regular or irregular."

- Cite SET X, p.10, Aug'72

"When two force vectors operating in great circle paths Inside a sphere impinge on each other at any happenstance angle, that angle has no amplitude stability. But when a third force vector operating in a great circle path crosses the other two spherical great circles, a great-circle-edged triangle is formed with its inherent 180° mirror-image triangle. With successive inside surface caromings and angular intervector impingements, the dynamic symmetry imposed by a sphere tends to equalise the angular interrelationship of all those triangle-forming sets of three great circles which, shunting automatically, tend averagingly to reproduce spheric «1 ly closed symmetrical systems of omnisimilar triangles exactly reproduced in their opposite hemisphere, quarter-spheres, and octa-spheres. This means that if there were only three great circles they would tend swiftly to interstabilize comprehensively as the spherical octahedron all of whose surface angles and arcs (central angles} average as 90°.ⁿ

- Cite SET X, p.12, Aug»72

"Here we have a spherical octahedron made out of the three great circles. But you cannot make them by folding up three great circles. It is impossible to fold it and have it come out. But you can fold six great circles.

Tou can bring those six together and they will hone make the spherical octahedron, but it is all doubled up. Now that ought not to surprise you because you remember that when we took the vector equilibrium and collapsed it, it became the. octahedron and all the vectors were doubled, so this is fairly logical. This is six great circles but the first that I could make. I couldn't make it with one. or two, or three, but I can make it with four. This is of six." "This is a very peculiar kind of folding . . . they never duplicate each other and never double up except in the one case where the octahedron made out of six are all doubled.

- Cite Oregon Lecture #7, p. 269. + p. 270. 11 Jul'62

See Sphere, 25 Feb'74 Octahedron: Eighth-octahedra, (1)14)

See Spherical Field

See Baaic Raft, Feb'50 Recede, 17 Feb'72

Spherical Propagation:

See Probability, (1); 20 Feb'72

"There is always a total of eight (four positive, four negative) unique

- interpermutative.
- intertransformative
- interequatable,

--- omniembracing

phases of all cyclically described symmetrical systems (see Sec. 610.20), within any one octave of which all the intercovariable ranging complementations of number occur.

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1238.28, 9 Jul'75

See IYZ Quadrant at Center of Octahedron

Spherical RealUY Scribing;

See Vectorial Geometry Field, 22 Nov'73

Spherical $s_{\text{effaa}} \text{uona} =$

See Halo Concept, 22 Feb'72

"Because spherical sensations are produced by polyhedral arrays of interferences identified as points approximately equidistant from a point at the approximate center, and because the mass- attractive or repulsive relationships of all points with all others are most economically shown by chords and not arcs, the spherical array of points is all interconnected triangularly by the family of generalized principles being operative as Universe which produces very high-frequency, omnitriangulated geodesic structures which are an aggregate of chords leading to all points whose angles always add up to less than JbO , ⁵³

"The least distorted transformational projection of the Dymaxion airocean world map is an icosahedron, but the simplest frame of reference is the spherical tetrahedron which provides the omnitriangulated grid, strip-wrapped tetrahedron. This is how you bring the omnidirectional into a flat projection. This is how the tetrahedron, the basic structural system of Universe, unwraps linearly into an infinity of varying frequencies of angle and frequency modulation. Here we have a conceptual model that you can program..."

- Citation to context at Omnidirectional Typewriter (4)(5), 10 Sep*74

"When stressed with relative high internal pressure all polyhedra tend to transform toward defining the maximum volume with the minimum surface, i.e., toward the spherical convex-arc edge tetrahedra (the basketball

53 Citation at Halo Concept. 22 Feb*72

and the baseball are tetra structured)

- Cite PENIA. TRIANGLE, p. 11 Nov »52

See Baseball, 26 Jan'75

Cosmic Neutral, 16 Dec'73

Omnidirectional Typewriter, (4)(5); 10 Sen'74

Sphere, 25 Feb'74

Spherical Triangle Sequence, {VIII}

Three-way Great Circling: Threp-way Grid, 17 Feb'72

Yin-yang, (1)

Domain of a Line, 7 Not'73

"When we get into the sphere I find that relatively few people really think in terms of spherical thinking. Spherical thinking has not been used too much because calculus seems to take its place in many ways, and it is important to realise that in spherical thinking the angles don't add up to 180 degrees."

- Citation *k* context at Sphere (p.86), Jun'66

Spherical Thinking:

See Sphere, (p.85) Jun'66*

"What you and I have been brought up on as a triangle is the most extreme case of the most local aspect of what is inherently a spherical triangle. Even if we imagine it, it is still special case. And when we make it conceptual the brain immediately makes it special case. The brain is designed for special case.

"I say to a child: Draw a triangle. And he says: Where? And I say: Draw a triangle. And he draws it on the ground. The triangle divides the whole Earth into two areas: the complementary very big triangle and the local little triangle. Concave and convex are not the same:

ergo, we have inherently four triangles. And the four triangles mean the manifestation of our friend the tetrahedron which is always there for the accountability. There is nothing you can do without the tetrahedron being there.

"A plane triangle is just an extremely limited case of the spherical. If you learn the spherical the plane geometry is included, but not the reverse. It is starting with wholes. Plane trigonometry is an abstract ratio of edges to angles but spherical trigonometry is all ratios of angles to angles, which is much simpler."

- Cite RBF at Bell Lab. videotaping, Phila., PA, 23 Jan'75

"Operationally speaking we always deal in systems and all systems are characterized projectionally by spherical triangles which control all our experiential transformations.

- Cite SYNERGETICS, "Operational Mathematics, One Spherical Triangle Considered as Four." 1971

HI spherical Triangle:

, Spherical trigonometry is a very different kind of trigonometry from the plane. I want you to get familiar with it because there is no plane flat surface on Earth. So therefore there are no plane triangles and we are always dealing in systems. Systems are characterised by triangles which are spherical triangles, these are the kinds of triangles which control our fundamental transformations."

- Cite OREGON Lecture #6, pp. 205-6, 10 Jul'62

"No surface is conceivable without its inherent sphere as a truly flat Universe reaching outwards laterally in all directions to infinity, though illusionarily accepted as 'obvious' by historical humanity, is contradictory to experience. The surface of any system must return to itself in all directions and is most economically successful in

doing so as an approximate true sphere which contains the most volume with the least surface. Nature always seeks the most economical solutions, ergo the sphere is normal to all systems experience and to all experiential, i.e., operational consideration and formulation. The construction of a triangle involves a surface and a curved surface is most economical and experimentally satisfactory. A sphere is a closed surface, a unitary finite surface. Planes are never finite. Once a triangle is constructed on the surface of a sphere— because a triangle is a boundary line closed upon itself— the finitely closed boundary lines of the triangle automatically divide the unit surface of the sphere into two separate surface areas. Both are bounded by the same three great circle arcs and their three vertexial links: which is the description of a triangle. Therefore both areas are true triangles, yet with common edge”

- Cite SYNERGETICS text at Sec. 1106.12, 26 Jan'73

"boundaries. It is impossible to construct one triangle alone. In fact, four triangles are inherent to the oversimplified concept of the construction of 'one' triangle. In addition to the two complementary convex surface triangles appropriate to them and occupying the reverse, or inside, of the spherical surface. Inasmuch as convex and concave are opposites, they cannot be the same. Therefore, a minimum of four triangles is always induced when any one triangle is constructed, and which one is the initiator or inducer of the others is irrelevant. The triangle initiator is an inadvertent but inherent tetrahedron producer; it might be on the inside constructing its triangle on some cosmic sphere, or vice versa.

"It might be argued that inside and outside are the same, but not so. While there are an infinity of insides in Experience Universe there is only one outside comprehensive to all insides. So they are not the same; and the mathematical fact remains that four is the aiminimum of realizable triangles that may be constructed if any are constructed. But that is not all, for it is also experimentally disclosed that not only does the construction of one triangle on the surface of the"

- Cite SYNERGETICS text at Secs. 1106.12+13, 26 Jan'73

"sphere divide the total surface into two finite areas each of which are bound by three edges and three angles, ergo by two triangles, but these triangles are on the surface of a system whose unity of volume was thereby divided into centrally angled tetrahedra because the shortest lines on sphere surfaces are great circles and great circles are always `formed 9 on the surface of a sphere by planes going through the center of the sphere, which planes of the three-great-circle-edged triangle drawn on the surface automatically divide the whole sphere internally into two spherical tetrahedra--- each of which has its four triangles, ergo inscribing one triangle"gets you Eight,* like it or not. And each of those eight triangles has its inside and outside, wherefore inscribing one triangle, which is the minimum polygon, like `Open Sesame,' inadvertently gets you 16 triangles. And that is not all: the sphere on which you scribed is a system and not the whole Universe, and your scribing a triangle on it SB to stake out your 'little area on Earth' not only begat 16 terrestrial triangles but also induced the remainder of Universe outside the system and inside the system to manifest their invisible or nonunitarily conceptual 'minimum inventorying' of 'the rest of Universe other than Earth'*

- Cite SYNERGETICS text at Sec. 1106.1 J, 26 Jan'73

pnh«rlcal Triangle Sequence;

(1»)

"each of which micro and macro otherness system integrity has its induced sixteen triangles for a cosmic total of 64.*

- Cite SYNERGETICS text at Sec. 1106,1J, 26 Jan'73

"I spoke to you earlier today about our teacher at the school giving us some arithmetic and then saying she was going to teach us a little bit about plane geometry. She said, 'Don't worry, it's just plane geometry.' Then she taught us about the triangle as an area bound by closed lines: three edges and three angles. A circle is an area bound by a closed line of equal radius from a point. A square is an area bound by a closed line of four equal edges and four equal angles. Everything we learned about geometry were areas bound by closed lines. And then we learned about logic within those closed lines about that area. Reliability and understandability was all on one side of the line. A very nice small tight package, but it couldn't tell us anything about the other side of the line. Why? Because it is plane geometry and goes to infinity so the other side of the line is un- finable. What do you mean by infinity? It's infinite, therefore it can't be defined. So that we start the children off with this extraordinary prejudice that only on one side of the line is there reliability.

"Your family is very reliable. The next family over there is"

- Cite SIMS Address, U.Mass, Amherst, Talk 13, p.15, 22 Jul'71 "questionable now. As for those foreigners, well, they're awful. They're very unreliable. Now I want you to see how we really build prejudice, how easy it is in terms of the superficial assumption of the reality of this great plane— that this is a safe place to start children off. Now I want you to realize that when we made that closed line we did it on a blackboard and I did it with a piece of crayon, and this blackboard ends and goes around to the other side. It has another side here /He knocks on it.____7 and it has edgesw on it. It is a system. This blackboard I can take it off herew. and I find that it is a system. It has insideness and outsideness and is fairly thick— about a quarter of an inch. And I'm still inside it. So it is a system even though it's an asymmetrical

system. When I take a unit system it has a unit surface. When I draw a closed line on a system which is a unit surface I divide the whole area of that system, the whole surface area, into two areas. There is the rest of the board here that is an area bound by this closed line of three edges and three angles.

"So this is white inside here and all the rest is green."

- Cite SIMS Address, U.Mass., Amherst, Talk 13, p.16, 22 Jul*71

"I'll paint this green all around, a green area which is bound by a closed line of three edges and three angles. You say it doesn't look like a triangle to me. And I say it /"the outside green area— EJA note.7 must be; that's your definition of a triangle, an area bound by a closed line of three edges and three angles. Now the board being asymmetrical makes it more difficult for you for the moment, but I want you to think about our Earth. We had a circle which was an area bound by a closed line with equal radius from a point. Well, taking our Earth, I'm now going to make a closed line on it and it happens to be 90 degrees from each of the poles and you would call it the equator. It's a closed line on the surface and it divides the Earth into a southern hemisphere and a northern hemisphere. You credit both sides of the line. Now I'm going to take you up to 80 degrees north latitude and draw a lesser circle. It divides the surface of the Earth into two areas: a very large southern one and a very small northern. We can just call it the Arctic circle and the rest of the Earth. But you don't negate the rest of the Earth and you do recognise both sides of the line."

- Cite SINS Address, U.Mass., Amherst, Talk 13, p.17, 22 Jul'71

"Now instead of drawing a circle on the Earth I'm just simply going to draw a triangle. Now I divide the whole surface of the Earth into two areas, a very large southern and a very small northern and they both are triangles so they're both bound by a closed line with three edges and three angles. And you say, 'Oh Mister, you're wrong, because I see 60 degree corners to that triangle, and this must be 300

degree'outside the corner "and this must be 300 and this must be 300 and the sum of the angles of triangles are always 180 degrees.' You say can that really be so. And I say yes it is so and let me demonstrate that to you.

"Take, for instance, what we call a great circle. A great circle is a line formed on a sphere by a plane going through the center of the sphere. The equator is such a great circle. The meridians of longitude are just such great circles and they go through the center. 80 degrees north latitude is a lesser circle: it does not go through the center of the sphere. Now great circles are the shortest distances between points on the surface of a sphere. If you would like to demonstrate that we'll simply go up to 85 degrees north latitude--- it's really a very small little circle here--- and take the radius"

- Cite SIMS Address, U.Mass., Amherst, Talk 13, p.17, 22 Jul*71

"of it in my dividers and I'll superimpose it on the equator. And, of course, the equator is A and S. And quite clearly it's a much shorter distance between A and B if you stay on the equator than it is to take this detour over 90 degrees, like this, and come back 90 degrees again.

"So great circles are called geodesics. The word geodesic is old but it was revived by both Einstein and the Indian Riemann /sic/, and it means the most economical relationship between events in the Universe, and they are never straight lines. If, for instance, we see two airplanes in flight. They're independent of the surface of the Earth. They are steerable planets if you will. Photographs were taken at night of airplanes fighting during WWII at night with tracer bullets. Both were using machine guns with tracer bullets, and you'll see one of them hit the other and it goes inward to the Earth. You see the tracery is an absolute corkscrew. If you want are for instance wanting to

faire at a bird, which I hope you don't want to fire at one, but if you did want to fire at a bird you wouldn't hit it if you aim at whwere it is. You'd have to aim at where you think it's going to be. And gravity is going to start affecting it, even though it's a shortn

- Cite SIMS Address, U.Mass., Amherst, Talk 13, p-18, 22 Jul'71 “distance and going through the atmosphere there's always a spin that's brought about by rotation. There is as a result pressure drafts on one side, and there's air in motion-- wind— and all your traceries are always going to be corkscrew. But they are the most economical relationships and they are geodesics.

‘` So geodesics are curved lines. And I've given you the most prominent geodesics like the great circles, the

most economical relationships between events on the surface

of our Earth. Now, understanding that, you will understand that our spherical trigonometry is always done with great circles. You were brought up with your plane geometry where a straight line is the shortest distance between two points. Now I gave you earlier today the non-straight line, . .

"Here then is our Earth. I'm going to the north pole and I'm going to take a meridian which is a great circle and it's going to impinge on the equator at 90 degrees. So this meridian comes and impinges on it and here's the center of our Earth. It would go like that. And now, having impinged 6n the equator at 90 degrees, I'm going to leave the meridian and"

- Cite SIMS Address, U.Mass., Amherst, Talk 13, p.19, 22 Jul»71 ‘’travel on the equator. I’m going to go one-quarter way around the Earth. Then I’m going to take another meridian and r ide up to the north pole again. And because I went a quarter way around the Earth, and then I left the equator at 90 degrees, looking

down on top of what I've done, I went like this, and therefore the angle at the north pole must also be 90 degrees. So here's a spherical triangle of 90°, 90°, and 90°, adding up to 270° in its corners. These are the triangles we really do deal with in our Universe.

"If we were to bisect the edges of that triangle with great circles, interconnecting them, the angles would be about 73° at each corner. If I bisect them again and interconnect them with much smaller triangles, the corners are around 63°. Then if I get a smaller one here that 60 degrees and some minutes, or maybe 60 degrees and some seconds--- but they never get down to exactly 60° in each corner. That is, it will always be a little more than 180 degrees. So the smaller the triangle, the more you approach the iBO-degreeness which you never arrive at. But the amount the triangles at the corners add up to more than 180 degrees we call the spherical excess, which you must always calculate when you're doing"

- Cite SINS Address, U.Mass., Amherst, Talk 13, p.19, 22 Jul«?1

"your spherical trigonometry.

"Now if I made another triangle bigger still, in which the 90 corners were 120° angles ... that's exactly what you get with a spherical tetrahedron. If I put a tetrahedron inside of a sphere with the light I had last night, and have the shadows cast outwardly from the light at the center of the sphere, it would show you this 120 degree interaction at four vertexes. So there would be a triangle where each of the corners would be 120° and it would add up to 360°. Now I'll simply say to you then, that when you draw a triangle on our Earth, even though it's very local-- and you draw a little tiny triangle here locally--- you divide the total surface of the Earth into two areas. And one is a very large triangle with corners of about 300° each, and there are these little local ones of about 60 each if you try to make it equilateral. The boy

said. 'But I didn't mean to draw the big triangle.' I said, 'That's just the trouble. We keep drawing these big triangles and don't realize we are.' We've been thinking what's been called realistic. Let's get down to Earth, never mind that space stuff, but when we're all the time just a tiny little speck in space. It's nothing but a space program, which we'd better catch on to pretty quickly." - Cite SIHS Address, U.Mass., Amherst, Talk 13, p.20, 22 Jul'71 "All this comes because man starts with the idea of oversimplifying. , . what seems to be reality. The Earth at that time seemed to be a plane going to infinity. So you were dealing in a plane. So you start your geometry with plane geometry. You start trigonometry with plane trigonometry. ffit in due course you discovered that it wasn't a plane, it was a sphere. A Closed system, not an open system. And you found that you were only defining 6n one side of the line because the other side went on to infinity. So you learned about the triangle, and the circle, and all these areas bound by closed lines. And you learned that all logic and reliability is one one side of a line: the area bound. On the other side of the line--- you couldn't define it because it went to infinity--- therefore it is undefinable. So as geometry is taught to you, and trigonometry is taught to you, you can only deal with one side of the line.

"But if you are operational, the way Einstein is, and say I've got to take into account all the conditions that obtain at the time of the experience, you can say that in drawing a line on a blackboard that the blackboard does not go on to infinity. It comes to its edge and the edge is a slate,"

- Cite RBF tape Transcript, Carbondale Dome, pp.18-20, 1 Kay'71

"or whatever it is, and you go around, its mild thickness, you go around its back. And whether you like it or not you have divided the surface of the blackboard into two areas. Anything that comes back into itself is a closed system. And all systems, in fact thinkability, does that. What we call thinking is trying to find out how it does return upon itself: What is the outline of that man? What is going on? What is on the other side of the Moon? I have got to get all the sides in order to understand it,

"I think this Moon thing is typical of seeming to be a plane. You didn't have to think about the other side of it. This is typical of yesterday's way of thinking. Things were just a disc. But even if it was a disc you could have another side. As a coin does. Now, once you are operational, you realise that if you take the unit surface of any system, whether it is symmetrical, a nice regular thing like a sphere, or whether it is a blackboard with very thin edges but nonetheless it has surfaces and it has backs. It might be a triangular blackboard, a broken piece of slate, but it has this back. And when you then draw any closed line coming back on itself, whether it is a triangle or a circle,"

- Cite RBF Tape Transcript, Carbondale Dome, pp.20-22, 1 Kay'71

"automatically that closed line divides the total surface of the system into two areas, both of which are bound by that line. And you have only been looking at what is on one side of that line.

"A bathing cap stretches around and you have the opening of the bathing cap where the little snap rests--- stretched around it. Packaged. Now, if it were a sphere you could see it a little better. I am going to draw a closed line on a sphere. It happens to be the equator. It divided the Earth into two areas, you say, the southern and northern hemispheres, and you can be perfectly happy about that.

If I go to 85° north latitude and draw a latitude, a lesser circle. I divide the whole Earth into a very large southern and a very small northern. Now I am perfectly clear at this point that dividing surfaces you have to credit both sides. So if I drew a triangle on the Earth locally I divide the whole surface of the Earth into two areas, both of which are bound by my closed line, the three edges and three angles. And the boy said, 'Well. I drew a 60° angle here . . . ' and so I learned the sums of the angles of the triangles only "

- Cite RBF Tape Transcript, Carbondale Dome, pp.22-24, 1 May'71

"add up to 180°, so each of the other corners. . . seems to be 300 30 it adds up to 900°. Well you have been taught the wrong way because the sums of the angles never add up to 180°, because you cannot make an absolutely flat plane.

There is always something a little more. And this is a case where you really see how much more.

"If you have a very big triangle, for instance, going to the north pole, taking a meridian to the equator, impinging on the equator at 90°; go one-quarter of the way back around the Earth and take a meridian back to the north pole; it leaves the equator at 90° and comes back where the two come together and the angle at the top will be 90°. So 90°, 90°, 90 is 270°--- that is the typical spherical triangle. And the sums of the angles of spherical triangles are approximately never the same. If I make a smaller triangle just inside of the one that I just talked about where there is 90°, 90°, 90°, the sums of the angles are going to be a little less. It approaches, but never gets down to 60°, 60°, 60°. It is always a little more. So the smaller they are, the more they approach 180°. And so in all our surveying around our Earth, doing geodesy, we are always dealing with what we call spherical excess,"

- Cite RBF Tape Transcript, Carbondale Dome, pp. 24-26, 1 May'71
- ' • How much more do the angles add up to more than 180° .

'All the great circles are the shortest distance between two points on spheres. Great circle triangles give simply what we say. There is a triangle there literally of 300° in each corner, 300° minus; and (60,60,60) 180° plus,

"If I started you off with reality operationally, like Einstein, I couldn't ever start you off with a plane, but I would start you on a sphere. Once you do that you realize that what we call the edges of a triangle--- or arc--- is simply the central angle. You are dealing in central angles and surface angles. You are dealing all in angles and you have no incompatibility for your fractions. This is where we should have started all of our arithmetic and all of our geometry. We sTTiould have started with whole systems,"

- Cite RBF Tape Transcript, Carbondale Dome, pp.24-27, 1 May'71

"If we draw a closed line such as a circle around our Earth it must divide its total unit surface into two areas as does the equator divide our Earth into southern and northern hemispheres. If we draw a lesser sized circle on the Earth such as the circle of north latitude 70 degrees, it divides our Earth's total surface into a very large southern area and a relatively small northern area. If we go outdoors and draw a circle on the ground it will divide the whole area of our planet Earth into two areas and one will be very small and the other very large. If our little circle has an area of one square foot, the big circle has an area of approximately five quadrillion square feet, because our eight-thousand mile diameter Earth has an approximately 200 million-square-mile surface and each square resile has approximately 25 million square feet which, multiplied, gives a five followed by fifteen zeros— 5,000,000,000,000.000 square feet. This is written by the scientists as 5×10^{15} square feet which, while compact, tends ifie deliberately

to disconnect from our senses. Scientists have been forced to disconnect from our senses due to the errors of our senses which we are now able to rectify. As we reconnect ourselves with the reality of Universe, we begin to regain competent thinking by humane'*

- Cite NEHRU SPEECH, p.19, 13 Nov'69 S^eC- 8'3

"and thereby possibly their continuance in Universe as competently functioning team members--- members of the varsity or University team of Universe. If, Instead of drawing a little one-square-foot circle on the ground--- which means on the surface of the spherical Earth--- we were to draw a square one foot on each side, this would give us the same size local area as before: one square foot.

"A square as defined by Euclid is 'an area bound by a closed line of four equal length edges and four equal and identical angles.' By this definition our little square, one foot to a side, which we have drawn on the ground is a closed line of four equal edges and equal angles. But this divides all the Earth's surface into two areas both of which are equally bound by four equal length edges and four equal angles. Therefore, we have two squares: one little local one and one enormous one. And the little one's corners are approximately 90 degrees each, which makes the big square's corners 270 degrees each. While you are not familiar with such thinking, you are confronted with a physical experiment's results which have informed you that you have been laboring under many debilitating illusions."

(o PF

- Cite NEHRU SPEECH, pp.19-20, 13 Nov'69 \rt(T|-f 5 EC. \$13

Spherical Triangle: Equator As Square: (3)

` ` If you make your small square a little bigger and your bigger one a little smaller by increasing the little one's edges to one mile each, you will have a local one square mile--- a customary unit of western United States' ranches--- and the big square will be approximately 24,999,999 square miles. As you do so, using great circle lines, which are the shortest distances on a sphere between any two points, to draw the squares' edges, you will find the small square's corner angles are increasing and the big one's corners are decreasing. If you now make your square so that it's area is one-half that of Earth 25 million square miles, in order to have all your edges the same and all your angles the same, you will find that each of your edges is approximately six thousand miles long and that each of the corners of both squares are 180 degrees each. That is to say that the edges of both squares lie along the Earth's equator so that the areas of both are approximately 12,500,000 square miles.

"And so it would go with a triangle, a pentagon, an octagon, or any other equi-edged, closed line figure which you may draw on any system's surface. The closed line surface figure will always and only divide the whole area into two complementary areas."

- Cite NEHRU SPEECH, pp.20-21, 13 '

Spherical Triangle: (4)

"That each human thus discovering this experimentally says spontaneously, 'I didn't mean to make the big triangle,' or 'the big square,' or indeed the big mess of pollution, in no way alters these truths of Universe. We are all equally responsible not only for the big complementary surface areas which we develop on systems by our every act, but also for the finite, complementary outward tetrahedron automati-

cally complementing and enclosing each system which we devise. We are inherently responsible for the complementary transformation of Universe., inwardly, outwardly, and all around every system which we alter."

- Cite NEHRU SPEuCH, pp.20-21, 13 Nov'69

SEC

"A triangle drawn on the earth's surface is actually « spherical triangle bounded by great circle arcs. If the triangle is drawn large enough, it is evident that the arcs divide the surface of the sphere into two triangles enclosed by common edges. The are apparently 'outside' one triangle is seen to be 'inside'¹ the other. Because every spherical surface has two aspects--- convex if viewed from outside; concave if viewed from within--- each of these triangles is, in itself, two triangles. Thus one triangle becomes four when the total complex is understood."

- Cite SYNERGETICS ILLUSTRATIONS, caption #18. 1967

RBF DEFINITIONS

Spherical TriangleSequence:

(A)

"I often ask a young student to draw a triangle and, when he says. 'Where shall I draw it?' I say, 'Draw it on the ground.' So he scratches a triangle and I say, • You have drawn four triangles: When you draw on the Earth you must recognize that the Earth is a great sphere. As a sphere it is a closed or finite surface in contrast to the infinity of the plane. You will agree with me when I make a closed line around the middle of the Earth (that is, I delineate the equator) that this will divide the Earth into two finite and equally valid areas, a northern and a southern hemisphere. If I made a lesser circle north of the equator it would still run around and close back on itself and divide the Earth's surface into two unequal areas, a smaller northerly and

a larger southerly area simply because I have divided the total unitary and finite surface of the sphere into two sub-areas.' So when a student draws a triangle for me on the unitary, closed finite surface of our spherical planet, he divides the our sphere into two sub-areas, one very very small, both triangular.

"Now we begin

- Cite BEIRUT

total area of large and one

the slide projections and as you will discover" Address, pp.2J-24, Kay 4-6*67

"looking at my first picture that your eye does not want to see the bigger triangular area.

"I find this biased concept very important because ftk it plays such a big part in how competently or incompetently we conceive of and think about our environment.

"Those are what we call spherical triangles and you probably are not familiar with spherical triangles because you have been educated to start with planar triangles wherein the sum of the angles ... is always 180 degrees.

"In a spherical triangle the angles never add up to 160°.

To comprehend that fact let us go to the north pole and follow south along a meridian to impinge perpendicularly upon the equator, i.e., at 90° and go along the equator a quarter of the way around the Earth. Then take a meridian back to the north pole. Taking the north-bound meridian we leave the equator at 90° and, since we went a quarter of the way around the Earth, the two meridians followed--- first southbound and then northbound--- will form another 90° angle at the north pole. {Figure 1) Therefore we have"

- Cite BEIRUT Address, p.24, 4-6 May6£

"traveled a triangular course with three right angles, which means that this particular spherical triangle's angles do not add up to 180° . In fact, they add up to 270° .

"This is a typical spherical triangle. The spherical triangle's angles add up to a variety of sums other than 180° . The amount that the spherical triangle's angles add up to more than 180° is called the spherical excess. The excess may vary all the way from 720° to 1° .

"Now if we make the triangle bigger (Figure 2). we can go, for instance, to the regular spherical tetrahedron each of whose four spherical surface triangles has three corners consisting of 120° each. Its spherical excess is then 360° minus 180° , which is an excess of 180° . If we draw one spherical triangle on the Earth's surface with each of its corners having 120° angles, it will divide the total spherical surface of the Earth into two areas each of which is bound by a closed line of three angles and three edges."

- Cite BEIRUT Address, p.24, 4-6 May'67

Spherical Triangle Sequence: (D)

` ` This means then that the bigger of the two spherical triangles which subdivide the total closed surface of the Earth, has three corners of 240° each.

"In this next picture we see two spherical triangles which subdivide the sphere into two equal areas--- two hemispheres (Figure 3). Here each of the corner angles of the two complementary triangles covering together the whole sphere have 180° at each corner. This shows us that the equator of the Earth is the boundary between two spherical triangles, each with each of its three corners being 180° ."

"In this next picture what« was originally the little spherical triangle at the top of the spherical-space model has become the big triangle, and what was the big spherical triangle has now become the little one. If you put those four pictures successively into the projector and then reverse the order and accelerate their sequential reappearance, you will begin to see both the triangles all the time and see the otherwise 'invisible' space sphere.

"Now I must explain that because the sphere is concave as"

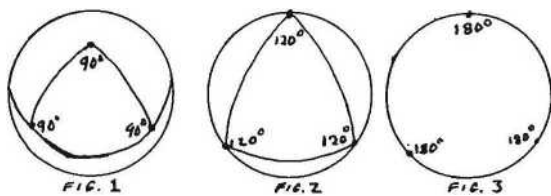
- Cite BEIRUT Address, p.25, 4-6 May'67

RBF DEFINITIONS

Spherical Triangle Sequence:

(E)

"viewed from the inside and convex as viewed from outside, and that convex and concave are not the same. Therefore, we have both large and small convex and concave spherical triangles always present. And that was my reason for saying to the boy, 'You have drawn four triangles,' when he thought he had drawn only one. You are not used to thinking of great circles in this way, but that is the way nature operates, so you had better get used to it from now on."



- Cite BEIRUT Address, p.25, 4-6 May'67

gph.rlcL

Triangle Sequence:

(a')

"I have a hypothetical sphere here now and you are looking at one spherical triangle on the sphere and these are the three radii to it. . . . Whereas in plane geometry, in the regular geometrical triangles of the Greeks, the sums of the angles were always 180 degrees in the inside of a triangle. In a spherical triangle the sum of the angles of the triangle are never 180 degrees, so that spherical geometry is a very different kind of geometry from the plane. I want you to get familiar with it because there is no plane flat surface on Earth and so therefore there are no plane triangles and we are dealing always in systems and the systems are characterised by triangles which are spherical triangles and these are the * kinds of triangles which control our fundamental transformations.

- Cite OREGON Lecture *ffb*, p. 205-6, 10 Jul'62

. This is now a spherical triangle in which the angles are 120 degrees each. . . Now this other spherical triangle has angles of 120 degrees each: what we call a circle turns out to be a spherical triangle. Remember there is a hemisphere up there and one down here; and quite clearly that is the equator. . . Here we have the spherical triangle of 120 degree angles in the northern hemisphere of the sphere— which you don't tend to see, simply because you tend to look at the smaller one. There is a tendency of man to look at the smaller one. In fact, I will draw a triangle on the board and one of the problems when I put two triangles together and got four, you remember, was because they turned out to be complementary triangles. I draw a triangle on the board here and you are used to the Greek way of just looking at the area bound by the three sides. In fact, the Greeks defined a triangle as an area bound by three lines turning upon themselves, a closed line of three increments. It happens, however, that I have divided the surface of the blackboard into an area on this side of the line and an area on the other side of the line and every time I put in a line it actually divides something. We have a tendency to be extremely biased and only to look at an area on one side of the line."

- Cite OrtEGuN Lecture j/6, p. 206, 10 Jul'62

Spherical Triangle/Sequence:

"If I draw a triangle on the Earth . . . and I asked a student to do that . . . and I said all right, I see four triangles. And he said, I see only one. There is the little area, the area he has defined quite clearly. He has divided the surface of the Earth (which was unit before he drew the triangle) into two areas, the areas on either side of the line. The little local triangle and the big spherical triangle goes clear around the Earth. It is a closed area bound by a line of three increments. It was such a big one he didn't see it. And it is very typical of us to miss it. One of the most typical tricks I have found in humanity is to see the little www small one and miss the big one and the big one is the one that counts. Then I told him he drew four triangles and he said how did that happen. Well, they are ppherical triangles and there is a concave little and a concave big as viewed from inside and there is a convex little and a convex big as viewed from outside. Convex and concave are not the same, so there are inherently four. In fact you will always find there are four there. Four is the minimum; and when we get to any kind of system, there is always four there. You will get used to that fourness and get used to not allowing yourself to become over confined and looking at the little ones."

- Cite OREGON Lecture #6, pp. 206-7, 10 Jul'62

RBF DEFINITIONS

Spherical TriAnglelseguenC-e: (d *)

"When we get to the middle /of the sphere/ you are more or less willing to concede both hemispheres, and then you get caught on to the fact that those were 180 degreb triangles.

. . . What had been the big one is now becoming the little one, and what had been the little one is becoming the big one ... We get down finally to triangles where the angles are approaching 70 degrees, and they finally get down nearer to sixty degrees and so many minutes. They will never get to 60. Even the most local one will never be 60 degrees. So spherical triangles then do have a great variety of sums of their angles."

- Cite OREGON Lecture 6, p. 207, 10 Jul'62

onanw^{TEXT} CITATIONS

See

Ledgmont Lab. Address, pp. 52-55 «*Msl Oregon Lecture , pp. a?, et. seq.

Oregon Lecture ;/b, pp. 205-207

* RBF Tape Transcript, Carbondale Dome, 1 Hay <71>

pp. 21-2? G?'TCDJ

* KES it U speech, pp. 1«-2l(s<'«e3

«« Beirut, AUB Address, pp. 19-24 (rough): 24-25 (smooth).

SIMS Address at U. Mass, Amhesstm, 22 July »?1, £^{c*} J

pp. 1b-1s. + 19-20.

Synergetics, Sec.

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505.81 (2nd. Ed.)

261.02 (2nd. Ed.)

538.11

Fig. 812.03 981.16-981.18

1106.10-1106.25

See Probability Model of Three Cars on a Highway Social Highway Experience: Three Autos Triangle: Minimum of Four Triangles

See Blas on One Side of the Line. May*65 China May'65 Omnidirectional I954 Operational. 3 Jan`72 System, 10 Jul'62 Three-way Great Circling: Three-way Grid,

17 Feb'72

Zoneness: System Zoneness. 8 Jan'55 Background Nothingness, 2 Jun*75 Windows of Nothingness, (1)

Spherical Triangular Lattice:

See Dymaxion Airocean Y/orld Map, (b)

Spherical Unity:

"Systems are, in effect, spherical gears. Their internal external pulsating and rotating teeth consist in reality of both circumferential and radial waves of various frequencies of subdivision of spherical unity."

- Cite-RBF draft of PR* TN for rTND,
- Citation and context at Gears; Spherical Gears, May*72

"The largest number of identical triangles in a sphere that unity will accommodate is 120: 60 positive and 60 negative. We can subdivide the surface of a sphere into 120 equilateral triangles by dividing the base of each of the 20 original triangles which made up the icosahedron, into six triangles, being spherical, they are positive and negative, consisting of arcs which cannot hinge back. One is inside, concave and the other is outside, convex. So 60 positive and 60 negative triangles are the largest common denominator of unity."

- Citation at Basic Triangle: Basic Disequilibrium 120 L CD Triangle. 14 Oct'71

See Great Circle Subdivisions of Spherical Unity Sphere as Complex Unity

Sahara: Volume-5 Sphere:
See Triacontrahedron, 13 May'77

See Omnidirectional Shell Growth Rates

See Mass, 14 May*73

**Nuclear Sphere. 16 Dec'73 Photon, 26 Sep'73; 15 May'73 Teneegrity
Sphere, 19 Dec'73**

Sphericity:

**"Compound curvature, or sphericity, gives you the greatest strength
with the least material."**

**- Citation at Curvature; Compound, 3 Oct'71 r ClXCBIg Lu InUj IFflfl
III ` hr**

"Nature modulates probability and the degrees of freedom, i.e., frequency and angle leads to the tensegrity sphere; which leads to the pneumatic bag; all of which are the same kind of reality as the three automobiles. All the cosmic triangling of all varieties of angles always averages out to 60 degrees. That is the probability of all closed systems of which the Universe is the amorphous largest case. Probability is not linear or planar, but is always following the laws of sphericity or whole systems. Probability is always dependent »on critical proximity, omnidirectional, and only dynamically defined, three-way gridding pattern integrity..."

- Citationfi~hd context at Probability Model of Three Cars (4)26Sep»

Spherically...ar Whole System*: Laws Or:

See Probability, 17 Feb'72; 18 Feb'72

See Colloidal Chemistry, 1938

See Ball

Balle Coming Together

Bubble

Celestial Sphere

Cloud-island Spheres
Closest Packing of Spheres
Dome
Equilibrium Sphere
Embracement
Geodesic Sphere
Globe
Ghostly Greek Geometry: Sphere
Initial Sphere
Linear & Spherical Analysis
Line Between Two Sphere Centers
Maximum: Spherical Maximum
Nuclear Sphere

Rhombic Dodecahedron #2: Fractionated Sphere Synergey Sequence: Two Massive Spheres

See Trigonometry: Spherical Trigonometry Tetrahedron & Sphere
Model Tensegrity Sphere United Sphere Spun Frequency - Sphericity
Vertexial Accounting • Spherical Accounting No Sphere Integrity
Domain of a Sphere Hex-pent Sphere Potential Sphere

See Association & Disassociation, 9 Not¹73 Bow Ties. 6 Oct*72
Chords, 22 Jul'71 Dynamic. 1950* Focus, 22 Jul'71 Gravity (d) Infinity & Finity, Jun*66 Integral, 16 Feb'73 Prime Awareness, IS Nov*72
Tetrahedron, 26 Sep*73* Tidal, 31 May'71* Unity: Complex & Simplex, 15 Feb'66* Zero Condition, 14 Feb'66 Raft, 3 Apr'75 Unit, 1938
Triacontrahedron: Great Circles Of, 27 Apr'77 Triaeontrahedron, 20 Jun'77

Six Motion Freedoms & Degrees of Freedom, (ARB)

See Sphere Center
Sphere Integrity: TheiSfl_'N<r

Sphere 00 Reference
Spheres & Spaces
Sphere Tangent with a Plane

Sphere: Synergetics Formula for Area & Volume of a Sphere

Sphere - Polyhedron
Sphere of Unit Vector Radius
Spheres &. Vertexes
Sphere - Icosa
Sphere: Volume-5 Sphere

Spherical Comprehension Spherical Excess Spherical Field Spherical Gears Spherical Icosahedron Spherical Interstices Spherical Nostalgia Spherical Observation Spherical Octahedron Spherical Point System Spherical Propagation Spherical Reality Scribing Spherical Sensations Spherical Structures Spherical Tetrahedron Spherical Thinking Spherical Triangle Spherical Unity Spherical Wave

See Spherical Maximum
Spherical Necessity
Spherical Quadrant Phase
Sphericity:

See Curvature: Compound Halo Concept Omnidirectional Radial-circumferential Rollability of Polyhedra Sweepcoat: Spherical Sweep-out Three-way Great Circling: Three-i Experience in the Round

iy Grid

Sphinx:

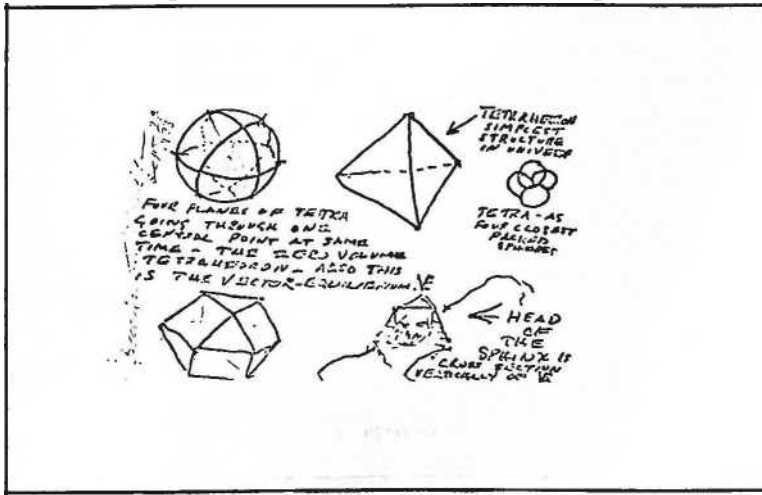
"Four planes of the tetrahedron going through the same point at the same time: The aero volume terahedron: Also this is the vector equilibrium:

Tetrahedron as simplest structure in Universe:

"Tetrahedron as four closest-packed spheres:

"Head of the Sphinx is cross section vertically of vector equilibrium:

- Cite RBF postcard to Peter Jahlin, 28 Sep'73



Solders Web as a TQQ1:

See Bird's Nest as a Tool, 6 May*67 Mechanics, (2) Tools, 1907;

Spider's Web:

See Environment Events Hierarchy (3) Industrialisation, (A)

Spin:

"When other scientists seemed to have language more valid than my own I accepted their terminology. But I held to my own terminology when I found it to be warranted, and when other claimants could not be justified. For example, quantum mechanics came many years after I did to employ the term spin. The physicists assured me that their use of the word did not involve any phenomena which truly spun. Spin was only a convenient word for accounting certain unique energy behaviors and investments. My use of the term was to describe a direct investment of experimentally demonstrable

unique magnitude of rotation, an actually spinning phenomenon. This was a case when I held to my own terms. In mist recent years it is beginning to be realised by the physicists as an actually spinning phenomenon— as I had demonstrated it as actually occurring almost half a century ago. . . . In recent years I found the term spin being adopted by others; sometimes with the same meaning, sometimes with other meanings. But from the viewpoint of half a century there appears to be an increasing convergence of scientific explorations, eptemology, and semantics with my own evolutionary develppment

- Cite RBF to EJA, 20 Dec. »?1 at SYNERGETICS text Sec. 250.04.

Spinnability:

"Spinnability has to be totally independent of the system's local surface transformations.**

- Cite RBF rewrite of 24 Apr*76

Spinnability;

"Spinnability has to be totally Independent of the transformations that it is entertaining."

- Cite RBF to EJA, 3200 Idaho, Wash. DC; 23 Apr'76

Spin Equator!

See Critical Proximity, Omnitopology, 19 D<

15 Feb'73 • 73

Soln-halving:

(1)

See Prime Number Consequences of Spin-halving Dichotiny: Dichotomising System-halving

See Quarks, 22 Jun*77

Spinning *i*, Orbiting:

See Dancing, 6 Jul'62

Gravity (g)

Sphere, 8 Aug*77

Spin Twgncaa ft Duality JjfQJiOM:

"Having identified (a) the constant additive twoness of the vertexial poles of the axial spinnability operative in all independent systems! and (b), the multiplicative twoness characterizing the concavity and cinvexity congruently operative in all independent systems, we find the first four prime numbers--- 1, 2, 3, and 5--- are the only variables present in the Eulerean topological inventorying of all the omnitrian-gularly, nonredundantly stabilized, symmetrical polyhedra.

"Spin twoness is additive.

"Duality twoness is multiplicative."

- Cite SYNERGETICS, 2nd. Ed. at Sec.a. 1074.31-.32, 27 Dec'74

See Twoness: Additive & Multiplicative

Stla.-StSM-aa. A-Piislly

(2)

See Conception-birth, 27 Dec'74

Soln Twoneaa:

See Cosmic Inherency, (2) Conception-birth, 27 Dec'74

See Axis of Spin Additive rwoness Great-circle Spinnable Symmetries:
Hierarchy Of Half Spin Motions: Six Positive k Negative Motions Twin-
spin Rotate Spun Frequency

See Cone. 22 Sep¹73

Euler, 11 Jul'62

Line, 7 Nov'72

Omnidirectional 1960

Sphere, 25 Feb'74

Synergetics, 10 Jan'50 Neutral Axis. 1 Jan'75 Triacontrahearon:
Great Circles Of, 27 Apr'77 Four Intergeared Mobility Freedoms, 2
Nov'73

Spin: Spinning:

(3)

See Spinnability Spin Equator Spin-halving Spinning t Orbiting Spin
Twbneas k Duality Twoneas Spin Twoneas

Spinach-

"Copper taken directly by humane is toxic. When spinach grows in the presence of copper as in those great fields in Northern Michigan (near the copper deposits I got to know at Phelps Dodge), the spinach takes in the copper in a way that is structurally and mechanically geared with the metabolic gears of humans. Copper is all right and fills in a deficiency if it fits properly. Spinach accomplishes the gearing. A gear is designed to mesh with other gears. But one loose gear put into the machinery will strip all the others. When it is on the right pinion it meshes with the other gears and can bridge a gear-train gap. That's exactly what happens to copper and spinach. Henry Schroeder worked with the trace elements. He showed that one Chromium atom is the difference between a diabetic and a nondiabetic. The word diet makes for great confusion. It's not undernourishment, it's just getting the right deficiency chemistry into the brain which may be lacking certain gears."

- Cite RBF to EJA, Pepper Tree Inn, Santa Barbara, 11 Feb'73

Spinach:

'•Copper if it is present in the soil where you are growing spinach--- spinach tends to inhibit the copper as a pattern and spinach that has inhibited copper also will inhibit some gold and silver and then the human being can Inhibit the gold, silver and the copper in very small percentages, but they are literally inhibitable and apparently measurably to the advantage of the human being. Copper taken in other ways than being Inhibited first by spinach can poison a man; it can be lethal. We find that copper taken in the right way can be beneficial and in the wrong way makes trouble. Remeber now that we are dealing not in a thing but in a pattern. . . "

"Apparently the human being can inhibit all the chemical elements if they come in at the right sequence, so as part of spinach, as part of that pattern, then it is tightening you up /~ see Monkey wrench_7 in a better way. . .

"Whatever spinach does it does it better if it has copper."

- Cite OREGON Lecture #5 - pp. 166-167/9July 1962

Spinach:

(1)

See Copper Inhibit

See Heredity, 15 May*72 Metabolic Flow, (1)

Spinnaker:

See Geodesic Spinnaker

Spiral:

"Radiation'a waves are non-self-interfering spirals."

- Citation and context at

7 Nov*73

Spiral:

"A jmlral articulated in a direction perpendicular to our observation presents an illusory wavilinear planar profile."

- Cite RBF marginalia. SYNERGETICS Draft (Conceptuality. Time) 31
Fay 1971, Chicago.

KBF DLFIMTIUh!

Spiral:

'• All the time of physicists are linear,

'• All actions are spirals because they cannot go through themselves and because there is time. The remote aspect of a spiral is a wave becaude there are no planes.**

- Cute KBF to EJA

Beverly Hotel, New York B larch 1971

Citation at Time, 8 Mar'71 NONLINEARITY: FIXES - SEC. 520.11

Spiral: "An event trajectory

Cannot 'go through itself.'

A recycling event

Can only produce a spiral.

Which, when viewed axially

Appears misinformedly To be a circle.

You may say the hands of the clock

Go round and around

In the same circle.

But as they go around

So does the Earth

On which the clock is situated;

And as the Earth spins

So also does it orbit the Sun

Which is moving within the Galactic nebula;

And the nebulae moving in respect In respect to other nebulae;

And the pattern
Made by the clock's hands in Universe .Which is the minimum reality Is a very
complex pattern."

- Cite GENERALIZED* PRINCIPLES, p.8, 28 Jan '69

Spiral:

"A triangle is a spiral and is one energy event,"

- Cite SYNERGETICS ILLUSTRATIONS, caption #2, 1967

Spiral:

" lines

As curves

Cannot re-enter, or

'Join back into themselves,• Therefore, the circling line Can only wrap
around

And over its earlier part - - As the knot making

Sailor says it, The circle when followed Around and around Results in
a coil rfhich is

An asymmetric spiral,

Which may be followed experimentally Only as long as intellect fol-
lows."



- Cite HOW LITTLE, Pp. 59-60 , Oct '66

Spiral:

"Not even a graphed spiral is forever possible because the errors in a
graphed line constantly dislocate the line and insist upbn an ultimate
intersecting contact."

- Citation & context at Line. 1938

Spiralinity:

"Regenerative precession imposes wavillnearity on vectors and tensors. Wavillnearity is spiralinear.

"All actions are spiral because they cannot go through themselves and because there is time. The remote aspect of a spiral is a wave because there are no planes.

"As with coll springs, in tensors and vectors of equal magnitude, the spiralinity of the vector is shorter in overall spatial extent than is the spiralinity of the tensor. Compressed Mi lines or rods tend to arcs of diminishing radius; tensed MB lines or rods tends to arcs of increasing radius."

- Cite SYNERGETICS text at Secs. 520.101,.11,.12; Nov»71

RBF BEFIN1T10NS

Spiralinity:

in tensors and vectora of equal magnitude, the apjralinearity of the vector la ahorter in overall spatial extent than is the spiralinity of the tenaor. Compressed lines or rods tend to arcs of diminishing radius; tensed lines or rods tend to arcs of increasing radius."

- Cite RBF to EJA Blackstone Hotel, Chicago 25 March 1971

See Circle

Coil Cornucopia Minimum Spiral Wavilinearity

Critical Spiral Path Tetrahelljc

Open Triangular Spirals Helix Flat Spiral

Geodesic Spiral Tube

Spiral; Spiralinearity:

(2)

See Matter vs. Radiation, 7 NOT*73*

Rope, Dec'71

Time, 8 Mar'71*

Triangle, 7 Oct'71

Triangle as A Priori Two, Feb'72

Tetrahedron: Coordinate Symmetry, Nov'71

Cheese Polyhedra, Nov'71

In, Out & Around Experiences, (2)

Line, 193#*

Critical Proximity, May*71

spirit:

See Life is Not Physical, (1}(2)

Spit-punctuated Monosyllabic Verbaliam:

See Conformity, 10 Oct'61

Reverse Optimism, Aug¹64

Soit in Space:

"If you spit in space the spit goes into orbit and you retro-orbit."

- Citatioind context at Space Technology (6)

"...Thia aplit personality +2\$, -2\$; +5, -5; -+O, -0*..

“bwnuwin k Local

continuity, 15 Jan*74

See Dichotomy

Picasso Duo-face Painting Profile: There ie No Half Profile Half Visible:
Half Invisible

See Basic Triangle: Basic Equilibrium 4S LCD Triangle.

16 Dec'73

Cosmic Discontinuity & Local Continuity, 15 Jan'7k*

Spontaneity:

"Compression behaviors are disassociative while tension behaviors are inherently associative and spontaneously cohering."

fid. Nap

- **Citation at Tension & Compression, 19&5**

See Tetrahedron as Conceptual Model, Nov*71

Unitary Conceptuality, 22 Oct'72

SmWMOia PJPUB;

(1)

See Coincidental Articulation

Fuller, R,B: Hie Associates 4 Collaborators

Spontaneous Deputies:

(2)

See Cosmic Fish Sequence, (1)

Depression: Great Depression of 1930'a, (2) Sublimation, 21 Oct'7*

Spontaneous Education of Choice:

See Montessori System, 1928

Spontaneous Equilibrium Model:

See Vector Equilibrium as Starting Point, (1)

Spontaneous Tolerance;

See Truth as Progressive Diminution of Residual Error, Oct¹66

"... Every child is born with faculties--- with ears, eyes, nose and mouth and the child says that is what I see. "You don't have to @:h a child to say what it is that he sees; he tells you spontaneously.

"In other words, truth is spontaneous, and the lying has been taught to the children by those who are afraid that the child's truthfulness will get them into trouble. So the fact that truth is spontaneous is equally mysterious as the facto*** of mass attraction and gravity cohering our Universe; as is the phenomenon love.* We experience so much of it we tend to take it very much for granted.*

- Cite KBF at SIMS, U. Klass., Amherst, 22 July *71, Talk 12, p. 16.

See Lecturing

Piaget Jean: Child's Spontaneous Geometry Society: Spontaneity Of
Teleology: Spontaneous vs. Emergency

Thinking Out Loud

Three-way Great-circling: Three-way Grid: Spontaneity

Child's Spontaneous Interest in Totality Most Economical - Spontaneous

Spontaneity: Spontaneous:

(2)

See Bridge. 13 Noe*69 Evolution. May'72 Life, 22 Apr'6fi Structure, 16 Dec¹73 Scheme of Reference, 24 Sep'73 Survival, May'65 Tetrahedron as Conceptual Model, Nov'71 Unselfishness, Jan*72 Kost Economical, 3 Apr'75 Symmetry & Asymmetry, 11 Dec'75 Gravity: Speed Of, 21 Oct'72 Children as Only Pure Scientists, (1)

See Spontaneous Spontaneous Spontaneous Spontaneous Spontaneous Spontaneous
Aggregates
Deputies
Education of Choice
Tolerance
Truth of Childhood
Equilibrrious Model
See Omnidirectional Typewriter (1)

Tetraacroll, (1)

See Child Pushes Spoon Off Edge of Table
See Competition
Game

Hammer Thrower Pole Vaulter

Soe Civilisation, May*70

Sprint*

(i)

See Coil Hexagonal Vector Pattern Spiral

See Toole? Craft & Induet rial, (2)

SauL&MamY - SpiischtlW

See Sphere, 25 Feb*74

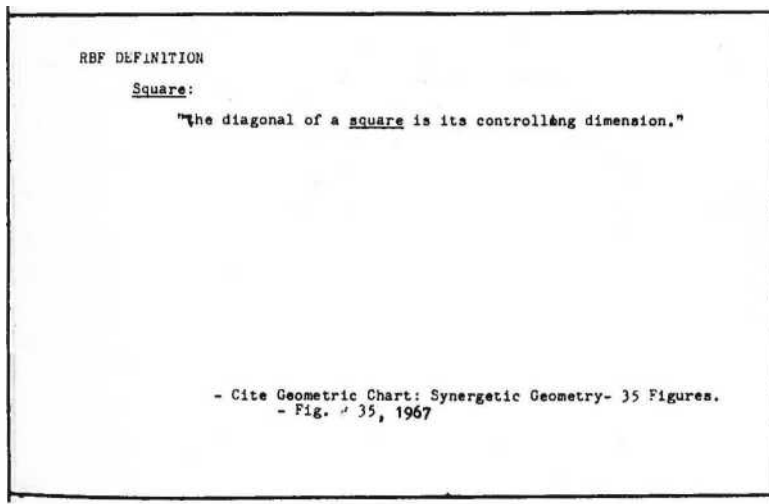
Squander Meaning:

See Vocabulary, May*70

Square:

'Squares are not on the outside of structural systems.

- Cite RBF to EJA, 3200 Idaho, 20 Oct'72



Square:

"A * square * these days is
somebody who's static
immobilised
obsolete— as obsolete
as the square box
in architecture."

- Cite Calvin Tomkins, The New Yorker, 8 Jan. 66, p. 94.

Squares:

' ` Because squares are utterly unstable they may not be called structures. Squares, when partially stabilised, always consist of two triangles which can move in respect to one another as the two halves of a hinge."

- Cite KEPES, Caption Fig. Ba, p. 85, 1965

Square:

"A square is two triangles."

- Citation and context at Triangle_T Forest Hills, undated

Sajjajs: piKQMI °f

See Triacntrahedron as Limit Regular Polyhedron 13 Apr* 77

See Foursquare Scaffolding

Grid: Crisscross, Right-anglo Arid

Knot: Square Knot Local Squareness Necklace

Ko Square Stability

See Dome: Rational For, (III) Frame of Reference, 27 Feb*72 Nucleus,
(1) Tetrahedron, 1 Feb*75 Triangle, undated*

XY2 Coordinate System, Jun'66 Ke Ball, 21 Jan'75 Windows of Noth-
ingness, (1) Triacntrahe'Iron, 1 3 May'77 Domes, 12 May'77 .. ,

T Quanta Module, (1)(2)

Souaah;

See Tidal, Dec'61

qgufttprp? (1)

"All around the world there are large squatter settlements, as for instance in Puerto Rico, Caracas, and Bombay, These squatter settlements may increase by as many as a million people a year. These settlements are referred to formally as 'self-help' groups because they improvise something to sleep under that sheds off the rain, whether it's high wet-strength, three-ply, corrugated paper-board or rusty corrugated iron. These squatters are on land that by sovereignly-originated deeds of law 'belongs' to somebody else. The squatters are continually approached by racketeers who tell them (secretly) that the police are going to show up and evict them, but if the head of the family or the individual will give the racketeer some money, he knows the owners and will arrange that they be allowed to remain,

"In order to cope with this phenomenon, the UN Vancouver Conference passed a very extraordinarily wise and humanly considerate resolution. In travelling around the world and visiting such squatter settlements, I have observed their beautiful community life. People in trouble cooperate in a thoughtful and loving way. Their way of life is so beautiful that I have always said that if I ever have to retire I will"

- Cite ACCOki.ODATING HU.*'AN UNSLTTLLi:ENT, p.9; 20 Sep*76

Squatters:

"only retire into one of those squatter's settlements."

"It was also observed by the majority of the UN delegates that the people coming to squat are very ingenious in the way they employ the materials to keep the rain off. * Therefore, one of the first resolution passed by the Vancouver conference... recommended that all nations decree by law that all the land which these squatters occupy be made public lands on which the people are allowed to continue. It was part of the same motion that the squatters be given much better materials with which to accomplish their environmental controlling."

- Cite ACCOi-uWATIL.'a HUIttN UNSET, 1EMMST, p.9; 20 Sep'?6

See Omniembracing Squeez

Squid:

See Jet Engine, 20 Apr'72

SSRCD: Scheheratade Sublimely Rememberable Comprehensive Dividend:

RBF adopted the above designation in lies of FSRCQ

- Cite RBF to EJA, 200 Locust, Phila., 22 Jan'73

SSRCD: Six-illion SSRCD:

24,397,345,897,224,300,000

SSRCD; Seven-illion SSRCD:

24,421,743,243,121,524,300,000

RBF DEFINITIONS

SSRCD: Seven-illion SSRCD:

", . . If we multiply the first four primes we get JO. If we multiply JO times 7,11 and 1J we have JO x 1001 or JO,OJO and we have used the first seven primes. We can be intuitive about the eighth prime because the octave seems to be so important. The eighth prime is 17 and if we multiply JO.OJO by 17 we arrive at a fantastically simple number: 510.510. This is what I call an FSICCCQ which stands for Fuller's Sublimely Rememberable CompEehensive Quotient. I can remcber the first eight primes factorial--- 510,510!. . . It is a fantastically big number yet I am able to remember it. '.Zhen nature gives us a number we can remeber it is a pretty extraordinary affair.

"If we take the first seven primes factorial to the fifth power we arrive at a sextillion number. A pattern emerges in the construction of this number and it looks like this: j\ then >xj>, 5xj5, J\$ and then five 0's.

The number is 24,421,74J,24J,121,524,JOO,000."

- Cite SYNukGhTlCb, "Numerology," Pp. 1t>~17. Oct. *71.

SSRCD: Eight-llion SSRCD:

1,452,303,177,020,770,377,302,500

SSRCD: Nine-illion SRCD;

185,958,806,658,658,608,294.720,000,000

SSKCD: Ten-1111on SSRCD:

48,521,045,268,603,838,698,691,521,280,000

SSRGD:

<2)

Sae Limit, 15 Oct¹?'

Stability:

"Stability means angular invariability."

- Cite SYNERGETICS text at Sec. 600.03, 3 Oct'72

Stability:

"A necklace is unstable. The lengths of the beads in a necklace do not change. Only the angles between them change. Stable refers only to angular Invariability."

Cite NEHRU SPEECH, p. 14 , 1J Nov'69

- Citation and context at Necklace, 13 Nov'69 STXvcfuAE - *SEC* 601.

StabXUVI-

"Two separate events are each by themselves angularly unstable. Only when the positive and negative events are combined do we have structural system stability."

- Cite RBF marginalia at old Chap 2_t "Synergy," 1.2, 18 Mar*69

stability:

"Stability relates to angular behavior: the sides of polygons can remain identical while their angles vary. If we want to have a structure we have to have triangles

- Citation and context at Triangle (A)(B), 18 War*69

"...Now I have a fourth ball that comes around in there and it nests on top of the first three. . . . All motion is blocked. This makes a tetrahedron. This is where stability begins. The tetrahedron is where the triangle gives what we call a 'structure.' or something that doesn't change its pattern any more. It was dynamic up to that time."

- Citation and context at Structure. 2\$ Feb*69

Stability:

"Any polygon with greater than three eidea ie unstable. Only the triangle is inheeently etable. Any pojijhedron bounded by polygonal faces with greater than three sides ie unstable. Only polyhedra bounded by triangular faces are inherently stable."

- Cite SYNERGETIC ILLUSTRATIONS - #6 1967

TK, Aft & ULA r/or J-Sec.

Stability;

“In geodesic systems the higher the frequency of the triangular subdivisions, the less vulnerable is a whole system to destruction. In systems constructed with many modular subdivisions, impinging forces are swiftly distributed in the region of the impingement, and are inhibited by the succession of rings which tense around any point of pressure in the symmetrically and totally triangulated network.”

- Cite MARKS, p. 44, 1960

Stability:

•It is a synergetic characteristic of minimum structural systems (tetra) that the system is not stable until the last strut is introduced. Redundancy cannot be determined by energetic observation of behaviors of single struts, (beams or columns) or any chain-linkage of same which are less than six in number, or less than tetrahedron.”

- Citation at Strut. 1950*8

On the Bifurcation of the Struts in the Minimum Structural Systems ---Sec 411. of the T.C. «
segment

Stabilized Cube:

A vectorial-edged cube collapses. The cube's corner flexibility can be frustrated only by triangulation. Each of the four corners of the cube's six faces could be structurally stabilized with small triangular gussets, of which there would be 24, with the long edge structurals acting as powerful levers against the small triangles. The complete standard stabilization of the cube can be accomplished with a minimum of six additional members in the form of six structural struts

placed diagonally, corner to corner, in each of the six square faces, with four of the cube's eight corner vertexes so interconnected. These six, end-interconnected diagonals are the six edges of a tetrahedron. The most efficient stabilized cubical form is accomplished with the prime structural system of Universe: the tetrahedron."

- Cite SYNERGETICS text at Sec. 615.02; galley rewrite 9 Nov*73

"You will recall that I had started with a cube. Recognising that there are two sizes of cubes composited with spheres that we had come to. The first one had been the consequence of precessing together the two one-eighth octahedra, and they had a total of fourteen balls. Then we came to the next cube which occurred in a stable manner in which the vector equilibrium appeared when we knocked off those one-eighth octahedron corners. We saw in the cubical form those really open spaces that are unstable and we found that the whole thing was stabilized internally by being entirely in closest packing of omnitriangulation."

- Cite Oregon Lecture #7, p. 234» 11 Jul'62

See Cube: Two Tetra as Cube

Minimum Stable Cube

Stable * Nonredundant:

See Stable & Unstable Structures, 7 Jun'72

"Any polygon with more than three sides is unstable. Only the triangle is inherently stable. Any polyhedron bounded by polygonal faces with more than three sides is unstable. Only polyhedra bounded by triangular faces are inherently stable."

- Cite SYNERGETICS text at Sec. 609.01; galley rewrite 9 Nov'73

"Tetrahedral octahedral, and icosahedral necklace structures are all stable. Necklace cubes, rhombic dodecahedra, penta- dodecahedra vector equilibria and tetrakaidecahedra are all unstable. Only necklace-omnitriangulated, multifrequency geodesic spheres are stable structures, because they are based entirely on omnitariangulated tetra-, octa-, and icosahedral systems.

"The number of vertexes of the omnitriangulated spherical tetra-, octa-, or icosahedral structures of multifrequency geodesic spheres corresponds exactly with the number of external layer spheres of closest-packed, unit radius spherical agglomeration of tetrahedra, octahedra, or icosahedra:

Tetrahedra 2 F| +2 Octahedra 4 F? +2 Icosahedra 10 F² +2 Only tetrahedral, octahedral, and icosahedral structural system are stable, i.e., complete, nonredundant, self-stabilizing.*

- Cite SYNERGETICS text at Secs. 608.10 -.11; 7 Jun»72

Stable Systems and Unstable Systems:

"Unstable systems are conceptual as momentary positional relationships of unstructured-component event aggregates. For example, amongst the stars comprising the Big Dipper--- in Ursa Major--- the second and third stars in the dipper's handle are, respectively, 100- and 200-light-years away from Earth and, though seemingly to us in the same plane, are not all so; and they are both moving in opposite directions and so in due course they will no longer seem to be in the same constellation. In the same way, four airplanes flying in different directions may be within visible range of one another, but are far too remote for mass-interattraction to become critical and pull them into one another. Stable systems are conceptual as structured, which means componently omni-intertriangulated, critical-proximity, interrelevant, coordinate, constellar, event aggregates," "If the only

momentary and optically illusory system consideration proves to be unstable, it does not manifest generalized principle. If systems are stable, they are inherent in and accommodate all generalized principles."

- Cite RBF galley correction of SYNERGETICS at Sec. 403.02,+ 403.03
2 Nov'73

"There are stable and nonstable systems.

"Nonstable systems are conceptual as momentary positional relationships of unstructured component event aggregates, stable systems are conceptual as structured, which means componently omni-intertriangulated event aggregates.

"If the systems are unstable they are not inherent to generalized law. If the systems are stable they are inherent to all generalized law."

- Cite HBF to EJA, 3200 Idaho. Washington DC 23 Jan *72 Incorporated in SYNERGETICS text at Sec. 480, Jan '72

See Generalized Law. 23 Jan*72

Me Ball 21 Jan*75

Tetrahedral Growth, 13 Nov'75

Light on Scratched Metal, 9 Nov*73

Stabilized Vector Equilibrium, 23 Feb'72

Cube & VE as Wave Propagation Model, 23 Feb*72

Vector Equilibrium Involvement Domain, 11 Dec*75

"The vector equilibrium may not be referred to as a stabilized structure except when six struts are inserted as diagonal triangulators in its six square faces, wherefore the topological description of the vector equilibrium always must be 12 vertexes, 20 (triangular) faces, and 30 linear struts, which is also the topological description of the

icosahedron, which is exactly what the six triangulating diagonals that have hypotenusal diagonal vectors longer than the square edge vectors bring about when their greater force shrinks them to equi-length with the other 24 edge struts. This interlinkage transforms the vector equilibrium's complex symmetry of six squares and eight equiangled triangles into the simplex symmetry of the icosahedron."

- Cite SYNERGETICS text at Sec. 615.06; 2J Feb*72

See Cube & VE as Wave Propagation Model

See Dynamic V8. Stable

Interatabllization

Pattern Stabilizing: Pattern Stability Self-stabilizing Stable & Unstable Structural Stability Push-pull Stabilization Angular Invariability No Square Stability

See Necklace, 13 Nov'69*> (A)-(C) Structure. 25 Feb*69* Strut, 1950'e Triangle (A)(B)« De-atructurlng, 18 Jul'72

Sjiii: staxujm'

See Airplane: Stalling Airplane

Station *t*

See Divide & Conquer Sequence, (2)

Standard;

"The cyclic-module measurement of the time of experiencing or* generating the length of the edge of any triangulated special-case system can represent the basic 'standard' of relative size-comparisioning to other object experiences."

- Citation *k* context at Time-size Cyclic Modules. Jul'71 "Is not the public intuitively aware that the very beauty of a child lies in the clearly revealed, harmonious loveliness, of the spirit, shining through the most regular of material features, unharassed into unbecoming selfconsciousness, by the least unstandard deformity? Is not the truth of standardization that ever pours more individual freedom and happiness into life? Is it not the very secret of nature that it must be recreative after its own image?"

- Cite 4-D, prefatory letter 21 May 1928

"You don't have to play the same music because you all have the same pianos, do you?"

- Cite RBF to Ines Cunningham, Chicago Post Art World. 13 May'30

See Aesthetics of Uniformity Reproducibleness

Standard of Living:

"... A level of technical proficiency adequate to provide high standard physical living for total man ... was always subjectively implicit and objectively inevitable because of the presence of intellect in physical Universe."

- For citation and context see Laissez-faire Process. 10 Oct '63

Standard of Living;

(1)

See Design Revolution: Pulling the Bottom Up Sequence Social Economics

See Inflation, Sep'73 Laissez-faire Process, 10 Oct'63* Metals: Ricirculation Of, (1) Space Technology, (6) ' /eapons Technology Sequence, (A) Disarmament, (1)(2) Building Industry, (11)

Saa Cycla, Jun'66

Time-axe Cyclic Modulaa, Jul'71

See Air delivery i Submarine Cities (3)

Star:

"The star radiationas inpinging upon us regenerate all life.

Even as children, we feel Intuitively the

mysterious import of the stars; bat have no knowledge whatsoever of the technological complexities by which this regeipation is accomplished. Most people live out their lives thinking of the stars only as an aesthetic and not reallstlcaly-relevant, decorative feature. 'Star gazers are nuts.*"

- Citation and context at Universal Requirements of ft Dialling Advantage (1), Dec'72

Star;

"A star io something you can't resolve.

«'e call it a point,

playing Euler's game of crossings.

One star doesn't have an outsideness and an inslideness.

It is a point because you can't resolve it."

- O±te RBF to EJA

Carbondale

2 April 1971

- Citation at Point. 2 Apr'71

Stardust;

` ` Recent estimates of geo- and astrophysicists Show that many tons of stardust Arrive daily and remain on Earth.

Some estimates go as high

As one hundred thousand tons daily—

Probably acquired during Earth's orbital passaging Through the rubble of comet tails.

By virtue of such stardust
And asteroid fall-ins,
Earth is actually increasing its weight.

But so are the Moon and other planets, Wherefore gravitational imbalance Of the planets is avoided.

All the stars give off energies
And much of the radiation of the stars
Other than the Sun
Impinge on our Earth.

This cosmic radiation seems to impinge In the same disorderly manner As does the stardust."

- Cite BRAIN *he* HIND, pp.105-106 1.ay '72

(D

Stardust:

"Stardust itself is the inverted Concentrate of cosmic radiation. Every chemical phenomenon Can be identified

Either by its mass characteristics,
Such as weight per volume,
Or by its radiation-frequency bands.
Both the frequencies and the matter
Are behavioral states of the same phenomenon.
This underlies Einstein's fundamental thinking,

That is, of energy associative as matter (stardust): Or of energy dis-associative as radiation.

And of their eternally regenerative Terminal intertransformabilities."

- Cite BHAIN «. MND, p,106 fay »72

Stardust:

"The expanding Universe is identified mathematically WHB as a consequence of the law of increase of the random element. As the Universe demonstrates dynamical counterbalancing of all its behaviors, there is also detectable in the local Universe a decrease in the randomness and a contracting, i.e., an associative phase in cosmic events.

"One hundred thousand tons of stardust converge or associate daily upon the Earth's surfaced In the topsoil, a biologically regenerative process is going on in which the human sorting* and classifying functions and capabilities constitute the most complex chemical differentiating and reassociating phase of the known Universe."

- Cite RBF in AAUW Journal, p. 175, Fay *65
in

See Impoundment Ecology Sequence Impinge

See Comet, 15 Feb*73

Radiation Sequence (1)

Twenty Questions (4)

Cosmic Vacuum Cleaner, 16 May*75

Man: Interstellar Transmission of Man, (B)

Star events

'i-omentarily conceptual means standing together dynamically--
like star events.**

- Cite RBF to EJA Beverly Hotel, New York 15 J'-arch 1971

SEC

Star Svante;

"The atara of the four rocket burata conatitute the four vertexes of a tetrahedron--- the fundamental quantum of Universe's structuring. There ia a tetrahedral structuring interrelationship between (a) the day before yesterday, (b) yesterday, (c) today, and (d) tomorrow. Though we speak of them as 'the four balls in the air'--- maintained there successively by a juggler using five balls to do his trick--- they are not the same balls, and the four are never in the same positions; nonetheless, there are always and only six fundamental interrelationships between 'the four balls in the air'- i.e, ab ac. ad- be. bd. Rnd cd. although a, b, £, and d are nonsimultaneous events. Universe structures most frequently consist of the physical interrelationship of nonsimultaneous events."

- Cite SYNERGETICS text at Sec.

510.04, Mar'71

Star Events:

"The regerative patterns . » . of structures . . . may be described as constellar because their component events stand dynamically together like star groupings, and any event patternings which become locally regenerative are constellar patterns.

"All the forces operative in universe result in a complex progression of most comfortable (i.e., least effort) arrangements in which the macro-medio-micro star events stand together here and there as locally regenerative patterns."

- Citation <t context at Structure Sequence (1)(2), 1965 --C&E KKPKS, p.66,1965'

Star Events:

"... The minimum set that may form a system to divide universe into micro and macro cosms is a set of four items of consideration. Between the four stars that form the vertexes of the tetrahedron, which is the simplest system in universe, there are six edges that constitute all the possible relationships between these four stars. When we have found all the relationships between the number of items of our consideration we have what we speak of as 'understanding.' The word 'consider' derives from the Latin words for 'together' and 'stars.' When we understand, we have all the fundamental connections between the star events of our consideration."



- Cite SUMMARY VISION 65, p. 139, Oct'65

Star Events:

'Thinking is the consideration of different experiences, inherently separate sets of events, and trying to find out what their relatedness is. Each one is a star. How many stars does it take to develop a geometry of outwardness and inwardness? //hat is the minimum number of stars to divide the universe into outwardness and inwardness? I find it takes a minimum of four. You can't do it with three. Four very clearly has an outsideness and an insideness. This is what we call the tetrahedron which has these four stars and these six sets of interrelatedness. This comes in very interestingly in mathematics with the generalization that you don't have to worry too much about the shape, but the four stars are the minimum which we can really have for an important thought. If I discover only three stars in a thought, there must be at least a fourth star lurking somewhere in the constellation. In fact. I discover that all the number of

stars that could possibly be related are always subdivisible by four. The mathematics shows this up very clearly as complexes of tetrahedra. Tetrahedron becomes the minimum thinkable set, the minimum reconsiderable set, and it turns out to be the fundamental increment out of which all thoughts are constructed."

rio.dil

- Cite Oregon Lecture #2, pp.67-68, 2 Jul'62

Star Events:

"A star . . is the focal point of an as yet nondifferentiated concentration of events--- ergo, considerable, or constellar patterning, means an exploratory grouping of stars or complex idea entitles that seem to man's limited tuneability to stand out together.' "

- Cite OMNIDIRECTIONAL HALO, p. 131, I960

Sec. SJo.'oj")

KBh uLEIMTICM

tar ..vents:

In a con-sideration four is the minimum number of having an inherent arrangement of withinness and withoutness. Therefore we discover next that the minimum conceptual!/-considerable generalized-experiences-set affording macro-micro separation of universe, is a set of ~~four local event foci~~. These four stars have an inherent sixness of interrelationships. Thtsw fpur-foci si<- relationship set is definable as the tetrahedron' This minimum fourness of relevant-frequency, ergo thinkable 'stars' coincides with quantum mathematics' reouirement of four unique quanta numbers per each uniquely considerable 'particle,' quanta are inherently tetra- hedroal." ⁷

- Cite UWilDIDRr.CTILKAL HALb,. p. UO 1960

Star Event, and Degrees of Freedom:

"We must not confuse the six degrees of freedom and the star event. The 12 degrees of freedom have to be expended in such a way that the positives beget negatives; that is part of the complementarity. The action-reaction-resultant begets three vectors and every event has six: it could be a hexagon or an open-ended tetrahedron.

"In invisible Universe the six moves could not appear as matter. This illustrates the predominance of nothingness in our Universe. Think of 11 the arrangements of the vectors that do not account for matter or radiation." The novent world is growing very rapidly in my synergetics concept toning. "

- Cite RBF to EJA, 3200 Idaho, Wash.

DC, 12 May'75

(1)

See Considerable: Consideration Constellar: Constellation Fireworks Understand

Star. Events:

(2)

See Closed System, 26 May'72

Conceptuality, 15 Mar'?1 Cube: Diagonal Of, (1)(2) Metaphysical k Physical Tetrahedral Quanta, 25 Mar'71

Nonsimultaneous, May*71

Structure Sequence, (1)(2)*

System, 29 Dec*58

Tetrahedron aa Conceptual Model, 28 Jan'73 Two Kinds of Twoness, (C)

Visibility 4 Invisibility of Systems, (1) Halo Concept, Nov'71 Pattern, 3 Oct*72

Thinkaboutability, 8 Feb'76

Stars: Invisible motion of the Stars:

"So also invisible to man are the vast high speed motions of the stars
and the relatively slow growth of trees."

- Citation and context at Duillainns as Machines (1), 13 Nov'69

Stars: Invisible motion Of:

See Invisible Motion

KBF UbFIKlThNb

Stars: Implosive Forces of the Stars:

"Now, in the most recent inventory of what we're learning about our physical Universe in a comprehensive manner, usually on the part of the astrophysicists having discovered the isotopes of the different chemical elements and discovering a pattern of relative abundance of those chemical elements, and discovering then that the behavior of the chemical elements is to work from the high number elements down towards the low number. The fact that we do have high numbers such as Uranium means there must be some part of the Universe where high number chemical elements are compounded, where they come together, `./hereas, in their presence on Earth, they tend to be coming apart, they tend to be working towards the lower number.

"So there's the working assumption that in the implosive forces of the stars we may be developing the high number chemical elements. But the astrophysicist says that no matter how far things come apart, they never come further apart fundamentally than proton and neutron which always and only coexist."

- Cite KBF at U.»ass., Amherst 22 July '71, n. 20
sarg.: implosive Forces QF

See Black Hole Superatomics

Sjax: "We Stars Have Cot to lake a Prnfitl"

See Afford, 29 Jun'72

frtar Tetrahedron:

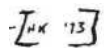
"Four additional balls can be symmetrically closest packed into the four nests of the closest-packed tetrahedral group, making eight balls altogether and forming the star tetraheiron with no ball at its center."

- Cite SYhTJiGLTICS Draft Feb '72, Sec.-W-r02~

RBF DEFIMTIUNS

\$^{tar} Tetrahedron:

"The Star Tetrahedron is a structure--- but It is a compound structure. The fifth tetrahedron, which is the original one, accommodates the pulsations of the outer four. Its outward pulsings are free and its inward pulsings are repulsive--- that's why it's a star. The four ecternal pulsations are unrestrained and the'External pulsations are compressionally repulsed. Leonardo called it the Star Tetrahedron not because it has points/but because he sensed intuitively that it gives off radiati/bn like a star."



- Cite ftbF to EJA, Haverford, 11 Oct. 1971.

'A>JTI TℒT/?A n* nfo43S.OI

RBF DEFINITION:.

Star Tetrahedron:

"The name of this dynamic vector-equilibrium complementary tetrahedron is the star tetrahedron. The star tetrahedron is . ne in which the vectors are no longer equilibrious and no longer omnidirectionally •nd regeneratively extensible. This star tetrahedron name was given it by Leonardo da Vinci.

"The star tetrahedron consists of five equal tetrahedra, four external and one internal. Because its external edges are not 180° angles it has 15 instead of six external edges and is a compound structure. . .

bYK-itGLTICb draft "Antitetrahedron," 6 Oct. '71.

———. Cite

/i)*» n r/r D Z»N1 JSC 637.01

7.

□□□□---Star Tetrahedron: "There is an outward pulsation in dynamic symmetry of the star tetrahedron. As an energy radiator it is entropic. It does not regenerate itself internally. . . The star tetrahedron is in balance with the vector equilibrium-- pumpable, irreversible, basically shuttling like the time clock of one of the atoms."

- Cite SY4.-.RG4TICS draft "Antitetrahedron, 8 Oct. '71, p8.

Winer«M«a(n -SEC. 631.011

"The star tetrahedron's entropy may be the basis of irreversible radiation, whereas the syntropic vector equilibrium's reversibility--- inv.rdly-outwardly--- is the basis for the Eravitationally maintained integrity of Universe."

- Cite SY4i£,RCr.TICS draft "Antitetrahedron," 6 Oct. '71, P. 6.

A t n l T ET* WECM ~ SEC.

Star Tetrahedron t Isadron:

". . . The star tetrahedron could be the positron, as the icosahedron seems to be the electron. (These relationships should be experimentally and trigonometrically explored as should all the energy experiences inferences of Synergetics. The identifications become ever more tantalizingly close. - B.F. 4 Oct. 1971.)

- Antitetrahedron - p.7)
- Cite RDF i-xrginalis on SYKuRG./fCL draft Oct. *71

"There is a syntropic pulsation receptivity and an outward pulsation in dynamic symmetry of the star tetrahedron. As an energy radiator it is entropic. It does not regenerate itself internally, i.e. gravitationally, as does the isotropic-vector- matrix's vector equilibrium. The star tetrahedron's entropy may be the basis of irreversible radiation, whereas the syntropic vector equilibrium's reversibility— inwardly-outwardly is the basis for the gravitationally maintained integrity of Universe. The vector equilibrium produces conservation of omnidynamic Universe despite many entropic local energy dissipations of star tetrahedra. The star tetrahedron is in balance with the vector equilibrium-- pumpable, irreversible, like the electron in behavior. It has the capability of self-positionability by converting its energy receipts to unique refraction sequences, which could change output actions to other dynamic, distances-keeping orbits, in re: pect to the— also only remotely existent and operating— icosahedron, and its 15 unique , greatcircle self-dichotomizing; which icosahedra can only associate with other icosahedra in either linear-beam export or octahedral orbital hover-arounds in respect to any vector equilibrium, nuclear group."

- Cite SYNERGETICS galley rewrite at Sec. 618.02, 9 Nov'73

RBF DFihlTIurb_e

Star Tetrahedron & Vector Equilibrium:

"There is -noutw-rd pulsation in dynamic symmetry of th<. star tetrahedron. As an energy radiator it is entropic. It does not regenerate itself internally, i.e., gravitationally, as does the isotropic vector matrix's vector equilibrium. The star tetrahedron's entropy may be the basis of irreversible radiation, whereas the syntropic vector equilibrium's reversibility--- inwardly- outuardly--- is the basis for the gravitationally maintained integrity of Universe. Thevector equilibrium produces conservation of omnidynamic Universe despite

many entropic local energy dissipations of star tetrahedra. The star tetrahedron is in balance with the vector equilibrium--- pumpable, irreversible, basically shuttling like the time clock of one of the -toms."

- Cite SYI<hHGJT..CS draft 'Antitetrahedron," 8 Oct.'71, p. 8.

Star Tetrahedron:

(1)

See Vector Equilibrium: Complementary to VE
star T_{strflhfdron}

(2)

See Negative Universe, 8 Oct'71

See Big Dipper

Binary Stare

Black Hole

Relative Activity Diameter of Stare and Electrons

Dwarf Stare

Galaxy: Galxles

Pulsars

Kepler A;one with the Stars

See Dome: Rationale for the Big Dome, (C)

lass, 29 Dec'jS

Point, 2 Apr'71

Randomness. Dec*72

Relationship Analysis. (1)

Rafts: Early ^{rf}ord Drifting on Rafts, (1)

Reproducible, 1968

Sight, 1 Apr '49

Sphere, 1971

Universal Requirements of a Dwelling Advantage, (1)*

Frequency Islands of Perception, 13 Nov '75

Celestial Radiation Accumulators, 28 Apr '77

Communication, 21 Jun '77

See Star

Stardust

Star Events

Stars: Invisible Motion Of

Stars: Implosive Forces Of

Stars as Live Shows Billions of Years Ago Stars: "We Stars Have Got to Make a Profit!" Star Tetrahedron

Star Tetra & Icosa

Stark:

"Stark means stripped of irrelevancies. As in Stark Naked. Or Stark llad, which means unadulterably mad."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 29 May '72

Stark:

' ` Is this elucidation too stark to be of inspirational interest to you?"

- Cite Memo from RBF to Karl Sotiriov passed in plane flight from Columbus to St.DBuis, 21 Oct. '71 while discussing illustrations for Synergetic book.

Stark:

"The mathematics will be found to be as neat and stark as the buckets within a turbine casing,"

- Cite FLUID GEOGRAPHY, 14J, p. 122. Apr'44

s.taris__ij,ant.Qiicj.£Wal. -Irxelevajua

See Halo Concept, 22 Feb'72> NOT'?'

See **Animate & Inanimate**, 4 Ear*69

Halo Concept. 22 Feb'?2; i960; 6 Nov'73

Parameters, i960

Start:

"Energy cluster foci are starts, or topological ver-texes, which are only the as-yet-nonanalyzed group phenomenon whose energetic point centers of event clustering locals are as yet too remote for the present observer's position. . .

- Citation and context at System, 29 Dec*58

"I don't like the word 'fundamental' because it's just the wrong way to start out thinking. We may use the word 'primitive' to describe the initial self-starting condition of divergence. Thus the primitive., is quite different from the 'fundamental particles' game of the high-energy research physicists.

"Infinity is like frequency; it is a subdividing. Because synergetics has conceptuality independent of size it permits conceptuality before you start subdividing. There is no a priori size; size commences only with subdivision.

"Instead of 'three-dimensional' we may say insideness-and- outside-ness, or we may say four-dimensional, referring to the four planes of the tetrahedron.

"The vector equilibrium is inherently prefrequency with an a priori volume of 20 tetravolumes. The vector equilibrium is... a priori fourth powering."

- Cite HBF to EJA. national Airport, 'Washington, DC; 19 Feb'73>

Starting with the Minimum:

See Proofs, 8 Aug'73?

"Since humanity started with parallel lines, planes, and cubes, it also adopted the edge line of the square and cube as the prime unit of measurement. This inaugurated geomathematical exploration and analysis with a part of the whole, in contradistinction to synergetics' Inauguration of exploration and analysis with total Universe, within which it discovers whole conceptual systems, within which it identifies subentities always dealing with experimentally discovered and experimentally verifiable information.

"Though life started with whole Universe, humans happened to pick one part--- the line, which was so short a section of Earth arc (and the Earth's diameter so relatively great) that they assumed the Earth-scratched-surface line to be straight. The particular line of geometrical reference humans picked happened not to be the line of most interattractive integrity. It was neither the radial line of radiation nor the radial line of gravity of spherical Earth. From this nonradial line of nature's event field, humans developed their formulas for calculating areas and volumes of the circle and the sphere only in relation to the cube-edge lines, developing empirically the 'transcendently irrational,' ergo, incommensurable, number π {If } , 3.14159... ad infinitum, which provided practically tolerable approximations of the dimensions of circles and spheres."

- Cite SYNERGETICS text at Sec. 982.20; rewrite of 2y Dec'73

Starting with Parta: The Nonradial Line;

See Science Opened the Wrong Door

See Vector Equilibrium as Starting Point No Thing-in-itself Zero Point
Event Embryo Disturbance Initiating Point Outset Nature in a Corner

See Vector Equilibrium, 11 Dec*75

Starting Kith SpXf:

See Trim Tab Sequence, (2)

Starting with Universe:

"Our definition of Universe provides for the undiscovered and for the yet-to-be-discovered. Do not worry about that furthestmost star which is yet to be consciously apprehended by any human being. Do not think that we have not provided for those physical or chemical phenomena as yet not observed and recorded by human or mechanical sensing devices. The existence of such phenomena may not have even been postulated but they can all be accommodated by our definition of Universe.

"Because we start with whole Universe we have left nothing out: there is no multiplication by addition; there is only

multiplication by division. The furthestmost star and the most unfamiliar physical phenomena are accommodated by further arithmetical subdividing of our aggregate of overlapping experiences. Nothing could have been left out when you start with whole Universe."

- Cite SYNERGETICS, 2nd. Ed., at S_ec. 304.00; from RBF to EJA, 31 May'75

starving u nAxeras

"I did not set out to design a house that hung from a pole, or to manufacture a new type of automobile, invent a new system of map projection, develop geodesic domes, or Energetic- Synergetic geometry. I started with the Universe--- as an organization of energy systems of which all our experiences and possible experiences are only local instances. I could have ended up with a pair of flying slippers."

new Encyclopedia Britannica article by DC Library, 15 Aug'74

- Cite RBF quoted in Robert W. Marks:

"Problem solving starts with Universe and thereafter subdivides by progressively discarding irrelevancies thereby to identify the 'critical path' priorities and orders of overlapping developments that will most economically and efficiently and expeditiously realize the problem's solution by special local problem identification and location within the totality of the problem-solving scenario."

- Citation and context at General Systems Theory. 7 Nov'73

"Starting with whole Universe as consisting always of observer plus the observed, we can subdivide the unity of Universe. In Synergetics--- as in quantum mechanics--- we have multiplication only by division."

- Citation *t UnitY of UnlY.ra., 24 S«p'73

"When you try to understand whether n»an has a function or not, you start by observing Universe, not loan.**

- Citation at Man: Function of Man in Universe, 30 Oct*71

"Universe la the unpredicted behavior of any of ita aublevel aynergetica. We must start our aynergetic analysia at the level of Universe and thereafter with the known behavior of the greatest whole and the known behavior of some of the parta."

- Citation and context at Synerge of Synergies. 31 May*71

"Let us return to the Universe* as our starting point in all problem consideration. We assiduously avoid all the imposed disciplines of progression specialization."

- Citation and context at Intuition, Jun'66

"Starting with whole Universe we quickly reach any local system within the totality by differentiating it out MsMB temporarily from the whole for intimate consideration.* We do so by the process of 'reduction by bits.'"

- Citation at Differentiation, Jun*66

See General System Theory

Irrelevancies: Dismissal Of

Macro-> micro

Grand Strategy

Reduction by Bits

Synergetic Advantage: Principle Of

Synergetic Strategy of Commencing with Totality

Starting with the Whole

Twenty Questions

Whole Systems: Principle Of

See Chess: Game of Universe, y Jul'62 Comprehensive, Feb'72 Conceptuality Independent of Sise, 1y Feb*72 Differentiation, Jun'6b* Education, 6 Mar'60 Experiences as Local Instances, 1970 General Systems Theory, 7 Nov*73' Geometry. 15 Oct'64 Hierarchies. 16 Jun'72 Intuition, Jun*66* Infinity, 1 May»?1 Man:: Function of Man in Universe, 30 Oct*71' Question, Feb'73 Navy Sequence 17) Research (2) Synergist, 154 Synergy of Synergies, 31 May'71* System, 1 May'71

See Unity of Universe, 24 Sep'73*

Universe, 1970; May»55; '3 Nov'69; 1954

Unpredicted, 3 Oct'73

Wholes & Parts. 10 Dec'73

Whole System, 28 May¹72

World Game: Grand Strategy, 2 Jun¹74

See Whole of Universe as Minimum Consideration Wholes A. Parts

See Education, 1 Jul` 62

Apple, 24 Sep'76

Scenario Universe, 19 Jul'76

Proofs. 3 Iiay'77

(2)

Technology: Enchantment vs. Disenchantment,

Hunian Beings a Hard Machinery, (1)

Start: SWterc;

See Group Starters Self Starters Beginnings No Start Outset Beginnings How the Mind Starts

See Soroethingness &. Nothingness, 7 Oct*75 Proofs, 7 Oct'75

Start: Starters: Starting:

See Starting with Divergence

Starting with the Minimum

Starting with Parts: The Nonradial Line

Starting Point

Starting with Self

Starting with Universe

Starting with the Whole

See Overload the System, 1\$ May'72

See Hunger

State;

"the addition of the word state to the word 'solid' Implied regularities in an otherwise assumeoly random conglomerate.

- Citation and context at solid state. 13 ><ay'73

See Phase

Prime State

Solid State

Statecraft:

See Scarcity, 23 Feb'72

Statement of the Problem;

See Problem: Statement Of

Static;

"Static and irrelevancies are the sane?

~~Gerhardine
2 April 1971~~

- Citation at Irrelevancies. 2 Apr'71

Static:

"The absolute would be static... experimentally meaningless.

- Citation and context at Absolute. Oct*66

See Twelve Universal Degrees of Freedom; General Systems. (Ill)

Static Frame of Reference:

See Mo Static Frame of Reference

HBF DEFINITIONS

Static Invalidity of Solid Things vs. Empty Space:

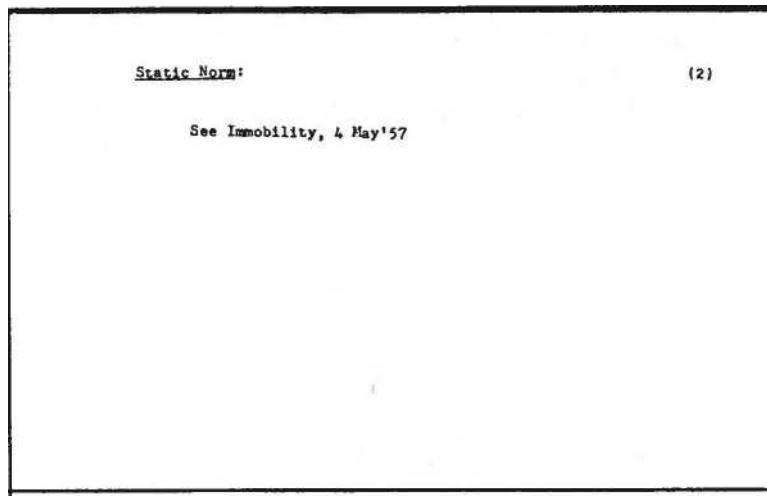
"`./hat we once thought of only statically as 'solid things' vs, 'empty space' becomes that unique program which we have tuned into our tunable set vs, all the millions of nowbeing-broadcast programs which we did not have tuned in (i«e., are tuned-out, but may be tuned-in.)"

- Citation & context at Death, 29 liar'77

Static Horn:

(1)

See Instant Universe



Stacie Synnetrv;

See Axis of Spin, 23 Jan*72

See Behaviorist Word vs. Static Word Children's Pictures of the Sun & the Noon
Dynamic &. Static Immobility Simultaneous Unitary Conceptuality Rest: At Rest
Unarticulated No Static Newton's Cosmic Norm of "At Rest" Instant Universe Single
Frame Takeout

See Absolute, Oct'66*

Chaos, Jun'66*

Conceptuality, 1960

Geometry, 1968

Irrelevancies, 2 Apr*71*

Isotropic Vector Matrix, 6 Mar'73

Mass, 29 Dec'58

Statistics, 1938

Structure Sequence (3)

Precession i Degrees of Freedom, (1)

Future: Kan Backs Into His Future, May'49

Constellar, May'71

Nonsimultaneous, May'71

Machines vs. Structures, 13 Nov'75

Dynamic Equilibrium, 24 Apr'76

Everywhen, 18 Nov'77

tatiatlciandai

"The atatiatidana think alnoat excludalvely in linen or planea.

They are what I call planillnear."

- Citation at Planilinear. 26 Sep'73

Statlatlca;

"Statlatlca are atatic, time-leaa, the blinding dust
of death."

- See NIKE CHAINS, p. 47, 1938

See fobilata

Probability

VitaliaticB

See Planilinear, 26 Sep'73

Communications Hierarchy, (2) Teleology, (3)

RdF UbFINITIORS

Stature:

"A mosquito has macro-micro cosmos system perceptivity at a different level from that of the whale's. Probably each observer organism's stature constitutes its spontaneous observational level of macro-micro subdividing: Bigger than Me; Littler than Me; Within Me; Without Me."

- Citation and context at System Enclosure (1), 20 Feb*73

See Middle: Middleneae

Little Individual: Little Man

ten *0 Halfyay. In Rance of Sic. of all Croaturo,
Humane are One-thousandth of a Mile Tall

Status Quo:

"Evolution is the net irreversible inexorability of change. All else is what men call status quo; Just the ounces of cream of change on the tons of milk of the status quo. Cream soon sours. Cream changes. . .

"Status quo is a multidimensional tapestry of what has been and will never be again, and is ipso facto, no longer existent. It is evident that 99 per cent of society is preoccupied with status quo, ergo with non-reality, ergo ignorantly. . .

"The youth of today are casting off all the so-called educational preoccupations for sustaining the status quo. Youth tends to jettison the status quo asid*, as does the chick breaking out of its egg leaving the shell behind, irreversibly broken. . •

"All the king's own free-enterprise attempts to perpetuate the profitability of the status quo, cannot put Humpty Dumpty together again."

- Cite A Definition of Evolution, po. 4,5. 15 Sep»71

See Dynamic Equilibrium, 24 Apr'76

See Barrel

See Curvature: Simple, (1)(2)

stBaling QI ^Idaaa:

See Anonymity Idea Stealing

Steam Engine:

See Inanimate Energy Power

(1)

See Modelability, (1) Science, Jan*49 Quantum Sequence, (1)

Steam as a Tool:

See Science, (2}

steel, Plato Fractionation:

See Dihedral Angles of Tetra & Octa, 16 Dec'73

(1)

See Jet Engine

Metals: Recirculation Of Rolls

Tensile Strength of Chrome-nickel-steel

Stsal

(2)

Sea Artificial, 12)

Civil Ww (1)(2)

Noun, 1938

Steerability: Steering Effecta:

(1)

See Control

Feedback

Rockets: Steerable Rocketa

Ruddering

Viral Steerability Cybernetics

See Electronic Referendum, 9 Jan'75 Radiation: Speed of_a (D) Spherical Triangle Sequence, (V)(VII) Servomechanism, 15 May*75 Individuality & Degrees of Freedom, (2) Left *k* Right, 7 Nov'75 Veritas, 7 Nov'75

Stein, Gertruda:

See Joyce, Jamea, 19&5

Step;

"We are precessing the Universe every time we take a step.

- Citation and context at Precession. Nov*71

Step:

"Little nan io 00 small, and hia Earth ia bo big, that he doesn't realise that when he steps thia way, he's pushing the Earth the other way."

- Citation & context at Resultant. 22 Jul'71

See Local Change

Tennis Ball Hits the Big Earth Walking

Seo Precession, Nov'71* Resultant, 22 Jul*71* Inertia *20 Dec*71 5
6 Nov*73

Stopping Stonaa:

See Eplatenological Stepping Stones

"Nature uses concave-convex for its step-up, step-down transformations..*. Like the bandings: the red, orange, yellow, green, blue, violet refractions are Just beautiful bendings."

- Cite RBF to World Gamw Workshop, Rainey Auditorium, U. Penn., 23 Jun»7S

ⁿA wave, its presence is communicated by its Interference, apprehended by our tuning capability.

"We have step-up, step-down transformations. The wave you can tune tells you of the wave you cannot tune by the apprehension lags."

- Citation for context at Pattern Integrity, 22 Jan'75

"... Step-up and step-down frequency and velocity transforming instruments... convert the nondirectly tunable frequencies...

into sense-tunable range... Thus is man able to learn about invisible behaviors."

- Citation and context at Motion Apprehension, 1968

OBHB Step-up, Step-down Transformation:

"A pattern has an integrity independent of the medium by virtue of which you have received the Information that it exists—the step-up, step-down transformation medium.^{rt}

- 9-JulITS2 - Citation at Pattern Integrity. 9 Jul'62

See Atomic Computer Complex (9)

Cube: Diagonal Of (1)

Lags (2)

Medium_t 9 Jul'62

Motion Apprehension, 1968*

Pattern Integrity. 9 Jul'62* ; 22 Jan'75*

Principle, 12 Jun'56

Tunability, 9 Jul'62

Visual Symphony (2)

Instruments, 20 Sep'76

Form Cannot Follow Function, 20 Sep*76

Sterile Sterility;

See Procrefttively Sterile

"Six members are required to complete multidimensional stability.**

- Cite Oregon Lecture #3, p. 107, 5 Jul'62
- Cite Synergetics Illustration #11, caption.

- **SEC 6*1- 10 1**

See Teepee-tripod

See Walking, 31 Ilay'71

SUck the Neck. Put:

See Rationalization Sequence, (3)

See Tongue: Go To the Mirror and Stick your Tongue Out

See Local Stiffeners

ABF DEFINITIONS

stillbirth ftf

NVe do have an option to make it. It can bo done. We are coming out of a womb of ignorance. But as you come to birth, it could bo a stillbirth. It is touch and go as to which way wo will go.....

"It la up to you people now to do something vorjfcreat. You have an option. You better do It." '

- Cite RBF to Harvard law School Forum, Cambridge, 10 Dec J 73 as quoted in next day's Crimson

Stillbirth of Humanity:

See Desoverelglnliation Sequence, (8!

See Jet Stilts

See Walking, J1 Kay'71

See Inadvertent Stimulations

Regenerative Stimulations

Stockade:

See Fire, (B); 20 Apr'72

Stock Market:

"New York manufactures pattern abstractions. London's stock market, the Paris bourse, and other world exchanges long predate New York in the exchange of abstract enterprised equities, but New York today centralises all the world's anticipatory discounting of forwardly reckonable values. **

- Citation *k* context at New York City, (6); 1964

See Early Kan

See Fire, (A)(B); 20 Apr'72 Industrial Man, 10 Oct*63 Might Makes Right, 20 Apr*72

stone Falling and it, '3 Colne to Hit You on the Head:

See Trespassing: Not Trespassing

See VAieel, 9 Feb'64

Stone:

(D

See Hunger: Stones do not Have Hunger

Pebble

Rock

Roundness

Wave Pattern of a Stone Dropped in Liquid

Sculpture: Sculptor

See Communications Hierarchy, (1)

Noun, 1938

Orbital Escape from Critical Proxialty, (2)(3) Pneumatic-hydraulic Structures, 22 Aug*70 Push-pull, 28 Mar'77

Quantum Mechanics: Minimum Geometrical Fourness, (1) Twenty Questions, (1) Wood Technology, (1}

Storage Battery Energy:

See Main Engines of Universe

See Sensing, Storing k Intuiting Device Brain Bank Memory Bank

See Experience, i960 Syntropy, (p.145) May*72 Brain, 5 Jun*75

Store:

(*L

n hardware store

See Konkey ./ranch, 9 Jul¹62

Story-Telling;

"... All the permutetire posaibilities of all the possible 'story-telling-taling-tallyimg..."

- Citation and conext at Scheheraaade Number. 18 Jul*72

Story:

See Parable

Straight:

"Man's experiences with curvilinear paths suggested that the wavi-ness could be reduced to straightness. Physics finds only waves. Some are of exquisitely high frequency, but inherently discontinuous because consisting of separate event packages. They are oscillating to and from negative universe, that is to say, in pulsation."

- Citation at Wave, 22 Apr*71

Straight:

"We find that tensions, because they are always curved never can get straight and there is no meaning to the word * straight¹ in Universe."

Simultaneous,

- Citation ® context at 5 Jul'62
- 0TBywr-rBHTlfrpT-JTr7~rMiK

Straight:

"Potentially straight line relationships require instantaneity or actions in no-time, therefore, straight lines are inoperative."

- Cite SYNERGETICS Corollaries, Sec. 240. Oct*59

Straight:

"Physics has never made an experimental discovery of a straight line. Physics has found only waves and frequencies, i.e., angle and frequency modulation.

- Cite SYNERGETICS Corollaries, Sec. 240. Oct*59

Straight;

"There are no straight lines,

"All 'lines,* trajectories, are complexedly curved.

- Cite SYNERGETICS Corollaries, Sec. 240. Oct*59

RBF DEFINITIONS

Straight:

"Potential lines are metaphysically straight.

all physically realized relationships are geodesii and curved trajectories."

- Citation 4 context at Line. Oct*59

See Tools of Geometry

'Straight' as an Invented Word:

See Line: Imaginary Straight Line, 22 Apr*71

See Inventions which Decrease the Degrees of Freedoms, 1965

Straight-line, 180-degree Thinking:

See Ecology Sequence, (H)(1)

for a Kht-ng Shlnmegg:

See Gravity, 23 Sep*73

See Line: Imaginary Straight Line Nonstraight No Straight Line

**See Line, Oct¹⁵⁹* Radiation: Speed Of (C) Simultaneous, 5 Jul*62»
Wave, 22 Apr*71***

See Parting the Strands

Trail

Variable Strands Braiding

Sfer&n/a, Parti cle.g>

See Mites Make All Regular Polyhedra, 27 May* 72

StraXonlc Questions: Inventory Of: (The *40 Questlone*)

What is...?

See (1) Universe

(2) Man: Function of

(3) Thinking

(4) Experience

(5) Experiments

- (6) **Subjective**
- (7) **Objective**
- (8) **Apprehension**
- (9) **Comprehension**
- (10) **Positive**
- (11) **Negative**
- (12) **Physical**
- (13) **Metaphysical**
- (14) **Synergy**
- (15) **Energy**
- (16) **Brain**
- (17) **Intellect**
- (18) **Science**
- (19) **System**
- (20) **Consciousness**

- Cite RBF Ltr. to Doxiadis, U or 0,

LL21) Subconsciousness Man in Universe) (22) Teleology I (23) Automation

- (24) **Tool**
- (25) **Industry**
- (26) **Animate**

- (27) **Inanimate**
- (28) **Metabolics**
- (29) **Wealth**
- (30) **Intuition (31) Aesthetics**
- (32) **Harmonic**
- (33) **Prosaic**
- (34) **Senses**
- (35) **Mathematics**
- (36) **Structure**
- (37) **Differentiation**
- (38) **Integrations**
- (39) **Integrity**
- (40) **Truth**

p. 308, 20 Jun'66

Strategy:

See Grand Strategy

Stratification: Stratified;

See Balloon, 26 Jan*72

Verse vs, Prose, 11 Dec'75

See Reform of Environment Rather than Reform Of

Man. 10 Oct*63

Society: Control Of, 1938

Utopia or Oblivion, 1938

Street C_{grnflr};

See Dynamic Balance, 31 May*71

See New York City, (8)(9)

Houses 4 Infrastructure, 20 Sep'76

Building Industry, (7)

See Tooling of Domes, (3)

See Surface Strength Tensile Strength

Stress;

See Wind Stress k Houses Dome: Aerodynamic Stress of Dome

Stretch-preaa:

See Wichita House, (1)

Stretch: Stretching:

See Balloon PneuaatiCB

See Domains of Actions. 21 Dec>71

Metaphysical Gas, 27 Dec'73

String;

String pulls; you cannot push Btring."

**- Cite RBF to Speech Claei (Per Mike Mitchell notes), SIU Edwaraville,
U Feb'74**

String:

"In the tensegritles . . • you don't have any strings ultimately smallest
solid thread."

- Cite SYNERGETICS draft at Sec. 761.03, 31 Oct'72

String-connected Polyhedra;

See Quantum Sequence, (4)

Ssxlaaj:

See Thread Tie Tensed String

Strip:

See "Come-and-go* Triangulation Pattern Strip Pattern Strip Aggregate Wrapabilities Ribbon Moebius Strip Tetrahedron: Continuous Pattern Strip

gtroboscope: Stroboscopic:

See Frequency Islands of Perception, 13 Nov'75

'>tfhat is your opinion of Noam Chomsky's Structuralism?

Q.

RBF: "'S' is a vary structural sound in any language:

Stop, start, arrest. 'S' is an abrupt change.... Snakes."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb*75

Structural Sequence: (A)

"Speaking in terms of generalised law, structure is the consequence of a complex of six energy events, three dominantly tensive and three dominantly compressive, interacting in a complementary way to produce a seIf-regeneratively stabilised pattern. Contrary to common misconceptioning, even that of engineers, structures are omnidynamic---never static. All special case structural realisations have specific longevities. All structures are entropic, i.e., they give off energy. The energies are often syntropically replaceable. Any and all of what humans identify as substance of any and all structure consists entirely of atoms.

"Atoms are not things. They are energy events occurring in pure principle. Physic® has found no solids, no things. All substances consist of atoms: x-illions of atoms interarranged in inherently coherent patterns, inherent because governed synergetically by generalised pattern integrity relationships. Each and every experimentally evidenced atom is a complex of unique system interrelationships, both internal and external, which reappear as unique special case energy investments manifesting generalised tt.'' pattern integrity principles"

in unique special case scenario continuities."

- Cite RBF Intro, to H. Kenner, "Geodesic Math," p.11, B Sep»75

Structural Sequence: (B)

"Atoms consist of a plurality of unique energy events always occurring as self-interarranging, inherently coherent, persistently regenerative pattern integrity complexes. Physics has no experimental evidence of either the creation or the decreation of energy. Apparently, energetic Universe is eternally regenerative and is ever intertransforming between its syntropic- ally associative and entropically disassociative phases, being either gravitationally dr e stromagnetically cohered as matter, or being convertingly disassociated as radiation, with the dis- associative components being separately particularised in both objectively- and nonobjectively-identifiable components,

"The nonobjectively-identifiables are sometimes only inferenti- ally identifiable as being consistently present at a consistent fractional magnitude. All the intertransformings and conversions are nonsimultaneous and occur at a plurality of unique rates and magnitudes of intensity, duration, and synergetic behavioral proclivities, the sum total of which nonsimultaneous and only partially overlapping transforma-

tions or conversion durations are inherently nonunitarily conceptual and together produce what we have described as scenario Universe, which has neither an inherent beginning nor ending, in contradistinction to any"

- Cite RBF Intro, to H, Kenner, "Geodesic Math," p.12, *ft Sep*»75

Structural Sequence: (0)

"one unitarily conceptual, static, single-frame, terminate picture in a moving picture film strip. Human astrophysicists have ample evidence of the scenario Universe having been in full dramatic operation 10 billion Earthian-Sun-orbit years ago. Anthropologists have evidence of human presence on our planet over three million years ago, which is only 1/3000th of the known-to-be-in-operation scenario.

"Humans have only an 8,000-year-long humanly inscribed record of the human continuity portion of the cosmic scenario, which is only one one-millionth of the known-to-have-been-in- continual-operation cosmic scenario. Humans can make highly probable, exquisitely detailed and accurate million-year astronomical and nucleonomical behavior predictions. Humans cannot make even mildly probable detailed predictions regarding socio-economic Earthian affairs. However, humans can make highly probable half-century-duration engineering predictions regarding humanly contrivable physical structures.

"Human mind can speculate regarding the possible synetgetical significance of the whole cosmic scenario, but human sight and brain can sense only one momentary special case picture at a time

- Cite RBF Intro, to H. Kenner "Geodesic Math," p. 12, 8 Sep'75

Structural Sequence: (D)

"Universe is synergetic. Universe is synergetically consequent to all the generalized principles known or unknown. Universe is not a structure. Universe/filgbraces all structures and more. While a plurality of generalizations governs all structures, realized structuring is always special case. Structures are synergetic consequences of the intimate Interaction of a complex of special case factors. Superficially, structures are unitarily conceptual.

"Scenario Universe embraces all the nonsimultaneous, only local-in-time-and-place structurings, destructurings, unstructurings, and restructurings. All the soraethingnesses are structures. All the nothingness is unstructure. All the somethingnesses are special case. All the nothingness Is generalized.

"Everything we call structure is synergetic and exists only as a consequence of interactions between divergent (compressional) and convergent (tensional) forces."

- Cite RBF Intro, to H. Kenner's "Geodesic Math," p.13, 3 Sep*75

Structure:

"Physics and engineering have never defined the word structure."

- Clta RBF to EJA, 3200 Idaho, Wash., DC; 23 Jan'76

Structure:

"Everybody thinks they know the meaning of the word 'structure.* They point to a stone wall, bridge, or barn, saying 'that's a structure.' But what is really meant by the word structure? What is common to a steel bridge, a wooden bam, a jumbo jet, an iceberg, a starfish, a star ,a fern, a diamond jewel, an elephant, a cloud, and a human baby? They are al¹ structures. Some are more versatile. Some last longer than others. Why? Why does the stone, wood, and steel cohere at all?

"Understanding a little more about structure could lead to a better understanding of the economic and political dilemmas of our time. Political and economic systems are structures, often so ill-conceived as to require constant local patching and mending. Even structural engineering has, as yet, failed to adequately comprehend, define, and cope with structure."

- Cite RBF Intro, to H. Kenner's "Geodesic Math," p.1, S Sep'75

Structure:

"Structure# are always special case. Structures are operational. Operational - physically realised. Structures always have unique size. By definition, a structure is a complex of energy events interacting to produce a stable pattern."

- Citation 4 context at Special Case. 2? Dec*74

Structure:

"Structures are ayatema and have radial depth; wherefore 'surface' triangle etructures are always truncated tetrahedra

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1071.28, 26 Dec'74

Structure:

"The triangle is structure. Structure is spontaneous pattern stabilisation of a complex of six individual events, structure is an integral of six events. Structure is a pattern Integrity Pattern integrity is conceptual relationship Independent of die. The integrity of the nuclear structuring of the atoms is conceptually thinkable as are the associablity and disassociability proclivities of chemistry, virology, biology, and all the nonbiological structuring ana mechanics."

Liu)

- Cite SINEKOETICS text at S«c. 905. ly, 16 Dec >73

Structure:

"We may say that structure is a self-stabilising, pattern integrity complex. Only the triangle produces structure and structure means only triangle, and vice versa."

- Citation & context at Necklace. (C), 9 Nov'73

Structure:

"A structure is a system of dynamically stabilized self-interfering and thus self-localizing and recentering, inherently regenerative constellar associations of a minimum set of four energy events."

- Cite SYNERGETICS text »t S«c. 600.03; 3 Oct'72

Sfruttur* •-

"The word structure Beans a complex of events which interact to produce onmlangular interstability. **

- Citation and context at Triangle,. Aug'72

Structure:

"All structural phenomena are accounted in terms

of the tetrahedron, octahedron, vector equilibrium, and icosahedron."

- Cite Oregon Lecture #5, p.179. 9 Jul'62 as rewritten by RBF 30 May*72 to substitute "Structural" for "physical," See Physical, same citation.

- See SYNERGETICS Corollaries, Sec. 240.66, June*72

Structure:

"The synergetics definition of structure is the pattern self-stabilization of a complex of events with a minimum of six functions as three edges and three vertexes, topologically speaking."

- Cite RBF dictation to EJA re SYNERGETICS, SEC. 251.

Washington, DC, 21 Dec. »71.

Structure;

•*« Mathematics is the science of structure and pattern in general.' Structure is defined as a locally regenerative pattern integrity of Universe. We cannot have a total structure of Universe. Structure is inherently only local and inherently regenerative."

- Cite SYNERGETICS text at Sac. 606.01; Nov»?1

Structure;

"By structural we mean energy patterns Y/hose polygonal patterns are self-stabilising; that is exhibiting inherent properties of the mass attractions and mass repulsions of the radiational and gravitational laws.

We discover that the triangle is the only self-stabilizing polygonal pattern integrity."

- Cite RBF dictation to Alexandra Snyder, New Delhi, Nov.

"And we use the word structure a great deal. I want it to have real meaning when I use the word structure. This consists of six independent parts, three flexible angles and three rigid edges. Push-pull members, they're called. A structure is a complex of events which interacts in such a manner as to produce a stable pattern. And this triangle--- and a triangle alone--- will produce these conditions, in other words, when I use the word structure, it turns out to be uniquely the triangle. Everything you say you recognize, means that you recognize a pattern. The recognizability of the pattern must go back to some triangles.

- Cite Students international meditation Seminar,
U. Mass., Amherst, 22 July • '71, RDF Transcript

Structure:

**We describe structure as complexes of energy events which interact to produce a stable pattern and we have discovered that the triangle is the only such interaction."

- Cite KBF at SAMS, U. Mass., Amherst, 22 July '71, Talk 12, p. 19.

Structure:

"Two or more structures may be concentric and triangularly interconnected to operate as one structure."

Cite RBF to EJA, Beverly Hotel, N.I. - 19 June 1971 Add on to Synergetics at Sec. 224.03/

SrflucTuAt- SEC. tot. 03

Structure

"Structural systems are local, closed and finite. They include all geometric forms, symmetric or asymmetric; simple or complex. Structural systems can have only one inside and only one * outside."

— Cite Synergetics draft- at Sec 224.03 - 19 Jun 1971

JTrfvCTvftt- 60.02 + fcol. 01)

RBF DEFINITIONS

Structure:

"Structures are pattern conservations."

- Citation & context at Regenerative. 15 Mar*71

Structure:

"A structure is a self-stabilising energy-event complex

- Cite SYNERGETICS text at Sec. 600.02; Mar'71

Structure: *

A structure is "a self stabilising energy complex." r

- Cite Inscription 6n 'Ekistics* by RBF handed to EJA 8 February 1971, Sarasota, Florida.

or /?*r -KHM'ii

\$Tiuc.r«jje-GOk®

Structure;

"Structures are systems of dynamically stabilized self-interfering, and thus self-interpositioning, inherently regenerative conatellar associations of energy events."

- Cite RBF as corrected in SYNERGETICS drafts, Feb k Mar '71

Structure:

"By structure we mean omnitriangulated."

- Cite RBF to EJA Beverly Hotel New York 7 March 1971

Tiri AtlCUb A T>t>M~5EC~

wi;

"By structure we mean self-stabilising. The triangle is the only self-stabilising polygon.*

QLte NEHRU SPEECH, p. 14, 13Nov'69

"Systems of dynamically stabilised self-interpositioning

energetic events."

- Cite "Word Meanings," EKISTICS, Vol. 28, Oct. *69

STtvcrr«€ - s£c 601.0

Structure;

"...Now I have a fourth ball that comes around in there and it nests on top of the first three. Now it can no longer even evolve and, for the first time, all motion is blocked. This makes a tetrahedron. This is where stability begins. The tetrahedron is where the triangle gives what we call a * structure.¹ or something that doesn't change its pattern any more. It was dynamic up to that time."

- Citation and context at Balia Coming Together (2), 25 Feb'69

Structure:

"A structure is a system of regneratively recentering and localizing interactions of a minimum of four energy events.

"Inasmuch as there are always and everywhere twelve fundamental degrees of freedom (six positive and six negative) and since every energy event is characterized by a three-fold vectoring-- an action, a reaction and a resultant--- all structures, symmetrical or asymmetrical, regular or irregular, simple or compound, will consist of the twelve-folded ness or its various multiples.

"A structure is a regeneratively self-localizing interactive set of energy events."

- Cite RBF Holograph, "Stuucturesdated 25 December 1968

\$Ec,4ol 4-5CC koS.o|

Structure:

"There is nothing in nature but structure."

- Citation and context at Trees (I), 7 NOT*67

Structure;

"The number of edges are always divisible by six in a structural system."

□ Cite P. PEARCE, Inventory of Concepts, June 1967

'SjitycnMC'- tf |fl

Structure:

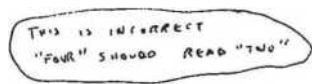
"Structure is a pattern of inherently regenerative constellar association of energy events."

- Cite RBF glossary of terms (P.Pearce) in Synergetics draft 1967

RBF DEFINITIONS

Structure:

"The number of vertices are always divisible by four in a structural system."



" Cite P. PEARCE, Inventory of Concepts June 1967

Structure:

"The triangle is the only structure, unlee it is self- re gene rati vely stabilised it is not a structure."

"Everything that you have ever recognised in the universe as a pattern is re-cognited as the sane pattern you have seen before. Because only the triangle persists as a constant pattern any recognized patterns must be recognizable only by virtue of being a triangle or a complex of triangles. This is the only possible basis of recognition. Only triangularly structured patterns are regenerative patterns. Triangular structuring is a pattern integrity itself. This is what we mean by structure."

- Cite NASA Speech, p. 54. Jun'66

- SFc Ct o. ol4- c>3~]

structure Sequence; (1)

"What do we mean by the word structure? I have pondered on it a great deal and have decided to define 'structure' literally from a descriptive consideration of its natural occurrence--- for instance, its occurrence in chemical elements--- for the family of chemical elements and their most complex agglomerations as super star galaxies are alike fundamental structures. It is clear in the results of modern scientific experiment that structures are not things.

"We might define structures descriptively as patterns of inherently regenerative constellar associations of energy events. That sounds intricate and obscure at first so perhaps I had better explain what I mean by each of the terms.. For instance, by inherent I mean behavior principles discovered by man always to be reliably operative in Universe under a given set of circumstances. I use the term regenerative because in an all-motion Universe (which Einstein posited and the physicists in due course found to hold true), all the patterns of the Universe are continually but nonsimultaneously affecting all the other patterns of Universe in varying degrees and are continually reduplicating themselves in unique local configurations-**

- Cite Conceptuality of Fundamental Structures (Kepes) p.66. 1965
(Further elaborated in SYNERGETICS at Secs. 601.01,62, j Oct'7<

Structure Sequence

(2)

"Patterns. These patterns may be described (Fig, 1) as constellar because their component events stand dynamically together like star groupings, and any event patternings which become locally regenerative are constellar patterns. It is a tendency of patterns either to repeat themselves locally or for their parts to separate-out to join severally or singly with other patterns or to form new constellations.

"All the forces operative in Universe result in a complex progression of most comfortable (i.e., least effort) arrangements in which the macro-medio-micro star events stand together here and there as locally regenerative patterns. I call these spontaneously regenerative local constellations basic structures since they appear to be universally and inherently recurrent. This definition of structure holds true all the way from whole nonsimultaneous Universe through all the lesser local and inherently regenerative pattern differentiations down to the atom and its nuclear subassemblies."

Z~See MIT Sequence_7

- Cite Conceptuality of Fundamental Structures (Kepes), p.66. 1965
(Further elaborated in SYNERGETICS at Secs. 601.01,02, 3 Oct'72

Structure Sequence; (3)

"Now you know what I mean by structures as the inherently regenerative local constellar subpatternings of Universe, Since by my own definition Universe is the historically synchronous aggregate of all men's consciously apprehended and communicated (to self or others) experiences, and since the experiences are each finite but nonsimultaneous, Universe is a nonsimultaneous yet dynamically synchronous structure, which is unitarily nonconceptual as of any one moment, yet as an aggregate of finites is sum-totally finite. Thus we realize that finite structures are mostly nonconceptual in any momentary sense , though certain local structures in Universe are momentarily conceptual, such for instance as the continually transforming historical aggregate of men's experiences packaged together in the words "Planet Earth." This may be a difficult introduction to the subject of structures but it sets the stage for further thought searching on a subject

whose heretofore illusory 'static solidness' has completely misled human thought and occasioned the last century's discoveries of science to be perversely surprising information seemingly to be dealt with only by geniuses."

- Cite Conceptuality of Fundamental Structures (Kepes) p.6fl, 1965

Structure;

"Structures most frequently consist of the physical interrelationships of nonsimultaneous events."

- Cite SYNERGETICS text at Sec, 606.02; from Rapes book caption, 1965

Structure:

"Univerae structures most frequently consist of the physical interrelationship of nonsimultaneous events/*

- Cit KEPES, Caption to "Four Hocket Bursts" picture. 1965

Structure;

"One of the deeply impressive things about structures is that they cohere at all---particularly when we begin to know something about the atoms and realise that the components of atoms are really very remote from one another, so that we simply have galaxies of events. Man is deceiving himself when he sees anything 'solid' in structures."

- Cite SYNERGETICS text at Sec. 606.03; from Lodgment lecture, 15 Oct'64

Structure:

"One of the things thatm used to impress me deeply regarding structures, in the first place, is their cohering at all--- particularly when we begin to know something aboht the atoms and realize the components of atoms are really very remote from one another, so that we simply have kinds of galaxies of events going on • • and I feel man is deceiving himself quite a lot about something he calls 'solid' in structures."

- Cite LEDGEKiONT LAB Lecture, 15 Oct. '64, p. 29

S-rrtvT-ukE- set

Structure:

"All structure is a transformative phase or complex of tetrahedral transformations."

- Cite I&I, DOMES, p. 166. 1961)

"All structures are tensegrlty structures fro* the solar syste* to the aton."

- Cite OREGON Lecture #6, p. 197, 10 Jul'62

Structure;

"Mathematics 1b the science of structure and pattern in general. I have to have some definition of this so I call it a regenerative pattern, a local pattern of Universe. It la not total Universe because that is simultaneous.

I can't have a total structure of Universe. It is Inherently local and inherently regenerative. That is what I mean by structure."

Z~^A structure in -s4<m>ltanHnue else S'rJ—

- Cite Oregon Lecture #3, pp. 10tJ-109. 5 Jul'62

STRUCTURE C 6ot». c>|\

Structure:

"We may define structure as a local and finite system of energy events of physical Universe consisting of a patterning of interaimed or intervectoriallyfrequency-synchronized, associative and disassociative interferehces omniproccasionally resulting as a pattern-regenerative constellation of system- inward-angled vectors, in dynamically symmetrical, processional constellar equilibrium.¹

- Citation and context at Radome Sequence (3), 29 Dec'58

Structure:

•Inasmuchs there are always and everywhere 12 fundamental degrees of freedom (six positive and six negative), and since every energy event is characterized by a threefold vectoring- an action, a reaction, and a resultant---all structures, symmetrical or asymmetrical regular or irregular, simple or compound, will consist of the twelve-foldedness or its various multiples."

- Cije gYNEggETICS text at Sec. 605.01; from RBF holograph

Structure:

"The establishment of a close connection between algebra and geometry was, in the mind of Descartes, a part of his search for a universal mathematical science which was to be only the prelude of a universal science of an all-embracing character. It grew out of a love of truth for its own sake. In geometry we seem to have emphasized this motive." R.D. Carmicchael, "Motives for the Cultivation of Mathematics," p. 186, Scientific Monthly. Sep'50

RBF has written in margin of above:

"Extrapolated into structure it must induce this love upon its environmentally augmented beings."

- Cite RBF in MIT Notebook, 1 Oct'49

Structure:

"... The energetic magnitudes of variable stresses and flows. Thses interactions are known as structures and mechanics."

- Citation and context at Reciprocity (4), May'49

"The vector equilibrium la indeed a system and not a structure, but it is involved in structural accounting because, through its jitterbug phases, it can transform into structural phenomena."

- Cite RBF to EJA; in specific response from latter's query whether vector equilibrium really belongs in Sec. 240.66; 3200 Idaho, Wash DC, 12 Nov'74

"All structural phenomena are accounted in terms of tetrahedron oc-tahedron, vector equilibrium, and icosahedron."

- Cite SYNERGETICS text at Sec. 240,66, per draft Jun'72

See Physical, 9 Jul'62 Structure, Jun'?2 Prime Vector, (1)

"Only number can self-communicate as structural or destructural as-sociabilities."

- Citation at Self-communicate, 15 May'72

See **Generalization k Special Case, 23 Jan*77**

"Triangulation is fundamental to structure, but it takes a plurality of positive and negative behaviors to make a structure For example:

- always and only coexisting
- ion k tension);
- always and only coexisting

- always and only coexisting
- always and only coexisting
- always and only coexisting
- always and only coexisting
- always and ohly coexisting

ceptuality;

-- always and only coexisting eternal conceptuality.

text

push and pull (compress

concave A convex;

angles and edges;

torque t counter-torque; Insiden#88 k outsideness axial rotation poles;

conceptuality k noncon-

temporal experience and

- Cite SYNERGETICS_{at} Sec. 610.11, Oct'73

Stmtwraj Functional

See Energetic Functions Inventory of Proclivities

Sas De-structurss

Destructuring

See Equilibrioua, 23 Jan'72

"Euler treated with the surface aspects of foras rather than with their structural integrities."

- CJte SYNERGETICS draft at Sec. 1006.12, 30 Jan'73

"Synergetics introduces angular topology as both central angle and surface angle phenomena with the surface angles accounting for concavity and convexity and the thereby aerived structural integrity of systems."

- Cite RDF to EJA, Washington DC. 21 Dec. *71 Incorporated in SYN-ERGETICS at Sec. 2\$1.lh

See Necklace, 22 Jul¹71 Tidal Dec'61 Object, 9 Nov'73

Structural lay:

See Structure: Law Of

See Dictionary May'71 Consideration, 1965

See Action-reaction Juxtaposition, May'49

Mechanics, May'49 Structure, 16 Dec*73

"` The Department of Mathematics at M.I.T. states categorically the following:

Mathematics is the science of structure

and pattern

"I will state our case in terms of an omnidirectional pattern--- an isotropic vector matrix--- rather than in the more usually employed linear or planar patterns, and thus satisfy M.I.T.'s primary mathematical premise of structural patterning, which structure is inherently an omnidirectionaal plural wavelength and frequency event system."

- eite-fctr; Vo 'JTffT Fit'zgibDon f ?) .-ftaleigh-KOj-pp*jj J4 > undated

• Citation and context at Omnidirectional Pattern, undated

Structural Performance & Size:

See Geodesic Structure, 31 Oct*?2

"Six edge vectors - one tetrahedron. One tetrahedron * one structural quantum.

1 tetrahedron (volume 1) " 6 edge vectors - 1 structural quantum;

1 octahedron (volume 4) • 12 edge vectors - 2 structural quanta;

1 icosahedron (volume 18,51) □ 30 edge vectors □ 5 Structural quanta.

Therefore:

with tetrahedron, 1 structural quantum provides 1 unit of volume;

with roctahedron, 1 structural quantum provides 2 units of volume;

with icosahedron, 1 structural quantum provides 3.7 units of volume."

- Cite SYNERGETICS text at Sec. 611.02; galley rewrite 9 Nov*73

"If the system's openings are all triangulated, it la structured with minimum effort. There are only three possible omnisymmetrical, omnitriangulated, least-effort structural systems in nature. They are the tetrahedron, Octahedron, and icosahedron. When their edges are all equal in length, the volumes of these three structures are, respectively, one, requiring one structural quantum; four, requiring two structural quanta; and 18.51. requiring five structural quanta. Six edge vectors equal one minimum structural system: 6 edge vectors - 1 structural quantum.^M

- Cite SYNERGETICS text at Sec. 611.01; 3 Oct*72

See Volume-structure Ratios

See Structural Quanta, 9 Nov'73

Icosahedron: Subtriangulation, (1)(2)

Unite of Environment Control, 9 Nov'73

See Atomic Triangulated Substructuring: Hierarchy Of 19 Dec'73

Icosahedron: Subtriangulation, (1)(2)
Units of Environment Control, 9 Nov*73
Open Triangular Spirals, Nov'71
StrueWO YB» ftOfOXOQ!
See Science as a Tool, Sep*72

See Dome House: Separation of Mechanical Service Core &, Structural Shell

Geodesic Dome

Turtle Dome

"Structuring stability is accomplished by triangularly balanced energy investments."

- Citation and context at Planck¹» Constant (A), 1} Hay'73

See Pattern Stability

Tensegrity: Stability Requires Six Struts

Three-way Great Circling: Three-way Grid

ACi

See Prime Volumes, Apr*72

"Every triangle has two faces: obverse and reverse. Every structural system has omniintertriangulated division of Universe into insideness and outsideness."

- Cite SYNERGETICS text at Sec. 610.13; RBF galley rewrite 9 Nov'73

"If we want to have a structure, we have to have triangles. To have a structural system requires a minimum of four triangles. The tetrahedron is the simplest structure,"

- Cite SYNERGETICS text at Sec. 610.12; Nov'71

"Structural systems are cosmically localized, closed and finite. They embrace all geometric forms---symmetricBM and asymmetric, simple and complex."

"Structural systems have only one insideness and only one outside-ness.

"Two or more structures may be concentric and/or triangularly---triple-bondedly---interconnected to operate as one structure. Single-bonded (universally Jointed) or double-bonded (hinged) means that we have two flexibly interconnected structural systems.

"All structuring can be topologically identified in terms of tetrahedra."

- Cite SYNERGETICS text at Secs. 602.01-.03 and 603.01; Nov»71

*In a structural system

- (a) the number of vertexes (crossings) is always evenly divisible by two;
- (b) the number of faces (openings) is always evenly divisible by four; and
- (c) the number of edges (trajectories) is always evenly divisible by six."

- Cite SYNERGETICS, "Corollaries," Sec. 240.64. Oct*59
riSicmKe - lot.01)

"In a structural system there is only one insideness and only one outsideness."

- Cite SYNERGETICS, "Corollaries," Sec. 240.62. Oct»59

S-rXvcrv— 5EC 4el.oj]

See Design Covariablee: Principle Of, 1959 Norn: Tetrahedron as Nona, 15 May'72 Scenario Principle, 1959

Structuring;

"... All structuring can be identified in terms of tetrahedra and of topology."

- €1tn rmONPALK DRAFT TV.Afi
 - Citation It context at Universe, (p.62) Jun*66
- 6TR»_trvR.e -SEc

Sea Atomic Structuring Chemical Strueturfng Cosmic Structuring De-
structuring Ideal Structuring Molecular Structuring Primitive Struc-
turing Reality: Structuring ae the Only Reality

See Science as a Tool, Sep'72
Universe, Jun*66*'

Building

See Complex Structure De-structuree Dome Invisible Structure
Limit Structural Transformativ Tendencies Local Structure Mast in
the Earth Member Mnimum System: Minimum Structural System
Organizational Structure Physical vs. Structural Primary Structure
Prime Structural Systems Omniintertriangulated Pyramid Technol-
ogy Radome Sequence Reality as Structural Interaction of Principles
System vs. Structure

See Spherical Structures Stable 1 Unstable Stability Surface Strength
of Structures Tetrahedron as Minimum Structural System Trees Trian-
gle: Triangulation Free Energy vs. Structure Geodesics vs. Structure
System & Structure Surface Triangle Structures Prime Nuclear Struc-
tural Systems Sum-total Structures Unstructurings 4 Restructurings
Pattern Conservation, Machines vs. Structures Mechanics vs. Struc-
ture Infrastructure Omnistructured

See Balls Coming Together, (2)*

Chemistry, Jan¹59

Coherence, Apr'49

Concentricity, 1959

Conceptuality, 24 Apr*71
 Constellar. May'71
 Cyclic Bundling of Experiences, May'49
 Euler, Sep'58
 Lever Complexes, 31 May'74
 Life, 7 Apr'75
 Mathematics, 1965
 Radome Sequence. (3)*
 Reciprocity, (4)*
 Regenerative, 15 Mar'71*
 Shunting & Reshunting, Dec'61
 Trees, (I)*
 Triangle, Aug'72*
 Metaphysical & Physical, 13 Nov*75
 Environment, 29 Mar'77
 Tetrahedron, 26 Apr'77
 Restraints, 8 Aug'77

See Structural Associability Structural Functions Structural Instability Structural Integrity Structural Law Structural Pattern Structural Quanta Structural Stability Structural System Structure: Law of Structure Structuring Structure vs. Reflexes Structural Accounting Structure & Mechanics Structure of Meaning Structural Quanta vs. Volumetric Quanta Structural Performance & Size Structural Shell Structural Conceptuality

Strut

ⁿk strut is comparable to a vector energy action and its

end is pulled by the center of mass of the next vector strut.

- Cite RBF in Tel Aviv Address (Zodiac 19) Dec *67

Strut;

"It is a synergetic characteristic of minimum structural systems (tetra) that the system is not stable until the last s.XHt is introduced. Redundancy cannot be determined by energetic observation of behaviors of single struts (beams or columns) or any chain-linkage of same which are less than six in number, or less than tetrahedron."

Cite RBF undated holograph on M.I.T. memo pad. (1950's)

Ten 1 ec itY - » N LI *. o 3

Strut:

See Column

Mast

Tensegrity: Miniature Tensegrity Masts

Tensegrity Clothesline

Push-pull Member

Joints, Windows it Struts

See Edge, 28 Oct*72

Vectors 4 Tensors, 19 Oct*72

Dome Over Manhattan, 28 Jan*75

Minimum System: Minimum Structural System, Nov*71

Hex-pent Sphere, 15 Sep*76

Study;

"Einstein, when he wanted to study, didn't sit in the middle of a schoolroom."

- Cite I SEEM TO BE A VERB, Queen, May »?0 (Not in Bantam edition)

Studying:

Subconscious:

"Subconscious: All I know is that without my subconscious— extraordinarily reliable phenomenon—that I say what is the name of that man? or the name of something? and this feedback suddenly comes back, the searching capability is really very magnificent.

"I tell myself that I want to wake up at such and such a time or second. I will do that. Much of my experience of Inventing and exploring physical problems comes to a terminal condition on a given day but I know what it is that I need to discover. I'm very liable to wake up with the answer because the subconscious goes right on processing. So the subconscious is something very impressive. I think we are very much misapprehended of the magnitude of the subconscious and conscious. I think we are probably 99.999 percent subconsciously operative. With no awareness of / ? If I had to consciously take care of all the self-replacing of myself and my fingers, etcetera we would have no down time at all. I have processed over 1000 tons of air, food, and water that became temporarily a part of the organism."

**- Cite transcript p. 8, RBF taped interview with Dr. Michael Bruwer,
Ritz Carlton Hotel, Chicago; 20 Feb'77**

Subconscious:

"Subconsciously must mean operating pre-designedly in reference to an ideally designed complex conceptioning

CM operation, such ideal design being typified by, for -

instance, the conceptual pattern integrities comprised of sizeless triangulations of critical proximity events which exhibit progressively slowing transitions from relatively §

great size orbital precessioning self-interfering themselves -⁰

C into relatively small size, local mass attraction orbiting, 3 p thence into an even more local fall-in proximities, and into one or another of their Inevitable interference

10 pattern alternatives, as for instance, smash-ups reflections, * refractions, and coalescing adherences." ¹

- Cite RBF marginalia At Eccles' "Facing Reality, VII, 14 Feb »72

Subcop?.glQug;

"Subconsciously must mean predesignedly, in reference to an ideal design complex conceptioning, such as that of the pattern integrities, i.e., sizeless triangulation* of critical proximity progressively slowing transitions from major-scale orbital precessioning going into minor-scale mass attraction of local orbiting, and even more local fall-in interference pattern alternatives of smash-ups, reflections, and refractions."

- Cite RBF marginalis at Preface VII, Eccles! 'Facing Reality,' 14 Feb'72

SubconsciousBB:

"Processes most often with subconsciously coordinated reflex routines."

-OTO NO MORL GUOOFfi ItiVWD OO&r .10?.

- See p. 36 NO MORE SECOND HAND GOD 9 Apr'40

"• • • Thinking is a very special kind of conscious self-disciplining of the awarenesses emerging from the subconscious, that is: the spontaneous (originally programmed) brain processes' handling of its myriad experience data in respect to its brain integrated digest of its moment-to-moment new experiences and the progressive strategic choices of actions or non-actions taken in respect to them.*' ..."

"We have all experienced saying 'What was our mutual friend's name? We both know it well!* And tomorrow you recall it about the same time that I recall it. The process was subconscious. Our feedbacks have lags. They are not instantaneous."

- Qi±srt*AS*“ ’3peech, “pp Junl&i-

- Citation and context at Thinking (A)(B), Jun'66

Subconscious Coordinate Functioning:

'To such an extent does man belittle in man's importance that he doesn't realize that he is himself almost completely automated, that he is subconsciously coordinated and motivated and also part of an immensely evolving totally new era gestation process to be realized in magnitude beyond man's conception."

- Cite AAUW JOURNAL, May 1965, P. 174

"By my calculations there is mathematical probability that progressive mastery by man of the physical coordinates of nature and their progressive subordination by man as separate categories, and subordination to total abstract concepts, may indeed be trending historically to permit the integral being of the child to remain unfractionated throughout the total life span. For instance, we are unaware of our own tongues until we bite them. When in health and 'good form' the total myriad component functions of our physical organic being are entirely subordinated to subconscious coordinate functioning. commanded by the integrity of the individual life, When life has departed, the full physical inventory remains--- useless, reminiscent, but that is all. That is the way I see things, I am convinced that creativity is a priori to the integrity of universe and that life is regenerative and conformity meaningless."

- Cite lioXICU, p. 103, 10 Oct »63

Subconscious Coordination:

"By my calculations there is mathematical probability that progressive mastery by man of the physical coordinates of nature, and their progressive subordination to total abstract concepts, may indeed be trending historically to permit the integral being of the child to remain unfractionated throughout the total life span. For instance, we are unaware of our own tongues until we bite them. When in good health and good form, the total myriad component functions of our physical being are entirely subordinated to subconsciously coordinated functions of the regenerative pattern of the whole individual life."

- Cite THE PROSPECT FOR HUMANITY, WDSO Doc. 3, p. 76, Aug'64
See Automation of Metabolic & Regenerative Processes

Man's Conscious Participation in Evolution

**Human Ecology Transformations Human Tolerance Limits Feeling
Good**

See Coral Reef, May⁸68

Health, 10 Oct'63

Environment Events Hierarchy (2)

Invisible Architecture (E)

Adam & Eve, 2 Jun*74

Evolution, i969

Lose: Discovery Through Loss, 2 Nov*73

Conscious & Subconscious, i960

Order & Disorder, 1964

Subconscious, 20 Feb'77

Subconscious Sorting:

See Sleep, 11 Feb'73

Sub-Subconscious Integration;

See Intuition, Oct*66

Subconscious:

See Conscious & Subconscious

Reflex Unconscious Omnisubconscious

SubCQfffiClQMg:

(2)

See Individual Man, 10 Dec*64

Macro-micro, Dec'72

Poete, 1970

Reading, 29 May'72

Teleology, 26 Jan'72

Telepathy, 29 Jun'72

Thinking, 1 Feb'75

Tunability: Intra t Ultra, 1954

Civilization, May'44

Fuller, R.B.: Moratorium on Speech, (1)-(3) Communication, 21 Jun¹77

See Human Being, 30 Oct*73

McytUgt

"Angle la subcyclic— that is fractionation of one cycle."

"Angular relationships are subcyclic; ergo, subfrequency; ergo, independent of size."

- Cite SYNERGETICS, "Corollaries," Sec. 240. 53 54. Oct'59

Subcyclic:

See Angle, Jun»?1

Subdifferentiable:

See Point, 9 Jun*75

See Bite: Biting Differentiation Dimensional Growth First Subdivision of Universe Fraction: Fractionation Groat Circle Subdivisions Infinity & Finiteness - Frequency Modular Subdivision Multiplication by Division Triangling Wholes i Parts Halving Spin-halving System-halving Dichotomy

Subdivision: Subdivj,slbHlsy.:

(2)

See Conceptuality Independent of Sixe & Tiae, 2 Jun'74

Local, 6 Jul'62

Patent, 1955

Pattern, 1954

Scenario Principle, 1959

Starting with Universe, 7 Nov'73; 31 May'75

System, 24 May'72

Unity of Universe, 24 Sep'73

Universe. 16 Jun'72

Dynamic Symmetry, (1)---(3)

Omnirational Control Matrix, 12 May'75

General Systems Theory, (2)

Dymaxion Airocean World Map, (b)-(i)

Microsystems, 22 Mar'76

Multiplication by Division, 20 Jan*77

Subentity:

See Prime Otherness, 24 Sep*73

Subfrequency:

"Frequency and size are the same phenomena. Subfrequency prime tetra, prime octa, and prime icosahedron are each constituted of only one edge module per each triangular facet. While generalizably conceptual the prime structural systems and their prime domains, linear, areal, and volumetric, are inherently subfrequency, ergo independent of time and size.*

l-tz]

- Cite SYNERGETICS draft at Sec. 101117 Feb'73

Subfrequency: (1)

"The vector equilibrium is an interesting kind of geometry because, just looking at it as a model we see a square, a square, a triangle, etc., starting at a common center all the vertexes are equidistant from the same center in a one-frequency system. The word frequency would never relate to the word one, incidentally, because frequency involves some plurality of events. Therefore, frequency would begin at two, so sub-frequency and what I spoke about yesterday, a sub-size, we begin to have frequencies for size. Therefore, vector equilibrium is really subsize. It doesn't have size, if it looked like this and every edge were divided into two and interconnected, then it would be a two-frequency system and all the radii would have two increments. It is a single system and yet it has a tetrahedral volume of 20, whereas the cube, when the edge module is one, the volume is one. When the edge module of a cube is two, then the volume is eight. So looking at vector equilibrium as unity— as all the domain of a point, and so forth, we find that it has a volume of . . . I developed an intuitive feeling long, long ago that the word unity was inherently plural. How could you have unity in the singular? That concept changed quantum in wave mechanics. . . I am giving you a way that you have to look at unity as being tetrahedra of 20; and if I am

Subfrequency: "talking about A and 8 particles, I have to talk about unity as 480. Unity starts as 480,"

- Cipe Oregon Lecture, #8, pp.286-287, 12 Jul'62

Subfrequency:

"Angular relationships and magnitudes are subcyclic;
ergo, subfrequency. ergo independent of site."

- Cite SYNERGETICS "Corollaries," Sec. 240.54. Oct'59

Subfrequency:

"Prime means the first layer. It does not have frequency.

It is subfrequency. One is subfrequency. Frequency begins with two. Frequency and size are the same phenomena. Subfrequency prime tetra, octa and icosahedron consist of one vertex and an edge module of one."

- Cite RBF to EJA, Bear Island 23 August, 1971. Synergetics draft Sept. '71, Sec. 882.1

See Prefrequency

Subsize Prime

See Equiangularity, 25 Sep*72

Prime, 1? Feb*73; 18 Dec'74

Vector Equilibrium, 23 Aug*71

Vector Equilibrium Involvement Domain, 10 Dec'75

Nuclear Cube, 11 Dec'75; 23 Feb'76

Potential vs. Primitive, 12 May'77

Subgeneralization:

See Geodesics & Tensegrities, 9 Sep*74

"Unity does not mean the number one.... One does not and cannot exist by itself. In Universe life's existence begins with awareness. No otherness: no awareness. The observed

requires an observer. The subjective and objective always and only coexist and therewith demonstrate the inherent plurality of unity: Inseparable union."

- Citation & context at Geometrical Function of Nine. (1)(2).

16 May • 75

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• • The subjective sensitivities of including and refining understanding, and the objective coordination of the organic whole toward articulating with specific clarity and economy: all the truth of synergy as well as nothing but separate truths of each specialisation."

- Citation and context at Creativity. 10 Apr*73

"Science identifies as subjective and objective, respectively, the inadvertently experienced stimulations of life, on the one hand, and the deliberately initiated and experimentally instituted responses to the subjective stimulations..."

- Citation & context at XYZ Coordinate System (A), U Sep'71

- EM-IT¹ ~~hole~~giuLph.

RBF DEFINITIONS

Subjective *k* Objective:

Experience ie subjective; experiment ie objective.

(Adapted.)

« Citation & context at Linear *k* Curvilinear. Jun*66

MB Sub jective A Objective:

"Angle and frequency modulation, either subjective or objective in respect to man's consciousness, discretely define all events or experiences which altogether constitute the universe."

~~Dyuwun~~ $\rightarrow p^r = TB_t$ ~~dun'b~~

Citation at Angle *k* Frequency Modulation. Jun'66

"Conceptuality ie subjective: reallxation ia objective."

(adapted)

- Citation *ft* context at Description. Jun'6b

- .liin-rSS:

"Mathematical concepts of group phenomena may be acquired in principle by the willingness, subjectively initiated, of the individual to be governed by the integrity of progressive conceptioning principle---the objective synchronisations are Implicit and unavoidable competence and comprehensive, realizable design will result. Let us pursue further the conceptioning in specifics of group principle."

Citation &. context at Periodic Experience, (1), May'W
Subl8ct,jy» * ObleatlTo:

See Brain t Mind

Objective Intellect Voluntary k Involuntary Individual t Group Principle

See Acceleration: Angular & Linear, i960 Aesthetics, Dec*69 Angle & Frequency Modulation, Jun'66* Brain. 19 Mar'70; May'72 Creativity, 10 Apr*73* Description, Jun'66* Design (1); 9 Apr»71; 22 Apr'68 Design Science. 13 Mar*73 Evolution, 1971 Frequency Modulation, Jun'66 Generalised Principle (A) In, Out & Around, 1968 Linear A Curvilinear, Jun'66* Metaphysical & Physical, Oct*71 Now, 7 Nov*73; 19 Oct'70 Science: Pure & Applied, 13 Mar'73; 14 Sep'71 Teleologic Conversion of Information, 6 Jun'69 Teleology, 20 Jun*66 XYZ Coordinate System (A)*

See Happening, 20 Jon'66

Standard of Living. 10 Oct'6} Transformation, 19o0 Size Selective, 30 Nov'72 Universe as Energy &. Information, 11 Nov'74 Intellect in Physical Universe, 10 Oct'63 Periodic Experience, (1)*;(8); (13) Intellect: Equation Of, (A) Communications Hierarchy, (4) Geometrical Function of Nine, Sensing, Storing & Intuiting Device, 9 Jun»75 Structural Sequence, (B) Angle &. Frequency Design Control, Jul'71 Awareness, 28 Apr'77

See Electromagnetic Transmission: Subjective & Conscious

(1)

See Generalised Principle. (1) Inadvertent, JO Nov'7* Objective Intellect, Jun'69

SuUfYQl SynfirmXcfl:

See Subsynergetic

pufrUratlQp:

A Note from RBF to a Prospective Illustrator for the Synergetics Book:

"I appreciate that you do have understanding and commitment and true friendship in respect to the realisation of the ideas and ideal which I too serve--- all of which could eventuate in some mutual work. I do not think that you can now (at this critical time in my highest priority work) bring yourself to spontaneous comprehension of what it is that I am in need. I need a less strategically (philosophically) distracted assistant to sublimate his or her comprehensive conceptioning and to learn, by some trial and error, to ascertain what will seem satisfactory to me."

~ Cite RBF Holograph passed to Karl Sotiriov in plane flight from Columbus to St. Louis, 21 Oct. '71.

SMipatf; StfbXjpatjpn:

Sea Tongue: Bite Tour Tongue, Aug*72

Cm:

See Air Delivery & Submarine Cities

See Air Delivery k Submarine Cities (3) Rowing Needles (1) Weapons Technology (1) Tank, 23 Jan `75

^subnuclfflr;

See Nonnuclear

sgbnucigar:

S«e Potential v». Primitive, 12 May*77

Subordinate & Superordinate;

See Mystery, 24 Jn*76

See Hierarchy of Patterns, 1954

Structure Sequence, (3)

Subpoint:

See Otherneee Point, 24 Sep'73

Subset:

"The definable conception ie therefore the first thinkable subset functioning of Universe."

- **Citation and context at De-finite. 1960**

RbF DEFINITIONS

BHB Subset;

"The comprehensive set of all experiences synergetically constituting universe discloses an astronomically numbered variety of sub-set event frequency rates and their respective rates of conceptual tune-ablitjr comprehension."

- Cite OMNIDIRECTIONAL HALO, p. 132, 1960

See Reciprocating Subseta

See Comprehensive. 1960

De-finite, 19&0*

Dynamic Frame of Reference. (7) Universe, 1960

dQ

See Symmetrical Local Subsidence

Concentric Correction from Spherical to Plane Geometry Internal Control of Distortion

See Conceptuality Independent of Slie Prefrequency Precise Subfrequency

See Angle, 10 Jul'62; Jun'71

Schematic of the Principles, 10 Sep*74

Vector Equilibrium, 12 Jul'62

Vector Equilibrium Involvement Domain, 10 Dec¹75

Subatahtive Awareness:

• ...Four is required for substantive awareness, where you can have a collection of things you can touch.”

- Citation and context at Voluaetric Awareness_f 20 Feb'73

Substance ? Substantial?

See Minimum Awareness, (1)

Atom, 8 Sep*75

Thirty Minimum Aspects of a System,(A)

**Six Motion Freedoms Degrees of Freedom. (1) (2) Load Distribution,
17 Oct'77**

SubflUmigaal flflPYlngj

See Life, 16 Aug'50

Substitute: SubBtlutability:

See Noninteraubetltutable

See Atomic Triangulated Substructuring:

Hierarchy Of

See Improvement vs. Surprise

**See System, 26 Dec*745 2? May'72 Systematic Realisation, 20
Dec'74**

**See Coincidental Articulation Sequence (2)-(4) Parts, 1954 Preces-
sion (a) University, 15 Apr*55 Functions, 26 May'72 Two Kinds of
Twoness, (B) Tetratuning, JO May*75**

Subsystem / Nonayatem:

0265.05

Subtatrachiilrn:

See Modules: A & B Quanta Modules: Subtetrahedra

Subtime;

See Vector Equilibrium Involvement Domain, 10 Dec'75

Subtlest integrity:

See Gravity, 12 May*75

Subtlety* Muchness of the Unfamiliar:

See Modules: A A B Quanta Modules, 10 Oct*72

SubtrianKulation:

See Icosahedron: Subtriangulation

Subtunable: Subtunability;

See Infratunable

Ultratunable

See Convergent va. Parallel Perception, 13 Nov'75

Subunity: "...There are only two fundamental kinds of observable transformational changes, i.e., angular, or subunity alteration and linear, or plural unity... accelerations."

- Citation and context at Acceleration: Angle and Frequency Acceleration, i960

SubYgreYo:

*I have never been considered subverve by anybody because I am apolitical.**

- Cite RBF videotaping session, Philadelphia, Pa., 1 Feb'75

SybYBrclYg:

"People should not call me subversive. Subversive means being against evolution."

- Cite RBF to EJA, 3200 Idaho, Wash DC, 6 Mar'73

Subversive:

See China (A)

"In the Babylonian, Egyptian, and Ionian era# of ways of looking at, thinking about, and formulating, there evolved a concept of a 'first family' of geometrical 'solids,' in which each member was characterised by all of its faces being identical and all of its edges being one length only. Humans were then unaware of what physics was only much later to discover experimentally: that nature discloses no evidence of a continuum. Experiment discloses only aggregates of separate, finitely closed events. Ergo, there are no solids.'

(Sec. 713.01)

- Cite SYNERGETICS text at Sec. 713.01; 1y Oct'72

Subvisible:

(D

See Infra & Ultravisibility

Unseeable

Invisible Visible to Invisible

**See Invention Sequence, (B) Invisible Circuitry, 11) Solid State, 13
May'73 Critical Proximity, May'71 Window, 22 Nov*72**

Success:

"...It is technically feasible, with the resources we now have—the knowledge we now have— to actually take care of all humanity at the highest standard of living anybody has ever known. I see no excuse whatsoever for the rtyerty class. We must take our highest capability and, instead of applying it to the weaponry—how do we kill?—applying it to how do we really make those people successful.

"We're in for a very great reorientation. We're learning our lessons. Fortunately all of humanity is in on this. We're on the air. All of humanity is on the air today. And we are learning. But we are going to have to really learn to really take our highest capabilities and apply them directly to making man a success.

"That's why I find this very educational... and the people who are here have qferreat responsibility... and I see earnestness everywhere. But we are Just preoccupied with reform, which really doesn't work."

- Cite RBF to "Town Meeting of the Air," Wash., DC; 10 Sep'75

Success: "Nature is really trying very hard to make man a success."

- Citation & context at Intuition as Remote Cosmic Transmutation, 29 Jan'75

Success:

Again and again,

Step by step,

Intuition opens the doors That lead to man's designing Of more advantageous rearrangements Of the physical complex of events Which we speak of as the environment, Whose evolutionary transition ever leads Toward the physical and metaphysical success Of all humanity."

- Citation at Intuition. May'72

- CITH TMTHTTN ,_p.5grMay~~>72

Success:

"I don't, think the Universe is a failure. And the reason I don't think so is that as far as we can see Universe is the minimum eternally self-regenerative system, so we can only think of it as a complete success. It includes everything we experience, and all of it has logical and really sublime integrity."

- Citation & context at Tragedy. Feb'72

Success:

"That humanity is indeed destined To be as comprehensively successful As is the hydrogen atom

And that humanity is now directly geared-in

With the inexhaustible

Physical and metaphysical wealth of the Universe

And can afford not only to do whatever it needs to do--- And right now

But in fact can afford
Nothing else but success. Right now!
The alternative is 'curtains'
For the little crew of humans

Aboard this approximately inconsequential Celestial vehicle, Earth."
- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH,
Jan. '72, p. 22.

Success:

"If man can't make a success of life on Earth, he also may be unable
to make himself a success anywhere else in the Universe."

- Cite I SEEM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

Success:

"Design science regenerations will induce . . . , spontaneous and
economically successful industrial proliferation by world-around
services' managements . . . which . . . will both permit and induce all
humanity to realize full lasting economic and physical success pluss
enjoyment of all the Earth without one Individual interfering with or
being advantaged at the expense of another,"

” «^{onte} « at aiUSEi-1: MaHiAa Trying To Do.

< Mar'08

SUCCBBB:

"...How vain we are when man thinks of himself as being responsible
for his extraordinary success. We talk in the Americas of being very
worthy and that we've won our way to the top of the world, and that
other people over here are not so worthy. I don't think that man has
had much to do with the relative success.

"In the first place, the success starts with the fact that we are extraordinarily chemically balanced and there is some power in the Universe where the energy conditions are such that we exist at all. That we happened to be here--- we had nothing to do with that!

"Men have been taught that there is not enough to go around and that it is you or me. I do observe the struggling going on, not only in politics but in Universities: who is going to come out on top? And I would say that essentially men have been working against other men. If they are successful it is not because they have been working together. From time to time they have meetings, and they say, 'Let's work together.' and this is fairly specious."

- Cite Oregon Lecture fl, pp.28-29, 1 Jul'62

Success: (2)

"So I say the success we have had so far is essentially due to a pattern of evolution which is beyond the control of man... and I would really like to try to find out all we can about what is going on."

- Cite Oregon Lecture #1, pp.28-29, 1 Jul'62

Success:

"Very little that men do consciously of all their functions renders their lives successful in Universe."

- Cite NO MORT SECONDHAND GOD, Preface, p. viii. 9 May'62

Suss4M_aaJiQEn:

See InduDtialiatlon: Curve Of, (1)

"While the norm of today and tomorrow if any is possible, Must be total success

For all of humanity

As inherent in
The integratable potentials
Of the comprehensive family
Of omni-interacconnodative,
And omniorderly

Generalized principles
Discovered by scientists
To be in a priori governance
Of universal evolution's aggregate
Of nonsimultaneous

And only partially overlapping events Transformative events."

- Cite INTUITION, p.65 May '72
See Afford

Design Revolution
Earning a Living
Economic Accounting System
Failure
Hydrogen Atom
Wealth
Nature Trying to Make frfen a Success
Doing What Needs to be Done

Sea Architecture, May*70

Continuous Man (4)(5)

Design Science, Dec'72; (1)0); (C)

Dwelling Service Industry (6)

Dome: Rationale for the Geodesic Dome (1) Ekiatics. Aug'72 Energy
Slave (4) Evolution, 10 Jun'71

Fuller. R.B: What I Am Trying To Do, 2 Mar*66* Gross world Product
Sequence (J) Intuition, May'72*

Invisible Reality, 22 Jun'74

Man, Dec'72

Mina as Verb, May'72

War: Official War &. Unofficial War, May'66

World Game, Dec*72

China (B)(C)

Tragedy, Feb'72*

Trim Tab Sequence, O)

See Intuition as Remote Cosmic Transmission, 29 Jan'75*

Economic Accounting System: Human Life-hour Production

(1)

Desovereignization Sequence, (3)

Humane City, (3)

Building Industry,

Experiment: We Are Not the Only Experiment, 30 Apr* 78

Sucking;

See Wind Sucking

sugar an.j&hfl, Tabia:

See Ecology, 15 Feb*73

Suicide?

"Suicide cannot be justified because it is a waste of accumulated human experience."

- Cite RBF videotaping transcript. Penn Bell Studios, Philadelphia, 27 Jan'75

"In 1961 scientists successfully demonstrated to one another that overspecialization was the cause of extinction of all the biological species and of all the human tribes, which now have vanished from the planet Earth. With the world politicians whooping up the education-for-specialization system for all their people, world man was training swiftly for total suicide of humanity. He developed the means of self-destruction by many means-- the atomic bomb, gas and microbe warfare, pollution of his water and air, exhaustion of his energy wealth without having the comprehensive world will and means to stop himself. . . .

"Humanity has been only inadvertently saved from extinction. . . . The new fall-out technology which displaced man as a specialist (professional scientist or craftsman) is the new computer-monitored automation industry.

- Cite NASA Speech, pp. 20,21f Jun'66

See Atomic Bomb

Prognostication About Future of Mankind

Self-annihilation

See Self-seeking, 8 Nov'72 Individual Universes, (3) Universe ie Technology, (2)

See Jump in the River

Fuller R.B: Crisis of 1927

Self-annihilation

Stone Falling & it's Going to Hit You on the Head Trespassing: Not Trespassing

You Do Not Belong To You

See Lying, 13 Dec*73

Suit¹ Brooka Brother* SiHt:

See Invisible Man, (2)

Sulfur:

"Fossil fuel combustion puts about 10 million tons of sulfur dioxide into the Earth's atmosphere in a year. With the present efficiency of electrostatic precipitators--- which is approximately 50 percent--- which means that for every ton of sulfur dioxide you can extract a half a ton of sulfur. • . If the present needs of the Earth are something like 40 million tons of sulfur, by putting the proper pollution controls on the exhaust emissions, not only would you wind up with a healthier and cleaner atmosphere, but you'd be able to reduce sulfur extraction from the ground, and be able to get your sulfur right from that source. Make it a closed system"

(NOTE: • Above quote not from RBF but from one of his students, in his presence.)

- Cite World Game at NT Studio School, 12 Jun-31 Jul*69, Saturn Film transcript, Sound 2, Part, 3. p. 74.

Sulfur:

See Afford

Pollution Control, (1)

See For® Cannot Follow Function, (1)- i Jul <6?

Tooling of Domes, (3) * 1 62

RbF DEFHUTIUKi

Sum Total;

'Aggregate means sum totally but nonunitarily conceptual as of any one moment."

- Citation at Aggregate, 28 Feb'71

- VTna, 'i j_w. 301. 1071

RBF DEFINITIONS

Subtotal:

e don't know

"Aggregate is used Instead of sua to tally when w whether it's all of them."

- Citation at Aggregate. 7 Feb*71

Sumtotal Structure?

See Geometry of Vectors, 2 Jan'75

Sua Total;

See Universe as a Kaleidoscope. May *IQ

Survival, 1938 Aggregate, 28 Feb'71»; 7 Feb'71»

Sun Zero:

Sea World Game, (I)

Sun:

"We have our particular

Radiant energy star— the Sun.

Which is our prime energy supply source.

The Sun is our nearest celestial fuel ship.

It is flying formation with us

Through the Galactic System

At an Earth-life incineration-proofing distance Of ninety-two million miles.

As our energy concentrating
Spherical space vehicle Earth

Circles around our ten-billionfold greater Amassed energy mother-
ship Sun."

- Cite BRAIN & MEND, pp.taft 106-107 May *72

Sun:

The additional and vital energy constantly transmitted to the space-
ship by the electromagnetic radiations emanating from enormous,
fiery, unmanned automated mother spaceships traveling in company
with, but at great distances from, the little Spaceship Earth."

- Citation and context at Spaomhip Earth (b), 1968

Sun:

"...Our 92-milllon miles distant, fully automated energy supply ship---
the Star Sun..."

- Citation and context at Spaceship Earth (d), 1968

Sunburst Effect;

See Scratched Surface, 27 dan*75

Sunclipse:

(This is usage for 'Sunset' employed by HBF In Dec '71 dictation to
Alexandra Snyder in India.!

Sunelipse:

"In 1934 •• noted in the •lew Torker' profile of Bucky Fuller by Calvin Tomkins. BF offered a prize to anyone who could invent words equal poetically and euphonically to the misinforming words 'sunset'¹ and 'sunrise,' which new words would also effectively describe the fact that the Earth's OBMB* rotation from west toward east rotates the Spaceship Earth's passengers into the shadow and out of sight of the sun.

"Hundreds of name suggestions showed up in the mail but none seemed to satisfy the conditions until the poet of San Francisco Gene Fowler, suggested the use of the motion picture production words 'out' and 'take' and put forth the words 'sunout' and 'suntake,' Stimulated by this William Wainwright of Cambridge, Massachusetts, suggested 'Sunclipse*' and this in turn suggested its companion word 'Sunsight'.¹ in which two words the Sun becomes subjective Instead of objective. The first prize goes to Gene Fowler for describing the problem systematically and thereby swiftly inducing its logical solution. Second prize goes to William Wainwright of Cambridge, Massachusetts."

- Cite BfAR ISLAND STuKY, galley p. 30, 1968

Sunset:

"We say sunset.*, but there is no sunset... if you back up and look at Earth you see MB the Earth turns."

- Cite RBF to Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72

See Sunclipse

See Light. 22 Nov*73

Invisible Motion, 13 Mar'73 Up ft Down Sequence (A) No Energy Crisis,
(1)

SUB Entrrr s^tQrago Battaryj

See Wind Power Sequence, (5)

Sunlight Energy Convwtlr.g Macbanliiq:

See Wind Power Sequence, (3)

Now House, (6)

Sun is Not Saying Earth Hasn't Paid its Bill;

See Afford, , 29 Jun'72

Dollars Bills: \$200 Billion One-dollar Bills Circling Around Earth, (3)

Twelve-inch Steel World Globe, (4)

See Twelve-inch Steel World Globe, (3)

See Children's Picture of the Sun It the Moon

Solar Power

Impoundment

Impounding Sun Energy: Nature's Most Important Trick

Wind Power « Sun Power

See Done: Rationale for the Big Done (B) Radiation Sequence (1)

Spaceship Earth, (b)*j (d)« Good & Evil Sequence, (2) Water, 7 Nov'75

Celestial Radiation Accumulators, 2d Apr¹77

Sunder?

See Vector Equilibrium, (I)

Super-Atomics Sequence: (1)

"Those subsequently isolated dienicl elements beyond the 92
prime self-regenerative chemical elements constitute superatomics.
They are the non-self-regenerative chemical elements of negative
Universe.

"Netive Universe is the complementary but invisible Universe, To demonstrate netive Universe, we take one rubber glove with an external green surface and an internal red surface. On the green surface a series of 92 numbers are patterned; and on the red surface a continuance of 93, 94, through to 184, with number 184 at the inside end of the pinky--- each of the inner surface numbers being the inner pole of the outer pole point number positionings, The positions of the numbers on the inside correspond to positions of the numbers on the outside. The numbering starts with the position of the five fingernails, then their successive first joints, and then their successive second joints from the tips: 5, 10, 15, and 20 numbers accommodated by the digits. The other 62 members are arranged in four rows of 12 each around the back and front of the palm of the hand. There is a final row of 14 at the terminal edge of the glove opening: this makes a total of 92. Now we can see"

- Cite SYNERGETICS corrected galley at Secs. 419.01+.02, 5 Nov'73

Super-Atomicp Sequence: (2)

"why the 92 numbers on the outside were discoverable in a random manner requiring very little physical effort. It was just a matter of which part of your gloved hand you happened to be looking. But if we become curious about hwat may be on the inside of the glove we discover that the glove is powerfully resilient. It takes a great deal of effort to roll back the open edge--- and it takes increasing amounts of power to cope with the increasing thickness of the rubber that rolls up as the glove opens. The elements from 93 on are revealed progressively by the numbers.

"The discovery of the first 92 self-regenerative chemical elements was not by the successive numbers starting with one, but in a completely random sequence. In the super-atomics, beyond uranium, number 92, the split-second-lived chemical elements have been discovered in a succession that corresponds to their atomic number; for example, the 94th discovery had the atomic weight of 94; the 100th was atomic weight 100, etc.

"This orderly revelation is in fundamental contrast to the discoveries of the 92 self-regenerative elements and their"

- Cite SYNERGETICS corrected galley at Secs. 419.02-04, 5 Nov»73

Super-Atomic8 Sequence:

(3)

"naturally self-regeneratively occurring isotopes. The discovery of the post-Uranium elements has involved the employment of successively greater magnitudes of energy concentration and focusing. As each of the super-atomic trans-Uranium elements was Isolatingly discovered, it disintegrated within split seconds. The orderliness of the succession of the discovery of super-atomics corresponds to the rate of increase of the magnitudes of energy necessary to bring them into split-second identifiability before they revert to their inside--- ergo, invisible to outside--- position.

"Every layer of a finite system has both an interior, concave, associability potential and an exterior, convex, associability potential. Hence the outer layer of a vector-equilibrium- patterned atom system always has an additional full number 'unemployed associability' count. In the example cited above (Sec. 418.3), an additional 92 was added to the 146 as the sum of the number of spheres in the first three shells. The total is 238. the number of nucleons in Uranium, whose atomic weight is 238. Four of the nucleons on the surface of one of the faces of the vector equilibrium's closest-packed"

- Cite SYNERGETICS corrected galley at Secs. 41904-05. 5 Nov'73

Super-Atomic Sequence: (4)

"aggregation of nucleone may be separated out without imparlng the structural-etabillty integrity of the balance of the aggregate. Thio leaves a residue of 234 nucleons, which is the fissionable state of Uranium--- which must go on chain-reacting due to its asymmetry."

- Cite SYNERGETICS corrected galley at Sec. 419.05, 5 Nov'73

Super Atomics:

"The vector equilibrium's closest-packed sphere shell build outwardly to produce successively the neutron and proton counts of the 92 regenerative chemical elements. The star tetrahedron may build negatives for the post- Uraniums."

- Cite SYNERGETICS draft "Antitetrahedron," 8 Oct. '71, p. 10.

SttPCFfitPRlCa:

"... The behavior of the chemical elements ia to work from the high number elements down toward the lower number. The fact that we do have high numbers, such as Uranium, means that there must be some part of the Universe where high number chemical elements are compounded, where they come together. Whereas, in their presence on Earth, they tend to be coming apart, they tend to be working towards the }ower number.

"So there's the working assumption that in the implosive forces of the stars we may be developing the high number chemical elements..."

- Citation and context at Stars: Implosive Forces of the Stars 22 Jul'71

Super Atonies;

"... The only split-second enduring elements beyond the 92 self-regenerative thus far discovered by experimental physics."

- Cite Synergetics draft, Sec. 515.06. 1971

Super Atomics:

"Those subsequently isolated elements beyond the 92 prime chemical elements constitute super atomics: they are the non-selfregenerative chemical elements of negative Universe,"

- Cite MUSIC, p. 45. 10 Dec'64

superatomic Sequence: (A)

"If one sphere is completely surrounded by other spheres equal in size and packed as closely together as possible, exactly 12 spheres, no more no less, make up the surrounding layer.

"If a second layer, or shell, be formed around the first, 42 spheres will be required to complete the shell.

"To form a third layer, or shell, 92 spheres are required.

This structure... suggests analogies with the 92 unique regenerative atomic systems which make up the total number of chemical elements found in nature; and with the nuclear energy pattern of Uranium, the 92nd element in the atomic table... if we add together the 12, 42, And 92, the numbers of spheres in the first three layers, we get the sum, 146 the number of neutrons in Uranium.

Since it is assumed that every layer of a finite system has both an interior, concave associability and an exterior, convex associability potential... the outer layer of an atom system always has an additional, full number, unemployed associability count.

"It follows that an additional 92 is to be added to the 146— " - Cite MARKS, p.40, 1960

"the sum of numbers of the spheres in the first three shells. The total is 238, the number of nucleons /~sic_7 in Uranium, whose atomic weight is 238. ' '

"Four of the nucleons on one of the square faces of the vector equilibrium's closest-packed aggregation of nucleons, may be separated out, without impairing the structural stability integrity of the balance of the aggregate. This leaves a residue of 234 nucleons, which is the fissionable state of Uranium--- which must go on chain-reacting due to its symmetry."

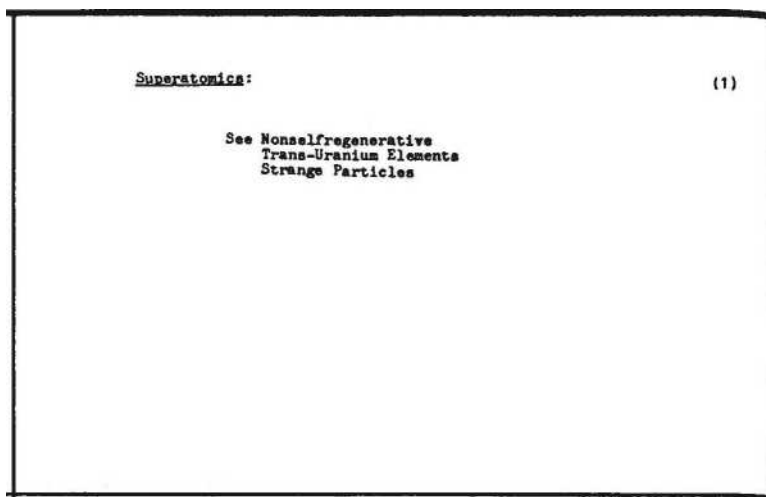
- Cite Marks, p.40, 1960. Last para, rewritten by RBF, Sep'71. Inserted in SYNERGETIC draft at Sec. 417.4. Rewritten in SYNERGETICS galley at Sec. 419.01-419.05

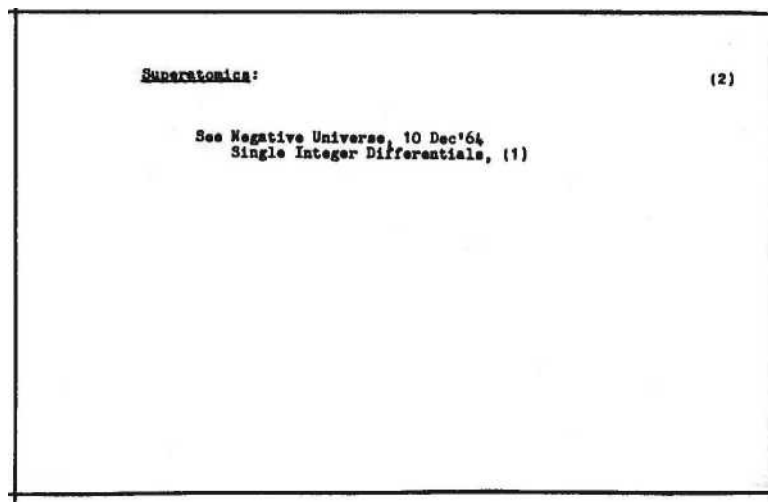
Super Atomics:

M, . • rhen the trans-uranium elements were developed
. and it was found
disintegrated within split seconds"
"trans-vector equilibrium configurations— that is atomic
arrangements in which the radial vectors (the 'explosive'
force lines) exceed the circumferential restraints."
scribed as

(Adapted.)

- Cite Marks, p. 42, 1960





Supercomplx:

See General Systems Theory, (1)

Superficial:

"Euler deals with the superficial aspects of polyhedral of visual conceptuality. He deals only with the convex surfaces of polyhedral systems. Euler deals with unit. Integral, single polyhedra, or with their subaspects.

He is not concerned with the associabilities or diassociabilities of a plurality of polyhedra."

- Cite SYNERGETICS draft at Sec. 1054.53, 6 Mar'73

Superficial:

"All the superficial surface angles are the gravity,

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec, *?1.

Superficiality;

"The number of superficial vertex convergences of the system are Identified with second powering, and not with anything we call 'areas,¹ that is, not with surfaces nor with any experimentally nondemonstrable continuums.ⁿ

- Cite Nasa Speech, p. 90 as rewritten by RBF 12/13 Sep '71 in Synergetics at Draft Sec. 770.02, Jan »72.

Superficial Hierarchy:

Synergetics draft at Sec. 1053.40, 7 Mar'73

Superficial Potential:

See Powering: Second Powering, 15 Oct*72

Superficial Reality;

"... Superficial reality... only occurs at Middling dimensions of Universe and appears schematically as a magnetic field.

Its flux patterns , like two tangent balls, include every size of particle, as their hour-glass-like tangentially linked inwardness, displays both inwardly and outwardly mingled sets of fountain and reverse fountain flows--- concurrently at both ends--- and through the middle. . . "

- Citation and context at Reciprocity (2), May'49

See Vertexial Topology Nuclear va. Superficial

See Architectural Aesthetics: Six S's, 000*69 Chaos, Jun*66 Environment, 26 May'72 Fantastic, May*49 Generalized Principle (1) Powering: Second Powering, 16 Nov'72 Reality, 24 Feb'72' Reciprocity (2)* Relationship Analysis (1) Simplicity, 1954 Sphere, 25 Feb'74 Topology: Synergetic Topology A Eulerian, 26 Oct*72 Tree, Feb'73 Good & Evil Sequence (1) Aesthetics of Uniformity, Structural Sequence. (Dj Architecture, Nov'66 Domain of an Area, Dec'71

Superoctahedron;

See Tensegrity Icosahedron, 1967

Superordinate;

See Subordinate and Superordinate

Superstition:

' 'Superstitions are instincts."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. '71.

Superstition:

"The dubious meanings for untenable superstition and propaganda first become ragged, foggy" and then deteriorate into obsolescence."

- Citation and context at World-Around Language (3), circa 1955
&u?jarBUtlc>n:

"Vanity and superstition constitute the plus and minus springs of ignorance, the expansive and contractive 'raison d'etre*' of boast and fear. The boasts and fears of ignorance may be maintained spontaneously only when there is no obviously periodic contradiction in physical experience.

- Citation and context at Ignorance (1), May'49
Superstition;

"Superstition is another important all-time force, but it was derisively dismissed by the technocrats as mystic pish posh, allowing man to fall into the piteous pathologic condition that they sneeringly considered engulfed by many men, 1-Iany worldwide superstitions, however, are scientifically rationalizable and sustainable as of high Importance.

"The superstition that singing too early in the morning is a forerunner of tears in the evening is universally current in primitives and among supposedly highly developed, socially cultured people. The superstition is actually--- in view of the wave phenomenon and unit of energy output clearly measured and charted in emotional attitudes--- an indication of man's ultimate anticipation of the necessary balancing of lows and highs. In it, therefore, is a distinctly scientific proclivity. Yet emotion, so essential to selective growth and survival was denied by technocracy as a social factor."

- Cite Nihil CHAINS TO THE NOUN, p.89, 1938
Superstition of Social Superiority:

"Individuality goes far deeper than these surface manifestations with which people have sought to deceive one another as to the relative importance of their status and the bitter struggle to validate one's right to live. Those who were powerful but ugly and lousy paid for fine clothes and fine surface architecture, and a superstition has persisted that people who could afford to pay must be superior individuals.

"The powerful have whipped the weak for centuries on end to instill that superstition. As long as might excelled over right that superstition had to continue. Now that we propose housing to be produced by an industry in which right makes might at less than a pound per horsepower the superstition is obsolete."

- Citation & context at Aesthetics of Uniformity. (2), 1946

See Astrology

Myth Numerology

See Architectural Aesthetics: Six S's Dec*69 Conformity, 10 Oct*63 Evolution. 1970 Housing, 13 Nov*69 Ignorance, (1) Harmonics, (4) Modelability, (3) Reverse Optimism, Aug*64 World-around language, (3)* Climate it Intellect, May*49 Aesthetics of Uniformity, (2)*

B. • • mathematical regularities

Synergetically displayed by mass attraction

And supersynergetically displayed as precession."

-Cite INTUITION, 1972, r~ J? {T'leyJ p.J8 May '72

See Intereupport Life Support

"Tension is both omni- and supradirectional."

- Cite Synergetics Draft at Sec. 640.70, Dec. '71.

Supranational:

See Ideologies Become Supranational

Transnational

Supreme Conceptual Synerrv:

See Tetrahedron: Coordinate Synuaetry, Nov'71

'•I realized that the intellectual integrity and infinite order of the Universe obviously is vastly greater than man. fan is an invention within it. I became utterly convinced then of the existence of an intellectual integrity greater than that of man. « » I respect all religions and every other human being. But I decided my kind of understanding of a supreme intellect needed no proselyting.

I decided I must not be a persuader, but a doer.”

- Cite RBF quoted by R.C, Nelson in Christian Science Monitor interview, "Nature's Extraordinary Order," J Nov '64.

See Eternal Designing Capability Greater Intellect

Science: The Great Design Universal Mind God Cosmic Intelligence

See DNA-M*, 9 *pr'71

Surface;

"The 'surface* or minimally enclosing envelopaental relationship of any system such as the Earth is finite.*

- Cite RBF correction to SYNERGETICS galley at Sec. 400.47, 2 Nov'73

Surface;

"The total available energy of a system is related to its surface area, involving the second power of the radius. $E - Me$.

”Surface functions a* the electromagnetic energy carrier...”

- Cite SYNERGETICS, "Jitterbug as Energetic Model," Sec. 46d)3_t 4 Oct'72

Surface:

'•There are no surface continuums. There are only point fixes identified by the path crossings of the topological system momentarily in consideration. The external crossing points of the system continually recede."

- Cite RBF 10 Feb citation, Surface, as re-written 17 Feb *72

Surface:

"'There are no ¹ surfaces. * only points receding from one another."

- Cite RBF marginal note at Soviet Science Review (Markov) Fay '71 p. 157 made 16 Feb '72

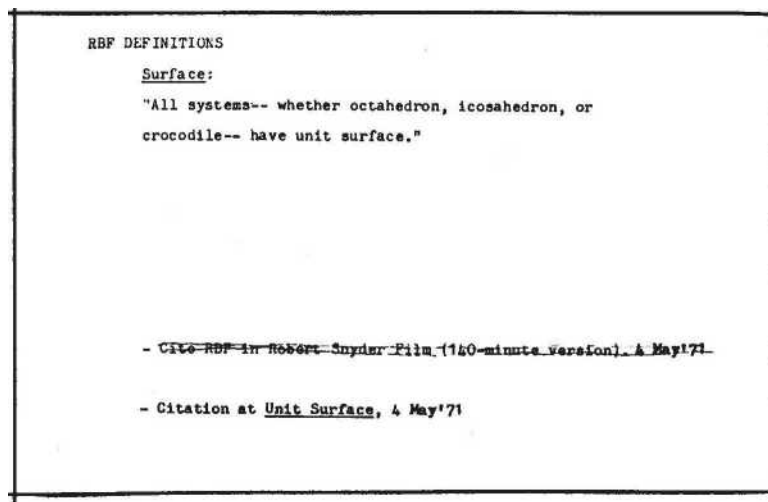
Surface;

"There are no surfaces. Therore there are no areas.

So Euler's topological aspects have to be altered to read: "lines" • trajectories; "vertexes" □ crossings; and "areas" - openings. i.e., where there are no Mbmbmv trajectories or crossings. This relates to systems,"

- Citation at System. 22 Apr¹71

Src SIH.sa'l



Surface:

"A surface is in essence nothing more than the exterior set of a swarm of points.¹¹

- Cite MARKS, p. 46 , 1960

Surface:

"No surface is conceivable without its inherent sphere as a flat Universe is contradictory to experience.^{1*}

- Citation at Flat. 1950
- Cite NnAttwc--T950

Efface Anglen:

See Synergetics, Jun*66

Sm-ftM r* Larar=

Soo Babracomont, 22 Jul>71

Surface Uvar Phenomenon?

See Universal Integrity: VB & Icoaa, 7 Nov'7"*

See Carbon, 8 Jun'72 Structure, 25 Feb*69

Surface Points:

See Circumferential Field

External Mapping

Surface Points;

(2)

See Curvature: Compound, 25 Jan'73

"The highest capability in strength of structures exists in the triangulation of the system's enclosing structure, due to the greater action-reaction leverage distance that opposite sides of the system provide. This is what led men to hollow out their buildings.

"The structural strength of the exterior triangles is not provided by the 'solid' quality of the exterior shell, but by triangularly interstabilised lines of force operating within that shell. They perforate the shell with force lines. The minimum holes are triangular.

"The piercing of the shells with triangular holes reduces the solid or continuous surface of second-power increase of the shells. This brings the rate of growth of structures into something nearer an over-all first-power or linear rate of gain---for the force lines are only linear."

- Cite SYNERGETICS text at Sec.s 616.01-.03; Mar'72 ' 'The highest capability in strength of structures exists in their surfaces due to the greater action-reaction, leverage distance that opposite sides of the system provide.

Thus men hollowed out their buildings."

(Slightly rewritten)

17/]

- Cite "Tensegrity," PORTFOLIO + ART NES, p.123, Dec. »6l t"

— -fCC df]

Surface Strength of Structures:

"The structural strength at the surface is not provided by the 'solid' quality of the exterior shell, but by triangularly interstabilized lines of force operative within that shell. They perforate the shell with force lines. The minimum holes are triangular. The piercing of the shells with triangular holes reduces the solid or continuous surface of second power increase of the shells and brings

the rate of growth of the structures into something nearer an overall first power or linear rate of gain--- for the force lines are only linear."

CIU'i re,T !»!->. ,*

(Slightly rewritten) - Cite "Tensegrity" PORTFOLIO + ART NEWS, p.124, Dec.

*61 xfjucTvfe- Sec. 62

See Closest Packing of Rods

See Tension, Dec'61

Icosahedron: Subtriangulation, (1)

flirfct T_{WgtfnS}

See Closest Packing of Rod Surface Strength of Structures

See Truncated Tetrahedra. Zb Dec'74 Rigidity vs. Resilience, 20 Dec'74

See Area

Central Angles & Surface Angles

Circumferential Field

No Absolute Enclosed Surface or Volume

Outside

Plane

Scratched Surface

Shell Growth Rate

Spherical Wave

Superficial

Unit Surface

Volume-surface Hierarchy

Realms vs. Surface

See Flat, 1950*

Meaningless. Oct'66 Powering, 1i Jul` 62 Radieation: Speed Of, (C) Synergetics, (p.J2) undated System, 22 Apr'71* Tension, Dec'71 Tools of Geometry, (1) In, Out & Around Experiences, (1)(2) Aesthetics of Uniformity, Proofs, 7 Oct'75 Otherness, 8 Feb'76 Spinnability, 24 Apr'76 Six Motion Freedoms A Degrees of Freedom, (1) "I am beginning to talk about wave in pure principle, . . . beginning to discover it is a principle. Pure principles are useable. They are reducible from theory to practice. For instance, we have these waves on the water. You may do surfboarding yourself, but at any rate it is very interesting. It is like skiing except you have a very interesting condition where the mountain keeps moving along and so as fast as you go down the mountain, the mountain is going up as fast as you slide down it, and you never get down it. It keeps coming up for you very nicely so you are continually using gravity. If you are coming down it too fast you can start using that angular descent, and you can angle so you don't come down so fast and you can wait until the wave comes up to you again. You begin to discover you can stay up on that wave by angling yourself--- and keep going on and on and on. This is what the porpoises do. They go right around the world riding a wave without any effort at all. It is a very good way to go around the world on pure principle."

- Cite Oregon Lecture #3, pp. 102-103. 5 Jul'62

See Skiing

See Pure Principle, 6 Jul'62

Surf Poundings:

"... Nature novar vaclllatoa in her decisions. The rolling oceans cover three-fourths of the Earth. Along the beaches the surf is continually pounding on the shore. No two successive local surf-pounding? have ever been the sane, nor will they ever be the same. They typify the infinitude of individualism of every special-case event in the Universe, While there is great music in the pounding of the surf, as the infinite creative integrity of the Universe is manifest, I cannot identify man, who hears this music, as the creator."

- Citation and context at CreatlvityVsspring¹66

Surprise:

"... Society tends to think statically and is always being surprised. often uncomfortably, sometimes fatally."

- Cite RBF, Univ, ot Rhoda Island, 26 Aug. '66, p. 199.

Surprise:

"It is . . . the unpredictable degree of the super and the super-super n degree of complex associations of energy frequencies which seem most preposterous. We cannot view the great confluences of separately qnd remotely significant events fwardly resultant to now. Synergy is inherently surprising."

- Citation at Synergy. May*49

Surprise; The Nonpolitical Surprise Has already Occurred:

"... The political chaos will fade out in ways entirely unpremeditated by political man as the invention order looms in. Geosocial revolution explores the possibility that the nonpolitical surprise has already occurred and will soon be visible to all,¹

- Citation and context at Geo social. RevQlfcLnn (3), 1965

Surorlae: The Nonpollclcal Surprlae Ha a Already Occurred:

(1)

Seo Meek Have Inherited the Earth

Nineteen Seventy-two: 1972: History's Most Critical Year

Prognostication About Future of Man

gurprlaft- The Nonoolitical Surprise Has Already Occurred:

See Revolution, Aug'64

Surprlftg- Utter Surprise to Be Barn:

See Womb Population, Kay'65 Ego, 9 Nov'75

See Accidental

Discovery Inadvertence

Synergetic Surprise

Unexpected

Improvement vs. Surprise

See Discovery, Spring'66 Dome, 9 Jul'73 Geodesic Structure, (4) Improvement, 1954 Invention, 9 Feb'64; Dec'61 Invention Sequence, (A)-(D) Patent, 19 Apr*66 Residual Error, 1954 Revolution, Aug'64 Synergy, May'49* Technology, Jun'66 Tension Structures, 1 Apr'49 Dymaxion Airecean World Map, (1)

Surrender:

See Leaders Can Yield to the Computer

Surround:

‘`... Hydrogen, where a nucleus ahy be encircled by action within a single plane and where the surround is generated by a single orbit."

- Cite SYNERGETICS draft at Sec. 4U.01, footnote, 29 May>72

See Boats at Anchor Retard the River'e Flow Rnbracenent Omnidirectional: Physical Existence Environment

Surrounds

Omnisurround

Periphery

See Radiation, 23 Sep*73

Vertexes, Faces *k* Lines, 1 Jan'75

Womb, 20 Feb*73

SuryQYlrPK: Surveyor a:

See Local Squarenees, 9 Jul'62

Survival:

Q. (Miss Seelye) How would you help the membership in our Association to become most effective in attempts to encourage providing scientific training with that elusive 'creativity* ?

A. (Dr. Fuller): ... "Yourmembership should acquire the largest possible conceptions of the trendings of world society and its spontaneously intuitive seeking in the great survival race in the Universe. What does it need beyond survival, for satisfaction and enjoyment?"

- Cite RBF transcribed in AAUW Jornal, p. 173, May *65

Survival:

. .the only potential survival means of homo sapiens:

through the harmonic integration of knowledge whose kinetic is universal."

- Cite NO MORE SECONDHAND- GOD. p. 4. (Anchor) 9 Apr»40
SumYAl:

"•After all,' Jeans said, 'it is man who asked the question.' The question is survival, and the answer, which is unit, lies in the progressive sumtotaling of man's evolving knowledge. Individual survival is identifiable with the whole--- as extension or extinction. There is no good country doctor on bars to revive those who, through mental inertia, are streamlining to extinction."

- Citation and context at Hationalisation Sequence (t>), 193\$
SurxiY»l *iYantata-

See ArtiatB-sclentiata, 13 Kar'73

Scenery': Rearrange the Scenery, May'72

News & Evolution, (4)

Doing What Needs to be Done, (A)

Cosfflic Fishing, (B)

Survival of the Fitteat:

See Obnoxica, 29 Aug*64 Propaganda, 29 Mar'77

survival rteccurse; Lagt Chan&y Adgpfrlgp gf Uqhggi.e<E PflnCIPIffff:

"All around the areas of increasingly successful life support on our planet we find politicians and business leaders claiming exclusive credit for themselves or their ideology. They even take credit for the special-case realizations, whose relevant generalized principles had first been subjectively discovered by scientists and then objectively employed by inventor-artists without help or recognition from the politicians and business leaders. However, when war or other vital emergencies arise the politicians and business leaders have no other survival recourse but to employ the theretofore disregarded special-case, relevant inventions manifesting also previously unheeded.

eternally reliable principles. It is only after such lastchance adoption and successful public demonstration of the previously unheeded principles that politicians and business leaders claim exclusive credit."

- Cite GEOVIEW 1, "No Title," (Part I), World Fag., p.34, 22 May'73

See Brain's Automatics vs. Mind's Intellections, •tay'72

Survival Sequence: Love;

(1)

"Q: --- What do you see man's immediate future to be? From all sides we hear that we are on the precipice of disaster. You seem to have a very optimistic outlook on the future of man. What are your views on man's immediate future?"

"»*•>. Fuller:--- I certainly would say in the first place that it is very complex. I feel that man aboard our planet is in a very critical condition, evolutionarily. As to whether he is really evolving into whatever his function may be in the total scheme of the Universe--- whether he is really making good--- he is very much on trial. I can, as a student and experimenter, and an actual doer, aware of the technical ways in

which it is highly feasible for all of humanity to survive at a higher standard of living than anyone has ever known. . • But I am also aware of the inertia and the conditioned reflexes which are permissible, and the small ways we seem to be preoccupied, and the shortsightedness of our preoccupation with today. So that the question whether man can make it or not: I would not presume to make any prognostication at all. All I can do is to try to find the factors which would tend to wave in one direction or the other, positive or negative."

- Cite RBF at £113, U. Kase., Amherst, 22 July »71, Talk 12, p. 15

"To me by far the most positive factor is all the children who used to die who no longer die; and that every child is

born with faculties--- with ears, eyes, nose, and mouth and the child says that is what I smell, that is what I see.

You don't have to teach a child to say what it is that he

sees; he tells you spontaneously. In other words, truth is spontaneous, and the lying has been taught to the children by those who are afraid that the child's truthfulness will put them into trouble. So the fact that truth is spontaneous is equally mysterious as the fact of mass attraction and gravity cohering our Universe; as is the phenomenon love. we experience so much of it we tend to take it very much for granted.

"I am going to try to give you a little bit of a shock way of understanding how extraordinary is the love. That man would really understand, cohere, and want to understand. For instance, in order to have man regenerate himself on our planet--- assuming he has an important function to be performed in the Universe-- to be sure that he would live for many, many generations until he was able to develop enough knowledge, enough competence to be able to perform that function: having him regenerate himself."

- Cite 311.11 (Cont.)

"I would like just to ask you to think a little about how much you take for granted about your own physical being. People talk about technology as something formidable, whereas Universe is nothing but technology. If you stand in front of the mirror and stick your tongue way out, and take a good look at it. . . If a salesman came along and said •I'd like to sell you one of those,' and stuck his own tongue out, I don't think you'd buy it. In order to be able to regenerate man has also to have a liver, and a kidney, and a stomach, and a heart. If you went to a supermarket and saw kidneys, and stomachs, and hearts hanging up, I don't think you'd buy yourself. It is an extraordinary matter--- in order to be able to bring about this complex technology of becoming reproductive and procreative. It would be very difficult to think of a liver hanging up there falling in love with another liver. So nature developed this fantastically beautiful packaging and put all these things out of sight. And it developed such coordination that the whole thing is operating subconsciously with your brain having a quadrillion times a quadrillion atoms in superb coordination by which you and I can communicate at this extraordinary moment."

* Cite 311.11 (Cont.)

"I would say then to beware that this man would really have the drive to go after the knowledge and to really understand, he was given this most extraordinary of all faculties, love. And when I take the young world being born in the presence of greater, more reliable information and a little less misinformation. . . , he's being made aware of total man in seconds, and he is spontaneously truthful, and has spontaneous love. These are the ingredients I think, about how we are going to come through."

- Cite W3F at SIMS, U. Illinois, Anherst, 22 July '71, Talk 12, pp 16 -17.

See Love

Man: Automated Metabolism of Man Man as a Function of Universe
Procreation

Sex

Tactile Sequence

See Divide it Conquer Prognostications About Future of Man Ques-
tions The Question Is Survival Reflex Reinvestable Time & Survival
Needs Mutual Survival Principles

See Ecology Sequence, (G)-(I) Ekiatics, Aug'72 Extraterrestrial Hu-
mana, 23 Aug'70 Generalized Principle, (1) Industrial Man, 1y38 In-
tellection, May¹'72 Nation, Oct'70 Nationalization Sequence, Man as
an Invention, 1 Apr'49 Lying, 22 Jan'75 Buddha: Christ: Mohamed,
(1)(2) No Energy Crisis, (1)(2) Will, (1)(2)

See Invisible Suspension Bridge

See Chemical Bonds, (1)

Funambulist, 1938

Tensegrity: Unlimited Frequency of Geodesic Tensegrities. (1)(2)

Time, (p.142) 1938

§M0PflMIQfl-E8. Cat wry:

See Aepeneion, 12 Nov*74

Sea Muted, 13 May'73

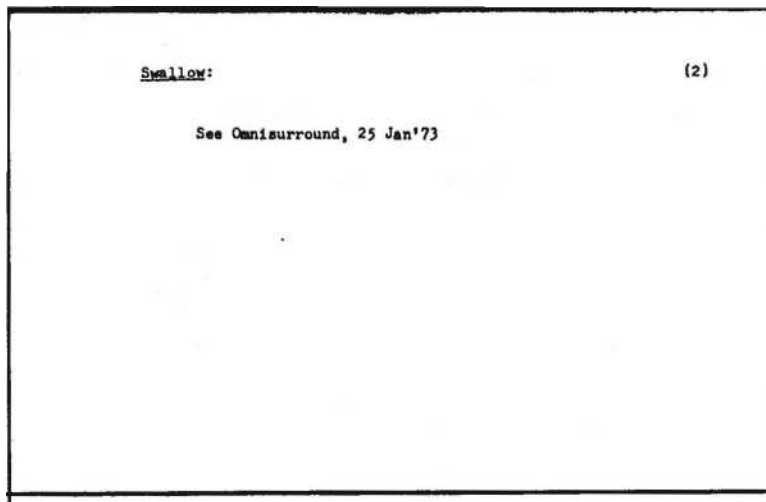
ths PUinrpflM-

See Tetrahedron: Ineide-outing Of_t 20 Feb'73

(1)

See Snake Swallows Its Own Tail

Swallow the Otherneaa



Swearing:

See Spit-punctuated Mofipsyllabic Verbalisa
SWWOTE?

"In the ecology of mammals male wolves sweep out about 50 miles. The male is the hunter. He deals with the unknown. And the sweepout of the female is much less. She tends to stay with the young and the old. She decides whether you are going to skin it, milk it, or eat it... The consolidator of the gains."

- Cite MF on TV panel ehow WTTG- Ch #7, Waah, DC., 17 Oct'72

"Kepler found the regularity For which he searched In the identical areas Of the different Pie-shaped segments of the sky--- Some short and wide, Some long and thin--- •Swept out'in a given time By imaginary radial tethers Tied to each of the planets From the same star-Sun centers Around which they traveled.

Each at vastly different distances And at vastly different rates."

- Cite INTUITION, p.24 May '72

Sweepout:

"There is a difference of radius of sweepout of wolves sea gulls and man. In our ecological patterning if we only had the tactile to go by we could only sweep out fairly small territory. , . "

- Citation at Ecology_t 5 Jul*62

Sweepout:

"Politics must thus implement life's continually increasing sweepout and penetration of Universe with a continually changing set of operational rules and accounting conventions."

- GltP NCI r-iORh SkCQMILlD-GOD, Preface, p-. 9)fay»6a-

‘ an£ at Sc£en.;g-TMhpi9KY-In4JxXxg«al£a

Politics Saquanca (2)(J), 9 May>62

SHMMI Sweepout in Scientific Exploration;

"Individual specialists tend to go off and get themselves into finer and finer focus, to a one degree focus and then a half-degree focus and then to minutes and seconds of fineness of focus. However, something happens in the area of specialization, as you get more and more men into microbiology, for instance, with each one of them taking a specialty there are enough of them so they began to make ^a sweep-out sum totally and together they began to sweep out a fairly large sector. With one specialty, the total number crowding one another in order to be specialists, began to

use a little larger angle. . . . Men didn't have very large microscopes or telescopes yesterday so when they were specialists they stayed within the area they could see; and this must have taken them into very different parts of the Universe and they were far apart."

- Cite Oregon Lecture #4, pp. 120-121. 6 Jul'62

I am making a prise working assumption that man has a function and that nan is here for his metaphysical capability, nit his physical. His muscle is less than that of a donkey...

- The energies in the Universe are just incredible and they get to a billion galaxies with 100 billion stars each. Anything man has physically is absolutely nothing. But little man on our planet, learning about the principles of optics, learning about the principles of refraction of light, and able then to develop beautiful lenses to magnify, to make a great reflector such as Mt. Palomar and discover that there are a billion galaxies with about 100 billion stars each, 99 percent of which are not visible to the naked eye.

- For man learned scientifically and synergetically as a series of events that prisms do reflect light and break the light up into red, orange, yellow, green, blue, violet; and he discovered accidentally that the light coming from an incandescent chemical element going through the prism produced another color that you and I can't see but that the chemical emulsion could see in the earner a photograph. And thus we discovered that every one of"

- Cite tape transcript, pp.14-15; W to W. Wolf, Gloucester, Mass., 2 Jun*7 —

BWWgtf*: Spherical SwgepQHX: (2)

"the chemical elements has its unique frequencies. • all the colors you can't see, the invisible colors.

"With Mt. Palomar man has been able to make this sweepout of 11i billion light years; with each light year 6J trillion miles, and we have 11J billion of those... that distance of the Universe where you and I can't see with the naked eye... all the light coming from all those stars... where you can't see him alongside of a big ocean wave let alone a mountain, and you're coming in from space... looking through the clouds you see the blue of the water and the ground, but you can't see the mountains. Human beings are absolutely invisible there...

"Little human beings that are invisible on Earth have still been able to take this data and discover the inventory of the relative abundance of all the chemical elements and its 22J billion-light-year-diameter spherical sweepout of information in the sky. We have this kind of capability on board our planet; We have this capacity to monitor local Universe. And that's exactly what we're here for. Let's have no more nonsense about muscle still running our Earth. What is our muscle doing in this kind of picture?"

- Cite tape transcript, p.15, KBF to W. Wolf, Gloucester, Mass., 2 Jun'74

"At the Mount Palomar telescope the sweepout is spherical— with a radius of 22 billion light-years. This doesn't mean that Universe is spherical but we tend to think of it that way."

- Cite RBF in Johns Hopkins Lecture, Baltimore, 3 Oct*73

**See Ecology Deployment: Man's Increasing Deployment Pattern
Human Sense Ranging & Information Gathering Locomotion: Radius
of Man's Locomotion Man's Degrees of Freedom of Action Man's
Universe Penetrations Outreach Radial Reach Reachability Range
Science-Technology-Industry-Economics-Politics Sequence**

Travel in a Human Lifetime

Sweepout:

See Ecology, 5 Jul*62

Gravity, (b)

Science-Technology- Industry-Economics-Politics

Sequence, (2)(3J*

Telephone, (2)

Word as Industrial Tool, 10 Dec'73

Worm, Oct'63

Orbital Escape from Critical Proximity, (4)

Human Beings & Complex Universe, (8)

Swimmer* I Ag. A Syl_{mfr}:

See Parting the Strande

Sulaaer- I A» » summer:

(2)

See Irrelevanclee: Dleaieal Of, 1960

Dynamic Sea where Man Must Swim Before he Sinks:

See Dynamic Frame of Reference, (2)

Swimmers: Two Swimmers Ricochet off one another*a Feet:

See Balloon. (E)

Pneumatic Structures, (2)

Swimmers; Swimmine:

See Marine Life Analogy of Humane

Social Breakout from Barnacle to Salmon

Switchboard:

See Front Office Switchboard

Switch: Cloning tha s>dt.ch: Qnanlfir tha Switch ?

See Icosahedron as Local Shunting Circuit

Sword:

See Might Makes Right, 20 Apr'72

Swivel-moored to the Tonnage of our Past:

See Wap, 1 Nov*72

Symbolism in Buildings:

Q: You seem to be a bio-technical determinist. You seem

**to disregard the social meaning of symbolism, particularly in build-
ings.**

R3F: "1 am not even mildly

except when I write, buildings as symbols; use of a tool.¹

interested in using symbols I am not interested in using to do so would be the wrong

"A nest is a tool not a symbol. I don't ever try to copy nature, although I may find that nature has some of the same reasons for her designs as I do in mine."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb'75

MB -Symbol of Symmetrical Expansion:

See Teleology: Bow-tie Symbol

Q • one unit of quantum n - any number

Z - one energy event 3 vectors N - prime number; also hP

A « structure 6 system

∠ „ angle ^{vector} equilibrium

. bd * tie symbol (Teleology)

/ “ vector line

x • Symbol of symmetrical

- edge expansion (multiplication)

X - vertex - crossing

A - area - triangles

F - frequency - number of outer layer edge modules

f - function - Cite RBF to EJA

Beverly Hotel, New York

7 March 1971

Symbol: Symbolic: Symbolism:

See Architectural Aesthetics: Six S's Bathroom as Symbolism & Association Economic Prowess Symbols Equal Sign Game of Symbols Mathematics Symbols Permanent Symbolic Communications Devices Tool / Symbol "X" as Symbol of Symmetrical Expansion Teleology: Bow-tie Symbol Bias Symbol

Symbol: Symbolic: Symbol!am: Symbology: (2)

See Halo, 193d

Sywmry:

"Corollary B: The special-case realizations of a given design complex correlate as: the more symmetrical, the more reproducible,"

- Citation and context at Regenerative Design; Law Of. (1) 13 Mar'73

Symmetry:

"Sleep. . . restores the syInetrical'

- Citation and context at Sleep. 11 Feb'73

Symmetry;

"A triangle is symmetrical in a plane, but in respect to a pole of omnidirectional symmetry, we find that the symmetry of the triangle lies only in the enuatorial plane."

- Cite RBF Synergetics Draft, & Oct. <971 (Dictated to EJA.

"AntitetrahedroB," p. 1.

Sywwfccy: "Symmetrical means having no local asymmetries. Onnlsymmetrical permits local asymmetries. Universe is omnisymmetrical. A three-bladed propeller is dynamically symmetrical (three pear-shaped blades at 120° to each other inscribed in an equilateral triangle). The propeller blade is locally asymmetrical. . . . Our seeability is so inherently local that we never see anything but the asymmetries. . . . Sociologists have such trouble because they see (rather than principles) such a high frequency of asymmetries."

- Cite RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971 5y pH £ TXT~ SEC
S32361

Symmetry;

"...All most economic pattern systems, asymmetric as well as symmetric, are resolvable into symmetric components'* in synergetic accounting.

(Adapted.)

- Cite MARKS, p. 48, 1960

• **SYKne-ttY - SEC**

"Symmetry is only generalized. In cosmic-event averaging symmetry is ever implicit in the preponderantly-aImoSt- symmetrical, spontaneous symmetry-referenceability of all asymmetry. Symmetry is systemic. Symmetry has nothing to do with the scenario series; it has nothing to do with local, special case realizations. You can find balances in series--- positive and negative energies---but absolute symmetry is characteristic only of generalized systems."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 532.17; RBF rewrite,

11 Dec'75

• Symmetry fc

"Because nature always operates most economically and because all asymmetries are observable only relative to central symmetry, we find that all the events of experience tend to produce convergent or divergent aggregations."

- Cite SYNERGETICS, 2*d. Ed., at Sec. 260.33; 13 Nov'75

"The vector equilibrium is always facially asymmetrical but vectorially symmetrical. The tetrakaidecahedron is vertexially asymmetrical, but lifely symmetrical."

- Citation at Vector Equilibrium. Feb'72

"Sleep. • . accommodates the asymmetries and restores the symmetrical."

- Citation and context at Sleep. 11 Feb¹73

^wThe more aynunetrical, the more reproducible. The more asymmetrical, the less it fits Universe.*

- Citation **k** context at Reproducible. 30 May¹72

"All most-cononoaic-pattern systems, asymmetric *8 wall as symmetric, are resolvable into symmetric components in synergetic accounting.

"Our seeability is so inherently local that we rarely see anything but the asymmetries. Sociologists have trouble because they are o'erwhelmed by the high frequency of asymmetries (rather than the only synergetically discoverable principles)."

- Cite SYNERGETICS text at Sec. 532.15-.16; Dec'71

ttBF DEFDiTluNS

"We may say that nature proceeds from the obviously orderly and symmetrical to the nonobviously, but always orderly, transformation phases known as asymmetries which having gone through their maximum or peak positive phase asymmetry, which only seems (to the uninformed brain) to be disorderly, always returns transformatively thereafter through an orderly progression of decreasing asymmetry to the fleeting passing through the condition of obvious symmetry or equilibrium popularly recognised as 'order,' thereafter deviating asymmetrically to the negative phase of balancing limits of oscillation,"

L'O

- Cite Synergetics Draft, "Symmetry," Sec, 532.W, July 1971 •

Symmetry | & AsYmmpyt

"Asymmetry is the reason that Heisenberg's measurement is always indeterminate. Asymmetry is physical.

Symmetry is metaphysical."

- Cite RBF to EJA, Beverly Hotel, New York, 24 April 1971

STSHSTIW -sec, 531,HI

"What the scientists have always found Mflt by by physical experiment was an a priori orderliness of •nature' or 'universT, to be always operating at an elegance levejthat made OMB their own first crude working hypotheses seem soi crude as to be relatively disorderly by comparison. We may say that nature proceeds from the obviously ordered and symmetrical to the non-obviously but always orderly transformation phases, known as asymmetries which having gone through their maximum or peak asymmetry, which only seems (to the uninformed brain) to be disorderly, and always returns transformatively thereafter through an orderly progression of decreasing asymmetry to an obvious symmetry which is popularly recognized as 'order,*

"This transformative progression is the orderliness which is dealt with by the calculus and is the fundamental pulsating principle governing omnidirectional electromagnetic wave propagation."

-Cite NASA Speech, pp 95>96, Jun'66

sec + sji.u|

KBF DtiFIMTluNS

IMHM sywtttay A Aermotry*

"... All most economic pattern systems, asymmetric as well as symmetric, are resolvable into symmetric components" in synergetic accounting.

(Adapted.)

- Cite MARKS, p. 48, 1960

~~SYMMETRY - SEC. 532, 1911~~

SvmfBwtrv & Aevianetriv: (1)

Sea Dynamic Symmetry Central Symmetry

Reproducible, JO May'72* Sleep, 1972; 11 Feb'73* Structure, 19 Jun*71 Tetrakai decahedron, 31 May*71* Tetrahedron: Coordinate Symmetry, Nov*71 Bias, 15 Oct*72 Vector Equilibrium, 19 Feb*72* Nucleus, 22 Jun'75 Vector Equilibrium: Field of Energy. (A) System, 27 May'72 Structural System, Nov*71 Convergence &, Divergence, 9 Apr'75 Prime Rational Integers, 28 May*72 Phase & Interphase, * 8 Feb'76; 9 Feb»76 Human Beings at the Center, (1)(2) Vector Equilibrium, 8 Sep'77

See Stabilized Vector Equilibrium, 23 Feb*72

See Jitterbug

Propagative Transformation of VE

Vector Equilibrium: Articulation Of

See Black Holes & Synergetics, 1 Mar¹77

See Ideals, 14 Feb*72

Railroad Tracks: Great Circle Energy Tracks, (B) Regenerative Design: Law Of, <1)

"The tetrakaidecahedron is vertexially asymmetrical, but linearly syirnietrical

* Cite RBF dictation, 19 Feb '72, to EJA, re Tetrakaidecahedron citation to Hay •71.

symmetrical Local Subsidence

See Dymaxion Airocean World Map: Icosahedral Version 27 Jan'75

See Equilibrium, 25 Feb'69

Synergetics, Sep*64

Symmetry: Positive or Negative?

See Cube k VE aa Wave Propagation Model, 23 Feb'72

See Architectural Aesthetics: Six S's

Asymmetry

Centers of Equilibrium Symmetry

Cosmic Symmetry

Dynamic Symmetry

Linear Symmetry

Nuclear Symmetries

Polar Symmetry

Omni symmetrical

Prime Hierarchy of Symmetric Polyhedra

Radial Symmetries

Seven Axes of Symmetry

Syte (Symmetrical Tetrahedron)

Semisymmetry

Symmetry & Asymmetry

Static Symmetry

Tetrahedron: Coordinate Symmetry

Vectorial Symmetry

Conservation of Symmetry

Topological Aspects: Inventory Of Central Symmetry

Symmetry:

(IB)

See Symbol of Symmetrical Expancion

Absolute Symmetry Scenario vs. Absolute Symmetry

See Chain Stronger than its Weakest Link, (1) Regenerative Design:
Law Of, (1) □ Reproducible, 30 May*72 Simplicity, <954 Sleep, 11
Feb'73 Universe as a Kaleidoscope, May'49 Synergy: Degrees Of, (5)
Vector Equilibrium, 23 Oct'72

See Syninetry 4. Asymmetry

Symmetrical Contraction of Vector Equilibrium

Symmetric Limits

Symmetrical Local Subsidence

Symmetric Phase

Symmetry: Complex & Simplex Symmetry: Positive or Negative

See Visual Symphony

Cosmic Symphony

See Dwelling Service Industry (6)(7)

Synchronization:

"There is an octave pattern in every system and every time we come to nine--- whether it be $3 + 6$, $2+7$, of $8 + 1$ --- it is zero. Waves are octave and one reason they do not interfere with one another is because of the zero. If we apply the phenomenon of radiowaves and

other high frequencies--- waves passing through seeming solids--- or low frequency waves, we can imagine that the lack of Interference could be explained through the crossing of the high frequency waves through the much lower frequency waves at the zero point.

""If we construct a model with balls we may be able to see this more clearly. If I make an X configuration with one ball in the center common to both triangles of the X, the ball at the intersection common to both represents the zero or the place where the waves cross and pass through each other. The zero always accommodates when two waves come together. We know that atoms close pack in this manner and we know how wave phenomena such as radio waves behave. And now we have a model to explain why they do not interfere."

- Cite SYNERGETICS, "Numerology," pp. 11-12. Oct. '71.

Synchronization?

"By designedly synchronized frequency of reoccurrence of their constituent event patternings, a machine gun's bullets may be projected through a given point in the rotational patterning of an airplane's propeller blades. Such purposeful synchronization of a succession of alternate occupations at a point, first by a bullet and then by a discretely angled propeller blade, and repeat, is called angle and frequency modulation; together, they avoid interferences. All physical phenomena, from the largest to the smallest, are describable as frequencies of discrete angular reoccurrence of intimately contiguous but physically discontinuous events. All physical phenomena are subject to either use or nonuse of angular- and frequency-modulating interference capabilities."

- Cite SYNERGETICS text at Sec. 516.03; draft of Apr'71

"I think that very probably then in the light we will be able to have synchronization of the corpuscles as not touching one another and yet have two beams going what had seemed continuous away, but really tensionally, and therefore really not have any problem of interference."

- Cite Oregon Lecture #5, p. 160. 9 Jul*62

See Meshing & Nonmeshing Wow

Seo Universe as Energy & Information, 15 Nov'74

Personality, May'49

Cyclic Bundling of Experiences, Kay'49 Tunability, 24 Apr'76

Cyclic Experience, 1961

Smchronoua Inverter:

See Windworks Windmill, (1)

"The 12 othernesses around the initially conceiving eelfoneness establish both an inward and outward synchroresonance. ..

- Citation and context at Frequency; Initial Frequency. 6 Nov'72

Synchrosystem:

- 'Synergetics accommodates the direct expression of both the linear and angular accelerations of physical Universe. The frequency of the Synergetic coordinate system, Synchrosystem. simultaneously and directly expresses both the angular and linear accelerations of nature. The 'three- dimensional' XYZ - c g_t s system of coordination presently-employed by world-around science can only expr#sss directly the linear accelerations and can evolve therefrom its angular accelerations in awkward mathematics involving irrational non-exactly resolvable constants."

- Cite RBF re-edit of Synergetics incorporated in Sept.
draft at "Modelability, Powering," Sec. 772.2. N.Y. 14 Sept. '71.

See Circuit Synchronisation

Coincidental

Consciousness as Synchronisation of Time k Energy

Eternally Synchronised

Gears: Toothed Gears

Historically Synchronous Aggregate

Interference

Periodicity

Pulsation: Synchronised Pulsation

Meshing

Remergent Synchronization

Simultaneous

Tetrahedral Octave Phase Model

Wave System Propagations

Wow

Nonsynchronization

Life as Synchronization of Time & Consciousness

DyssynchronouB

Frequency Modulation

Modulation

See Periodic Experience Harmonic Interval Intersynchroniiable

Avoidance vs. Interference

See Congruence, 2\$ Jan'72

Interacconnodative, 29 Mar*73

Physical, 13 Mar'73

Structure, 29 Dec*58

System, 24 May'72; 27 May¹?2

X Configuration with Ball at the Center, (2)

Vector Equilibrium, 10 Nov'74

Unitary Conceptuality of Allspace Filling, 20 Oct*72

Subjective & Objective, May*49

Machines vs. Structures, 13 Nov'75

Synergetic:

"The stable structural behavior of a whole triangle, which consists of three edges and three individually and independ~ ently unstable angles (or a total of six components)_t is not predicted by any one or two of its angles or edges taken by themselves. A triangle (a structure) is synergetic: it is a behavior of a whole unpredicted by the behavior of any of its six parts considered only separately."

- Cite SYNERGETICS text at Sec. 614.05; 9 Nov'73

Synergetic Accounting:

"All moat-economic-pattern systems, asymmetric as well as symmetric, are resolvable into symmetric components in synergetic accounting."

- **Citation & context at Symmetry & Asymmetry, Dec'71**

Synsrfleuc ^AcQ<?unUnK Adyanta_{figa}: Hierarchy Of: (1)

"The finiteness of Universe is... finitely proven by comprehensive geometrical system topological accounting. We have, therefore, a comprehensive universal synergetic accounting advantage in respect to all systematic experience considerations both physical and metaphysical.

"The first synergetic accounting advantage of known man-history derived from the two-millennium-old discovery of the invariant sum (180°) of the angles of the obverse face of any plane linear bound triangle.

"The second major synergetical advantage accrued to Newton's inverse ratio law of gravity as a comprehensive astronomical accounting system.

"The third major synergetical accounting advantage was derived 100 years ago from Euler's topological discovery that the number of vertexes of polyhedra plus the number of their faces always equaled the sum of the number of the polyhedra's edges plus the number two.

"The fourth major synergetical accounting advantage accrued"

- Cite 01*IN I DIRECTION AL HALO, p.160, 1960

Synergetic Accounting Advantages: Hierarchy Of: (2)

"a half century ago to the physicists' hypotheses of the law of conservation of energy which held that energy had shown experimentally that it could be neither created nor destroyed. From this assumption, which threw all scientific and nonscientific considerations, other than the energetically physical, into the then seemingly indeterminate realm of metaphysical, came the successive wave-quanta accounting theory and subsequent fission and successful nuclear components discovery and inventorying.

"Fifthly, .Villard Gibbs' phase rule in a formula similar to Euler's in which the degrees of freedom are in effect the vectorial edges, brought synergetic advantages to chemical strategy.

"Sixthly, the same synergetic accounting advantage is now extended by our law of nonsimultaneous finite Universe pattern conservation /"See Corollary of Synergy: Principle of the Whole System_7 to embrace definitive consideration of any and all experiences, physical or metaphysical. The latter strategically equatable accounting advantage derives"

- Cite OMNIDIRECTIONAL HALO, pp160-161, I960

SYHtKC'f - *sec.*

Synergetic Accounting Advantages: Hierarchy Of; (3)

"from a corollary of synergy which shows that systematic accounting of the behavior of whole aggregates may disclose discretely predictable angle and frequency magnitudes required of some unknown components in respect to certain known component behaviors of the total and known synergetic aggregate. Therefore, the definitive identification permitted by the law of finite Universe conservation /T.e., Principle of the Whole System_7 may implement conscious synergetic definition strategies with incisive prediction effectiveness, possibly of epoch-initiating magnitude.¹

- Cite OMNIDIRECTIONAL HA LOB, p.161, I960

irwincl- rec. inil

Synergetic Advantage: Principle of:

"When you try to understand whether man has a function or not, you start by observing Universe, not man."

- Citation at Man: Function of Man in Universe. 30 Oct*71

- ftn'TCTIT » iew. 1972-w-DeffCt» *1

Synergetic Advantage: Principle Of:

"The principle of synergetic advantage states that macro -> micro does not equal micro ---> macro. Synergetic advantage is only to be effected by macro -> micro procedure. Synergetic advantage procedures are irreversible. licro-> macro procedures are inherently frustrated.

"The illusion that starting with unity as one (e.g. Darwin's single cell) will provide simple and reliable arithmetic compounding (e.g., Darwin's theory of evolution going from simple to complex: amoeba monkey man) pervades the elementary educational concept. Synergy discloses the statistical probability of the information to be derived from macro -> macro educational strategy falls completely to predict the experimentally demonstrable gravitational or mass attraction integrities of entropically irreversible universal scenario reality."

- Cite RBF holograph on Sheraton Blackstone paper, Chicago, 24 liar'71

KBF DEFINITIONS

Synergetic Advantage: Principle of»

"Dealing always in terms of a finite universe or totality of behavior, we are able to work from the generalised whole to the particular or special case manifestation of the generalized accounting. This is the basis of the grand philosophic accounting of quantum mechanics."

- CMoWft Jun'66

- Citation at Quantum Mechanics: Grand Strategy, Jun*66

SY>JE*CEncS- UNiveKse Sec 3b5.2.\

sywKnic PrlFwXslt **aZ'**

"Let us return to the universe as our staging point in all problem consideration. We assiduously avoid all the imposed disciplines of progressive specialisation. We depend entirely upon our innate facilities, the most important of which is our intuition and test our progressive intuitions with experiments."

- Citation at Intuition, Jun'66

5 YA/ E# cen cs '3-1?

Principle Of:

See General Systems Theory Macro--- Micro Starting With Universe
Synergetic Strategy of

Commencing with Totality

(1)

See Einstein Equation: $E = Me^2$, 1959 General System Theory. (1)

Gibbs: Phase Rule, 1960 Intuition, Jun'66*

Man: Function of Man in Universe, 30 Oct'71* Metaphysics, Jul'62

Quantum Mechanics: Grand Strategy, Jun'66*

Capability:

See World Game, (1); Jun'69

See Modules: A i B Quanta Modules: Centers Of 21 Feb'72

"Synvrmic Gewictry-

"Synergetic geometry deals with the most economical relationships
And not with the shirtest lines."

- Citation & context at Geodesic Line, 9 Sep'74

"The synergetic hierarchy of relative volumes of growth of associative
and disassociative systems will keep holding true for any magnitude."

- Cite RBF marginalia at "Quark# With Color and Flavor," Scientific American. Oct*75

"Joseph Needham's 'above and below' and his 'higher and lower*' are linear. 'Out' expressly is the containing and the contained: in synergetics, the encompassing and permeating.

"Needham's 'space' is our conceptuality independent of size, i.e., of time."

(RBF had underlined:

Needham: "It is much to be wished that words more suitable than 'above and below' or 'higher and lower*' could be found to indicate the levels of the spatial hierarchy..."

• Cite RBF marginalia at Joseph Needham's Order and Life. Chap. III: 'Hierarchical Continuity*', Pp 111-112? May*74

Synergetic Hierarchies: (A)

"I've given you the synergy of synergies... Then we found that precession was not predicted by mass attraction. The chemical compounds are not prophesied by the atoms. And the biological protoplasm is not predicted by the chemical compounds. And the design of the elephant or the pine tree is not predicted by the protoplasm.

"In view of the hierarchy of hierarchy of synergies, where we have to get the Universe in order to have the greatest... and then finding that the behavior of the wholes and the known behavior of some of the parts, permits you to find out some of the others...

"What Euler found was the differentiation of all the fundamental visual aspects of our experiences-- which has to do with the eye and the radiation frequencies. But Gibbs' phase rule gives you then the difference between liquids, crystallines and gases--- which is really

not to do with the eye, they would be tactile. One is really energy as radiation and the other is energy as matter. These are two very different affairs, Euler gives you the Universe as radiation, or the coming apart phase. And whatn

a Cite RBF to EJA t BO'R, tape transcript Chicago, 31 May'71

"Gibbs gives you is energy associative as matter, and what the degrees of freedom are within it, and what amounts of energy would have to be added to bring about the different states.

"I find the two coming together in vertexial bonds; it has nothing to do really with faces and with edges. One bond gives me a universal joint. Jkiss attraction is in there. You couldn't have the bond without mass attraction--- which is another point that isn't in Euler at all. Gibbs really requires the mass attraction without saying so. Euler tends to be superficial and Gibbs is internal.

"Now again, I have given you circumferential complementarity and I have given you inward and outward complementarity. I have given you circumferential twoness and inward and outward twones. And I have given you circumferential oscillation.

I say Gibbs is dealing in the internal angles and Euler is dealing in the external angles. This is now the integration of the topological and the quantum hierarchies... and the epistemological. It's really very exciting that the internal angles give us what we call the chords of the arcs... This

- Cite RBF to BJA & BO'R, tape transcript, Chicago, 31 I'Jxy'71

"brings us back to our friend angle and frequency alone. And really the very difference between the internal central angles and the surface angles is the difference between the radiational and the gravitational. Gravitational seems to be inclusive always--- it is circumferential . And the radiational is the cebtral angle, the outward angle."

- Cite RBF to EJA *Id.* BO'R, Chicago, tape transcript, 31 May*71

RBF DEFINITIONS Synergetic Hierarchy:

~~Mhm.ltn.lul 111 u_f !,,<~~

EJA; "rfile you're on ouch a cosmic theme / ' ` see Hell. 7, I'd like to remind you of a task you set youroelf when we started to write thio book. You had the topological hierarchies and you had the quantum hierarchieo, and you set yourself the task of combining them in an epistemological hierarchy_r which you said you had never done.'*

RBF: "That's what I'm doing more or less in the "Numerology.' I think when we do this then we bring the social laws of society . . . they may really begin to show up again. Another thing I would like to say about sociology: we've got such a high frequency of asymmetry, that we're permitted to get into fantastical asymmetrical extremes and that's why our sociologists have so much trouble. They're looking at special case instead of principles."

- Cite tape transcript RBF to EJA and BO'R, Chicago, 31 Fay '71

"As an appendix to my discourse, I am presenting a chart of the hierarchy of rational vectorial-geometric relationships which characterize general systems discovery of the tetrahedron as the basic structural unit of physical Universe quantatlon.

"This hierarchy of vectorial geometry correlates rationally Euler's topology, Kepler's Third Law and Newton's theory of gravity, Willard Gibb's phase rule and Einstein's $E = Mc^2$ and explains the necessity to employ Planck's Constant

$h \gg \text{gram} \times 6.6 \times 10^{-27}$ and the Gravitational Constant sec

$\text{gram} \times 6.6 \times 10^{-5}$ to convert the arbitrary XYZ- c.g.,. s. sec

mensuration system, adopted by science, to bring these calculations into agreement with the experimentally disclosed values of macro-micro electromagnetic physical Universe realities which we now find experimentally to be coordinate rationally with the isotropic vector matrix as was always Implicit in the omnirationality of all chemical associating and disassociating."

- Cite Nehru Speech, p. 29. 13 Nov'69

"I am deeply aware of the vast ranges of unexploited geometry that is of importance, however, is an awareness of the generalised, comprehensively coordinate, arithmetical, geometrical, and factorial system employed by nature in all her energetic-synergetic transformative transactions. There is also a fundamental hierarchy of these events. These also coincide, and integrate, with topology, quantum mechanics, and chemistry--- and, amplify all the latter subjects."

- Cite RBF Ltr. to Steve Baer, 19 Apr¹66

Synergetic Hierarchy: (1)

"I have broken through to the almost unbelievable frontier where, clearly and elegantly treatable, exist the generalized fundamental relationships of nature's integrated formulations--- hitherto treatable only in the plurality of unique languages of the respective exact sciences. The unique and separate languages required awkward translation through the function of the abstract interpreters known as the 'constants.* Energetic and Synergetic Geometry now embraces the comprehensive family of behavioral relationships within one language. This integration has been precipitated by the challenge of reconciliation with

— Gibbs' Phase Rule;

— Pauli's Exclusion Principle;

- the Laws of Thermodynamics;

- the Field Equations;

-- the Einstein Energy Equation;

- the structural associations and disassociations of

Linus Pauling's` chemistry;

— Avogadro's Law of Gases;

--- T.N. Whitehead's treatment of the six fundamental degrees of freedom;

--- Lancelot Law Whyte's compendium of point system treatments;

gynerfietl? Hierarchy:

(2)

— Brewer's fixed point theorem;

--- Bohr's fundamental complementarity, and most importantly of all from the viewpoint of

--- Percival Bridgman's Operational Procedures,

--- the comprehensive family of associative-disassociative reciprocal and transformative behaviors and values discovered by first hand exploration

and first hand reexamination of the total circumstance surrounding every structural discovery.

- Cite RBF Ltr. to Mr. X, 15 Apr. 1955

Synergetic Hierarchy;

See Hierarchy: Hierarchies

Topological & Quantum Hierarchies Grand Strategy

Synergetic Infra!:

"The omni-interacconnnodativenasB

Of the totally known inventory

Of generalised principles

Constitutes a progressive disclosure

Of a vast a priori design To be governing Universe, Whose intellectual integrity bespeaks An a priori greater intellect Than that manifest in humans, All of which synergetic integral Is hidden from sight of humanity, As it is at present omnivictimized By a universally specializing antisynergetic Anticosmological Educational process,"

- Cite INTUITION, pp. 43-44, May '72

"The total of experience is integrally synergetic.

Universe is the comprehensive a priori synergetic Integral. Universe continually operates in □ comprehensive coordinate patternings which are transcendental to the sensorially minuscule apprehension and mental comprehension and prediction capabilities of mankind, consciously and inherently preoccupied as he is only with special local and nonsimultaneous pattern considerations."

- Cite OMilMRSCITIONHAL HALO.p. 131. '960

Synergetic Integral:

See God, 31 Jan'75

synwHls XnffiFitYs

See Universal Integrity; Principle Of, 8 May*72

"... The Integrated synergetic proclivities of:

inward-outward and three-way aroundness;

processional processing of plus-minus polarisation; and wave propagation mechanics.

- Cite SINERGETICS, 2nd. Ed. at Sec. 201.11, 10 Nov'74

See In. Out, and Around Polarisation Wave Propagation Mechanics

Seo Spherical Nostalgia, 12 Jun¹74

"... The self-discovery process goes on to identify all the hierarchy of geometrical intertransformings which are the subject of this book, and proceeds inherently, by synergetic strategy of commencing with totality of Universe self- realization to differentiate itself out into its progressive omnirational differentiation of its ever symmetrically equated potentials. And all other geometrical proofs of all the Greeks and their academic successors aboard our selfrealizing planet are herewith usably embraced; and all the rules of geometrical self-development proofs, are discovered to be germane but always holistically embraced in omnirational identity. Self is not a priori evident. Thus we have avoided mathematical axioms which hold certain recognized a priori self-recognized conditions to be self-evidently irreducible by further analysis."

- Cite SYNERGETICS draft at Sec. 487.00 from RBF holograph 28 May'72

gXMt£Ug Strategy gf CSFmtMlriK WUh Totality:

See Synergetic Advantage: Principle Of

Starting With Universe Macro-» Micro: (Synergetic Advantage}

SnwrmK sunpriac-

"... The Universe manifests an extraordinary aggregate of generalised principles, none of which contradict one another and all of which are inter-accommodative, with some of the interaccommodations exhibiting high exponential levels of gynergetlc surprise. Some of them involve fourth-power geometrical levels of energy interactions.**

- Citation and context at A Priori Intellect, (Ifr + (2), 9 Apr'71

See Improvement vs. Surprise 1954

Concentric Hierarchy Limits, 30 Dec*73

See Energetic-synergetic Energetics & Synergetics Subsynergetic
Wholes & Parts

^sytwn;gtK= (2)

See Atomic Computer Complex, 19 Apr* 73

Central Angles & Surface Angles, Aug'71 Children as Only Pure Scientists,
(2) Interaccommodate, 30 Jan'73

Life, 22 Jan*75

Mass, 29 Dec* 58

Precession. 16 Jun'72

Universe, Jul*59

Visual Symphony, (2)

Multiplication by Division, 20 Jan'77

Critical Mass, 12 May'77

Energetic Functions, 8 Aug*77

See Synergetic Accounting Advantages; Hierarchy Of

Synergetic Advantage: Principle Of

Synergetic Capability

Synergetic Centers

Synergetic Hierarchy

Synergetic Integral

Synergetic Integrity

Synergetic Proclivity

Synergetic Strategy of Commencing with Totality

Synergetic Surprise

Synergetics "is based on the discovery of the relative energy investment values of nature's geometrical hierarchy of cosmically primitive structurings and intertransformings. It is the geometry of general systems. All of its lines are vectors, that is, they exist only as energetic phenomena. A vector always represents the product of mass and the velocity of a given energy entity operating in a given angular direction in respect to a given axis of observational reference. Synergetics discloses by physical models the orderly ways in which nature intertransforms, propagates, and pulsates, sometimes visibly and sometimes invisibly, yet is always demonstrably operative by 'tuning in' and 'tuning out.'"

- Cite RbF's "Introduction to Einar Thorsteinn's Book," Para 032, pp.fl-9; 17 Oct'77

SynepRetJcj ' •

"This Red Sea kind of thing goes on. . . Like getting our book out just in time for people to accept the information."

- Cite RBF to EJA; 3200 Idaho, Wash,DC: 5 Sep'77

RBF DEFINITIONS ^symxrzftl£fl

Q, "How does synergetics avoid the kind of pitfalls of the error made by Ptolemy?"

RBF: "I do not downgrade Ptolemy at all. Progressive

knowledge comes from the reduction of error. Synergetics is not mine: it is quite clearly the system employed by nature.

- Cite RBF to World Game Workshop; Pftila., PA: 22 Jun'77

SynergeticsI

"And now we have 20.000 copies of SYNERGETICS now in print as against four billion members of the human race---that is, about 1/1,000,000th can see and tune in to this... race with evolution... that is the race!"

- Cite RBF to World Game Workshop* 77; Phi la., PA; 21 Jun.»77

RBF DEFINITIONS

SxWAgUCfl:

"Yes, synergetics is understandable by anyone. You may have to look up a word or two---Just as you would expect to in any book. But since it all derives from the experimentally demonstrable---and here I think I really am a pure scientist**- it is readable and thinkable by anybody.^{1*}

to

- Cite RBF/casual visitor, 3200 Idaho, 'Jash. DC; 12 May'77

Synartat •

"Synergetics is a book about models: humanly conceptual models; lucidly conceptual models; primitively simple models; rationally CB-fiSBQSBWAI intertrans forming models; and the primitively ample numbers uniquely and holistically identifying those models and their intertransformative, generalised and special case, number-value accountings

- Cite SYNERGETICS, 2nd. Ed. at Sec. 900.21; RBF rewrite, 12 *y»75

Synergetics:

"The book, Synergetica, is designed to help scientists use science to explain how our world works... trying to remove the blocks from the roadway.,. to provide a conceptual bridge between science and the humanities."

- Cite RBF to EJA and Don Fusaro, 3200 Idaho Ave. NW Wash. DC 7 Apr'75

SynergeticB:

"Synergetics: the whole me is to convert to order, to comprehend, to understand."

- Cite RBF at Penn Bell videotaping session, Philadelphia, PL., 20 Jan'75

Sjme£££lifjB:

"Synergetics shows how we may measure our experiences geometrically and topologically and how we may employ geometry and topology to coordinate all information regarding our experiences, both metaphysical and physical."

- Citation &. context at Information vs. Entropy, 15 Nov*74

SYncrmicj;

"Synergetics mathematics has the ability to take the spherical and pull it out in the flat."

- Citation *k* context at Omnidirectional Typewriter (4)_t 15 Jun¹74

Synergetics:

"The essence of my book is the coordinate system of nature. This is the way she does it. She does have a geometry. And this is the way things transform. This is the way they inside-out and all the things they do. This is the way they associate and disassociate. It is primarily the geometry of the nucleus rather than the geometry of chemistry, of the associating. It's mostly the fundamental behaviors, the central behaviors. It is inherently nuclear in its own right."

- Cite RBF to D3I Mtg., Philadelphia, transcript p.20, 23 Mar'74

Synergistics:

"My book, SYNERGETICS, is committed to conceptual elucidation of the intertransformational geometries operative in the nonoptically-tunable ranges of Universe events. Synergetics conceptualities always manifest geometrical integrities of intertransformabilities."

- Citation in context at Gravity (j), 12 Jun'74

Synergistics?

"Synergetics is a book about models... and the primitively simple numbers uniquely and holistically identifying those models and their intertransformative number-value accounting."

- Citation and context at Models f 9 Jan'74

Synergistics:

"The increasingly vast, comprehensive, and rational order of arithmetical, geometrical, and vectorial coordination that we recognize as synergetics can reduce the dichotomy, the chasm between the sciences and the humanities, which occurred in the mid-nineteenth century when science gave up models because the generalized

case of exclusively three-dimensional models did not seem to accommodate the scientists' energy-experiment discoveries. Now we suddenly find elegant field modelability and conceptuality returning. We have learned that all local systems are conceptual. Because science had a fixation on the 'square,' the 'cube,' and the 90-degree angle as the exclusive forms of 'unity,' most of its constants are irrational. This is only because they entered nature's structural system by the wrong portal. If we use the cube as volumetric unity, the tetrahedron and octahedron have irrational number volumes."

- Cite SYNEfifTICS text at Sec, 990.05; RBF rewrite of 30 Dec'73
SyncretUB; H)

"In the synergetics' four-dimensionally coordinate system's operational field the linear increment modulatability is the isotropic vector matrix's vector, with which the edges of the co-occurring tetrahedra and octahedra are omnicongruent; while only the face diagonals--- and not the edges--- of the inherently co-occurring cubes are congruent with the matrix vectors.

"Synergetics' exploratory coordination inherently commences integrally, i.e., with whole systems consideration.

"Consider the one-dimensional linear values derived from the initially-stated whole system, four-dimensional, omnirational unity; any linear value therefrom derived can be wholistically attuned by unlimited frequency and one-to-one, coordinated, wavelength modulatability.

"To convert the XYZ system's cubical values to the synergetics' values the mathematical constants are linearly derived from the mathematical ratios existing between the tetrahedron's edges and the cube's corner-to-opposite-corner distance relationships; while the planar area relationships are derived*

- Cite RBF holograph Pacific Palisades, p. 2, 30 Dec'73, incorporated in SYNERGETICS text at Sec. 982.5#5`3j

"from the mathematical ratios existing between cubical-edged square areas and cubical-face-diagonal-edged triangular areas; and the volumetric value mathematical relationships are derived from ratios existing between (a) the cube-edge- referenced third power of the--- often odd-fractioned--- edge measurements (metric or inches) of cubically-shaped volumes and (b) the cube-face-diagonal-vector-referenced third power of exclusively whole number vector, frequency modulated, tetrahedrally shaped volumes."

- Cite RBF holograph Pacific Palisades, p.2 JO Dec*73 incorporated in SYNERGETICS at Sec. 982.5\$- £.55}

Synergetics:

"Synergetica is the geoetry of thinking."

- Citation and context at Qeoaetrv of Thinking. 16 Dec*73

SmrgttlcB-

"Synergetics topology Integrates laws of angle and voluae regularities with Euler's point, area, and line abundance laws."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 202.02, 28 Oct'73

STMFABUU ;

"Synergetics shows that the tetrahedron can be extrapolated into life in all its experience phases, thus permitting humanity's entry into a new era of cosmic awareness."

- Citation at Tetrahedron. 26 Oct*73

£m££&ati9j:

"Synergetics is comprehensive because it describes instantaneously both the internal and external limit relationships of the sphere or spheres of energetic fields; that is, singularly concentric, or plurally expansive, or propagative and reproductive in all directions, in either spherical or plane geometrical terms and in simple arithmetic."

- Citation in context at Vector Equilibrium: Field of Energy (A)(B), 11 Oct'73

gynUMUffli

"Despite the synergetic work of such pioneers as Euler and Gibbs, all the different chemistries and topologies still seem to be random. But synergetics, by relating energy and topology to the tetrahedron, and to systems as defined, and " by its synergetic hierarchy, replaces randomness with a rational cosmic, shape-and-structural-system hierarchy. This hierarchy discloses a constant relative abundance of the constituents; i.e., for every nonpolar point there are always two faces and three edges. But systems occur only as defined by four points. Prime structural systems are inherently tetrahedral, as is also the quantum."

_ Citation and context at Probability Model of Three Cars on a Highway, (2)0), 26 SepT

§ YB or «t iSfi-

"In synergetics--- as in quantum mechanics--- we have multiplication only by division."

- Citation and context at Unity of Universe. 34 Sep¹73

"Synergetics is a generalisation.*

- Citation and context at Scheme of Reference, 24 Sep*73

Sypgrxotlgfl:

"Synergetics, as a strategy of converting apprehension to discrete comprehension, always proceeds vectorially."

- Citation and context at Otherness Point, 24 Sep'73
SYBprKotler

"That's what synergetics is: the geometry of thinking. I find I don't use the word 'psychological.'*

d

- Cite RBF to EJA. 3200 Idap, Wash., DC (discussing possible subtitle for SYNERGETICS), 15 Jul'73

STMKflUCI?

"Synergetics starts system mensuration at the system center and, employing omni-60 angular coordinates, expresses the omni-equal, radial and chordal, modular linear subdivisions in 'frequency' of module subdivision of those radii and chords, which method of mensuration exactly accommodates both gravitational (coherence) and radlational (expansion) calculations. As the length of the vectors represents given mass-tlmes-velocltly, the energy involvements are Inherent in the isotropic vector matrix."

- Citation and context at Synergetic Constant (2), 14 May'73
Synergetics:

"The realization of conceptualization will reunite the sciences and the humanities."

- Cite RBF revision of "Ten Proposals for Improving the World," For EARTH, INC., New Delhi, Dec ` 72

SvnergeUcs;

2 "10 F +2 --- which tan brings in the number five to the hierarchy of low order prime numbers characterising synergetics. The polar twoness is the additive twoness. The twoness in the ten is the basic multiplicative twoness; it is the unity-is-twoness inherent in the nuclear sphere and in the number of outer spheres in the vector-equilibrium Icosahedron's regenerative system which always equates as $10 F^2 \approx 2$."

- Cite SYNERGETICS draft at Sec. 527.52, 29 Nov'72

Synergetics;

"...in synergetics the energy as Mass is constant and nonlimit frequency is variable."

- Citation and context at Einstein. 960.06, 16 Nov'72 Incorporated in SYNERGETICS also at Sec. 22Nov'72

Synergetics:

"Synergetics provides geometrical conceptuality in respect to energy quanta.^{1*}

- Citation and context at Pankay 17 Nov'72> Added to SYNERGETICS at Sec. 200.04, 22 Nov'72

Synergetics;

"It is highly probable that universal comprehension of synergetics is strategically critical to humanity's exodus from the womb of originally permitted absolute helplessness and ignorance at birth and entry into realisation of planetary society spontaneously coordinate in universally successful life support, ergo freedom from fundamental fear and political bias inherent to the now only-ignorantly- continuable assumption of life-support inadequacy."

- Cite RBF marginalia 6 Nov'72 Incorporated in SYNERGETICS draft at Sec. 216My, 9 Nov'72

Synergetics:

"The difference / between particle quanta equation and wave quanta equation, Sees. 973.31 + 973.32._7¹³ the difference between using the tetrahedron as volumetric unity, while the physicist has always been using the cubic centimeter of water--- and then only lifting it In one direction, against gravity, against the imagined plane of the world. While synergetics moves omnidirect lonally, inwardly and outwardly."

- Cite SYNERGETICS draft at Sec. 973.3\$, 1? Oct*72

Synergies:

"Identification of the Mathematical Cocrdinate System of

Universe: An apparently comprehensive mathematical coordinate system of Universe provides modelable conceptualization of science which is experimentally demonstrable."

- Cite WORLD-A ROUND PROBLEMS THAT HAVE TO BE SOLVED BI BLOODLESS DESIGN SCIENCE REVOLUTION, NT Times, 29 Jun'72

Synergetics:

"The hierarchy of geometrical intertransformlngs... Io the subject of this book."

* Context at Synergetic Strategy of Commencing With Totality. 28May

- Cite SINEKCET1CS draft at Sec. 487.00 from RBF holograph. 28 llay'72 '

Synergetica;

"Synergetics, by relating energy and topology to the tetrahedron, and to systems, as defined by its synergetic hierarchy, replaces randomness with a rational hierarchy of omni-intertransformative phase identifications and quantised rates of relative inter transformations.**

__ Citation and context at Probability (2), 26 May'72

Snwrgpvcg:

"There is an ideal which is eternal and inherently complex, which complexity is accompanied by the ideal transformability which synergetics elucidates."

- Citation & context at Ideal. 23 May'72

RBF DEFINITIONS

Synergetics:

"The ideal eternal conceptuality which we are discovering in synergetics is so true as to become real because part of the conceptuality is the lags which bring in the six degrees of freedom."

- For citation and context see Timeless. 1 Apr '72

bvnerretics:

"Synergetics, by relating energy and topology to the tetrahedron, and to systems as defined, and by its synergetic hierarchy, replaces randomness with a rational hierarchy. There is the constant relative abundance: for every point there are three edges. But systems require four points. Two tetrahedra make the quantum."

- Cite KBF to EJA, 3200 Idaho, DC, 17 Feb «72 jrwtrxtf' ry - ice,

Synergetics:

It is a discovery of BvnergeticB that "the addition of angle and frequency to Euler's Inventory of crossings, areas, and lines is the absolute characteristic' of all pattern cognisance."

251.02

- Cite RBF Marginalia at SYNERGETICS draft Sec. 20 Dec*71

Synergetics:

"Synergetic geometry embraces all the qualities of experience, all aspects of being. Measurement of width, breadth, and height is only part of the picture.

Without weight you do not exist physically--- nor without a specific temperature. You can convert the velocity x mass into heat. Vectors are not abstractions they are resolutions. Time and heat and longevity and weight are inherent in every dimension."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. »71

Synergetics:

"The Euclid XYZ-coordinate geometry does not have time. SynergeticC-S inherently has time: it deals with anything that exists."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. '71

Synergeticj:

"...The complete gears-Interlocking of quantum-wave mechanics and vectorial geometry..• are coordinately contained in synergetics with computer binary 'bitting.'"

- Citation 4, context at Generalisation & Special Case. Nov'?1

Synergeticg:

"Synergetics correlates verities of time and eternity

- Citation k context at Time k Energy Oct*71

Synergetica:

"The integration of geometry and philosophy in a single conceptual system providing a common language and accounting for both the physical and the metaphysical. Thought has shape independent of size."

- Cite STNERBGETICS draft. "Discoveries of Synergetics," Oct»71
fifteenth sentence later incorporated at Sec. 251*50

Synergies:

"Synergetics explains much which has not been previously illuminated. It is not contradictory to any of the experimentally-based knowledge of any of the classically disciplined sciences. It does not contradict the calculus or any other mathematical tool for special case applications, although it often find them inadequate or irrelevant. Experientially founded synergetics clearly identifies the conceptual limitations and coordinate functionings of all the classical tools of mathematics and it shows how their partial functioning often frustrates comprehension of experience."

- Cite RBF dictation to EJA New York, 28 Feb. '71.

for SYNERGETICS, Beverly Hotel, See Sec. 309=. Oct. *71.

[?«!«! •<)

Synergetics:

"The phenomenon time entering into energy is just a metaphysical concept. It explains our slowness and our limitations. Temporality is time and the relative asymmetries of oscillation are realizable only in time in the time required for pulsative frequency cycling. Synergetics correlates verities of time and eternity."

- Citation at Time, Oct'71

Synergetics:

•'Synergetics represents the coming into congruence of the greatest metaphysical system in history integrating with the most incisive physics findings and generalized laws. At no time am I being scientifically perverse.

I am absolutely astonished with a philosophical awareness of the highest scientific order that accommodates the most mystical and mysterious of all human experience. What we are experiencing is vastly more mystically profound by virtue of our adherence to exper-

imentally harvested data than has ever been suggestively induced in human comprehension and imagination by benevolently implored beliefs in imagined phenomena dogmatically generated by any of the formalized religions. We are conscious of aspects of the mysterious integrity Universe which logically explain that which we experience and the integrity of the Universe to far more comprehensible degree than that occurring in the deliberately make-believe nonscientificallly founded communications of humanity."

- Cite RBF to LJA. Beverly Hotel, UY, 19 Jun *71, Incorporated at SYI-iKGsTICS Sec. draft April *72.

Sxhermjcg:

"We ^dJ^dn't talk about the domains of volumes, Just surfaces ihls is the difference between synergetics and Euler."

- Citation at Domains of Volumes, 18 Jun'71

~~RBF-marginalia, Boston,~~ Synergetics:

"In distinction from all other mathematics synergetics provides domains of interferences and domains of crossings."

- SYNERGETICS Draft - "Conceptuality: Interference'Domains"

- Citation at Domains. 25 Apr'?1

RBF DEFINITIONS

Synergetics:

"The difference between synergetics and conventional mathematics is that it is derived from experience and is always considerate of experience, whereas conventional mathematics is based upon 'axioms' that were imaginatively conceived and inconsiderate of information progressively harvested through microscopes, telescopes and electronic probings into the non-sensoriatunable ranges of the electromagnetic spectrum."

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971 "Synergetics
--- Which is the name I have given To the omni-rational comprehensive
Coordinate system of universe Which has been my privilege To
have discovered

sec. 5»1.3o\

Which makes nuclear physics A conceptual facility Comprehensible

Cite INTUITION, Draft Feb '71 p. 46

By any physically normal child."

s/juerfCFT/cs: 263,4]

Synergetics:

Synergetics provides for "the identification of energy with number."

{Adapted.)

*** Cite RBF to EJA by phone from Los Angeles 19 Jan 71 pursuit Cox-
eter's letter offering the mathematical proof of 'Planetary Planning' in
American Scholar, Winter 70-71.**

RBF DEFINITIONS

Synergetics:

"/Synergetics is energetic geometry *J*

Sixty degree coordination is the basis for energetic geometry

For it is nature's way

To close pack spheres.' •

Adapted

- Cite RBF DRaft, NUMEROLOGY, 4.23 170

SY E RC Fries - Sec 10 I*

Synergetics:

"Synergetics altogether forsakes axioms as self-evident pre-microscope superficialities: beliefs.

"Synergetics predicates all its relationship explorations on the most accurately and comprehensively storable observations of direct experiences.

"Physicists define synergetics as 'experimental mathematics.'

- Cite RBF marginal notations in Beverly Hotel, New York 9 Sec 70.

S'y

Synergetics;

"In this synergetic system society will have to learn that n* stands for n 'triangled' and not 'squared'; and that is n 'tetrahedroned' and not 'cubed'

- Cite NEHRU SPEECH, p. 27, U Hoe'69

Synergetics;

"The mathematics involved ... in Synergy . . . consist of topology, combined with vectorial geometry.ⁿ

~ \ - Cite OPERATING MANUAL, p. 70, 1969 • SEC a.O'ill

Synergetics:

"Synergetics . . . consists ... of the solving of problems by starting with known behaviors of whole systems plus the known behaviors of some of the systems' parts, which advantageous information makes possible the discovery of other parts of the system and their respective behaviors, as for instance in geometry the known sum--- 180 degrees--- of a triangle's angles, plus the known behavior of any two sides and their included angle and vice versa, enables the discovery and use of the precise values of the other three parts."

- Cite OPERATING MANUAL, pp. 8?-88. 1969

Synergetice:

Synergetics in its "search for a coordinate system of nature has continually reexamined and reconsidered" the "experimentally based successive discoveries of what seemed to be an hierarchy of generalized principles possibly governing all of the physical universe's intertransforming transactions."

- Cite P. Pearce Ltr. 17 July 1968, p. 2.

Tics -

Synergetics:

"Experimentally founded mathematics . . . shows how we may measure and coordinate entirely rationally, arithmetically, geometrically, volumetrically, vectorially, topologically, and energy quantumwise in terms of the tetrahedron."

- Cite NASA Speech, p. b6 , Jun'66

"Scientific design controls . . . frequency and magnitude events by valving, that is, angle and frequency modulation.

Angle and frequency modulations,

either subjective or objective in respect to man's consciousness, discretely define all events or experiences

which altogether constitute universe."

- Cite NASA SPEECH, p. 42, Jun>66

Stc. 10 ? I Salts'

Synergetics:

"Synergetics provides us vectorial

modelling of heretofore only instrumentally apprehended phenomena as for instance in nuclear physics,"

Cite NASA Speech, p. 104 □ Jun'66

Synergetics:

Synergetics is energetic mathematics.

(Adapted)

Return to Modelability, p. V, 16-

NASA Speech, pp. 81, 83, Jun*66

Synergetics:

Synergetics "introduces a new conceptual aspect of topology which is the description of a structural system in the form of the sum of all its surface angles.*

- Cite NASA Speech, p. 63. Jun'66

Synergetics - sec. i]

Synergetics:

Synergetics "correlates our arithmetic and our

geometry."

(Adapted.)

- Cite Garbondale Draft

Return to Modelability, p. V, 4

- Cite UAI, 4. Jun'66

Synergetics:

"The increasingly vast comprehensive and rational order of the arithmetical, geometrical and vectorial coordination of structural formulation ... to accommodate the scientists' energy experiment discoveries."

- Cite Carbondale Draft

Return to Model ability_t pp. V.9, V.10

- WA5A *ifeirCH* __ 75- 74.Jun'66

Synergetics:

"Because it is nature's own most economical coordinate system . . . •
the experimentally founded mathematics /which we call Synergetics?
will disclose the geometry that we ought to be teaching our children."

Return to Modeiability-p.---

C1 T£ AJAsA • />. UI Jun'66

Synergetics:

"Our metfcod of demonstrating the nature of the special case experiences out of which the M* pure mathematician's imaginary, generalized case of his pure straight line were □MSB evolved, also contains within it the complete gears-interlocking of quantum mechanics and vectorial geometry, together with computer-binary 'bitting' and EMF--all of which are coordinately contained in Synergetics on an entirely rational basis."

- Cite NASA Speech, p. WC

Jun*66

-sec

SynfflittUW •

"/Synergetics discovers/ an importantly large area of the arithmetical, geometrical, topological, crystallographic, and energetically vectorial coordinate system employed by nature itself. It is a triangular and tetra- hedral system. It uses 60° coordination instead of 90° coordi-
nation. It permits kindergarten modeling of the fourth and OiBB fifth

arithmetic pqrps, i.e., fourth- and fifth-dimensional aggregations of points and spheres, etc., in an entirely rational coordinate system. I have explored the fundamental logic of the structural mathematics strategies of nature which always employ the six sets of degrees of freedoms and most economical actions."

- Cite DOXIAMS, p. 336, 20 Jun'66

Synergetics;

. I have given the name Synergetics to the arith- netical-geometrical, chemical, energy-quanta, omni- rational, sixty-degree coordination of nature."

- Cite KEPES Caption Figure Ed, p.87 1965

Synergetica: (A)

"Synergetics is an omnirational, arithmetical, geometrical, vectorial coordinate system apparently employed by energetic nature., which incidentally permits fourth- and fifth-power models of modular-volume, symmetrical aggregations around single points in an omnidirectional, symmetrical, allspacefilling radial growth of those same modular-volume components, i.e., the tetrahedron, in such a manner as to disclose omnipersist ent, one-to-one correspondence of radial wave modular growth with circumferential modular frequency growth of the totally involved vectorial geometry. (This means that angular and linear accelerations are identical.)

"Synergetics makes possible the return to omniconceptual modelling of all physical intertransformations and energyvalue transactions, as exclusively expressed only in

algebraic abstractions throughout the last century. Synergetics does not contradict but complements the exclusively abstract algebraic expressions of physical Universe relationships which commenced approximately one century ago with the electromagnetic wave discoveries of Hertz and Maxwell, whose electrical apparatus"

- Cite RBF Ltr. to Prof, von Hochstetter, p4, 28 Oct'64

Sf'nenc er>cs ~SecioS-L

"experiments made possible their algebraic treatment without being able to see or conceptually comprehend the fundamental energy behaviors. The permitted discrete algebraic statement and treatment of invisible phenomena resulted in science's comfortable yielding to completely abstract mathematical processing of energy phenomena. The VW abandoning of conceptual models removed from the literary men any conceptual patterns with which they might treat in attempting to comr.unicate the evolution of scientific events to the nonmathematically- languaged public."

- Cite RBF Ltr. to Prof, von Hochstetter, p.4, 28 Oct'64

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SyperKet:

"» • • You see these compression members not touching each other and just hovering in tension . . . that becomes another one of the axiomatic points ... in synergetic geometry*"

- Cite LEDGEMONT LAB Lecture, 15 Oct. '64, p. 29

Synergetics:

Synergetics "Makes possible a rational whole number low integer quantation of all the important geometries because the tetrahedron, the octahedron, the rhombic dodecahedron, the cube, and the vector equilibrium do comprise all the lattices of all the atoms."

(Adapted*)

cite ftrtee.. tcc-nulr #4-*>; zyz.

- C-lte OarboudJle-Drari 10 Jul'62

Nature¹s~Cuuidination, p. ¥I*6S

3YUt UftMs S'fC-

RBF DEFINITIONS

Synergetics:

"The whole theory of structures is both altered and enormously expanded and implemented by my introduction of mathematically coordinate and comprehensively operative discontinuous-compression, continuous-tension structural systems as inherent to synergetics and it omni-rationality of vectorial, ergo energy, accounting."

~~JJ. VTT-76&~~ ART NEWS, Dec'61

SynermiC?:

"... Energetic-synergetic geometry and its multi-dimensional multi-axial symmetry."

- Cite "Tenaagrlty," PORTFOLIO + ART NEWS, p.121, Dac '61

Synergetics:

Synergetics discloses "fourth, fifth and sixth dimensional symmetry in addition to the well known two and three dimensional symmetry."

~~Site on the~~
~~7/10/61, p. 11, 20~~ (Adapted.)

A-RT-NEWS, ~frec • 61

- Citation &. context at Fonrth Dimension_f 21 Dec'?1

SynerKHLqg:

"Synergetic geometry makes possible a childhood participation in nuclear physics as a logical and enjoyable, rather than a precocious phenomenon. However, scientific 'entry into the present realm of nuclear competence was accomplished with the awkward, irrational tools of /the XYZ coordinate system?, lhe development and

adoption of the great computers has now relieved man of the onerous tasks characteristic of the irrational constants interlinking the many separate facts of scientific inquiry which arose from the /Euclidian geometric? approach. Because these tasks are being carried by the computers, and men are getting along all right on their blind-flown scientific pilgrimages there will be only slow realization of the significance of the sensorially-conceptual facility of dealing with nature that is opened up by” Synergetics.”

(Adapted; bracket phrases substituted for 'energetic'.)

- Cite MARKS, p. 134, Fig 1,1 caption.

Above all in quotation marks from HBF by Marks. 1960

Synergetics?

”Substituting the word tetrahedron for the number two completes my long attempt to convert all the residual heretofore unidentifiable integers of topology into geometrical conceptability.”

- -p. -4

- Citation at Unity aa Two. 1960

Synergetics:

”In” Synergetic’s ”isotropic, vectorially triangulated, omnidirectional matrix initiations the angular and linear accelerations are rational and uniformly modulated, whereas in the XYZ coordinate analysis of the calculus only the linear is analyzable and the angular resultants

are usually irrationally expressed.”

- Cite OMNIDIRECTIONAL HALO, p. 156, 1960

Synergetics ‘

”... the comprehensive, omni-rational, mathematical system employed by nature throughout all her complementary and accommodatively transforming transactions. /It/ manna embraces all known facets of mathematics. Rather than refuting the bases of presently known Euclidean and Non-Euclidean Hyperbolic and Elliptic geometry, Energetic-Synergetic Geometry identifies the alternative freedoms of prime axiomatic

assumption of aim which the present mathematical bases were selected. All of the axiomatic alternatives are logical. Some result in awkwardness of complex relationship expression. /Synergetics/ employs a new set of axioms which seemingly result in sublime/facile expression of hitherto complex relationships. . . ”

- Letter to Collier's, p.113 McHale Cite COLLIER'S, Oct'59

5«.

Synergetics:

/Synergetics/ "does disclose the excruciating awkwardness characterising present-day mathematical treatment of the interrelationships of the independent scientific disciplines as originally occasioned by their mutual and separate lacks of awareness of the existence of * comprehensive rational coordinating system inherent in nature.^{1'}

- Cite COLLIER'S, p. 115_a Oct

Synergeticat

"The discovered coordinate system is apparently governed by generalised laws, some of whose mathematical equatability I have been allowed not only to discern {as far as I know for the first time by anyone) but also to codify and translate into unique structural realisations. This codification governs the total coordinate abundance ratios of the unique pattern aspect relationships of uniquely irreducible cooperative function aspects of locally nonsimultaneous events and their equilibrrious pattern totality.

"Discovery of the primary and corollary laws of constantly coordinate relative abundance of pattern function-aspects of totality as an omnirational regularity governing all local pattermings of Universe as a minimum-maximum family of complexedly complementary, yet

uniquely identifiable, conceptual function-patterning relationships followed upon intuitive formulations of the seemingly most comprehensive self-querying questions I was capable of propounding to myself regarding possible detectable pattern significances accruing to progressive life experience integrations and overlays."

- Cite INTRODUCTION to OMNIDIRECTIONAL HALO, pp.121,122, 1959
Synergetics:

"...An omnirational, omnidirectional, omniequi-economic, energy accounting, coordinate system of Universe. This omnirational, arithmetical-geometrical accountability is of such sublime simplicity in contrast to the awkward 'mathematics' of all known yesterdays as to have occasioned an almost universal incredibility and nonconsideration of its potential significance though it has been in disclosure for one quarter of a century."

- Citation and context at Hierarchy of Constellar Configuration
Synergetics:

Synergetics aim at "a total epistemological reorientation and ... a unique philosophical reconceptioning, regarding the regenerative constellar logic of the structuring of the universe (both as a new cosmology and as a new cosmogony), . . . "

Synergetics makes possible "the formulating of more comprehensive and symmetrical statements regarding dawningly apparent natural laws."

- Cite INTRO, to OMNIDIRECTIONAL HALO, Second sentence,
SrMF««ETic5 - P1 , '959

RBF DEFINITIONS

Synergetics:

"By embracing all the energetic phenomena of total experience" synergetics secures an "advantage for all energy accounting and prospecting."

(Adapted.)

Cite INTRO, to OMNIDIRECTIONAL HALO, p. 123, 1959 -- sec. 2o<|)

Synergetics;

"Out of cumulative patterning overlays there emerges what seem to be generalized principles apparently governing all associative and disassociative transformings and their resultant regeneratively persistent hierarchy of constellar configurations. These hierarchies of constellar configurations disclose in turn a hierarchy of dynamically symmetrical constellation phases and their respective maxima-minima, asymmetric and complementary, accommodative transformabilities which are apparently permitted within an omnirational, omnidirectional, omniequieconomic. energyaccounting, coordinate system of universe. This omnirational arithmetical-geometrical accountability 4s of such sublime simplicity in contrast to the awkward 'mathematics' of IMBS all known yesterdays as to have occasioned an almost universal incredibility and nonconsideration of its potential significance though it has been in disclosure for one quarter of a century."

- Cite INTRO, to OMNIDIRECTIONAL HALC, pp. 120, 121 , 1959

•Synergetics geoaatry precession explains radial-circuaferential acceleration transformations»"

- Citation and context at CraTitational Svat.n Zone, 14 Jen'55

Synergetics:

- Energetic geometry is one up on the topologists because it understands the dynamic significance of the implicit 2 and the inherent spin."

- Citation and context at Tetrahedron: Inside-out Tetrahedron Begins to Grow. 10 Jan*50

Synergetics:

"/Synergetics is/ a rational system of mensuration comprehensive to physics and chemistry. It is a geometry originating in the assumption that dimension must be physical. It follows that, inasmuch as physical universe is entirely energetic, all dimension must be energetic. Vectors and tensors constitute all elementary dimension.

"Thus, original assumptions eliminate the necessity of subsequent assignment of physical qualities to abstract mathematical devices in the manner we have, of necessity, assigned progressively discovered attributes of physical universe to irrational relationships within the a priori ghostly Greek geometry.**

- Cite PREVIEWS, 141, P. 213, 1 Apr'49

3X#IK CE ncs __ SL-c. 76/

Synergetics:

Synergetics "is comprehensive because ... it describes instantaneously both the internal and external relationships of the sphere or spheres; that is, singularly concentric or plurally expansive, or propagative and reproductive in all directions, in either spherical or plane geometrical terms and in simple arithmetic."

* Cite DYMAXIUh COMP. SYSTEM, 1944, Table 4, caption,

- sec.

Synergetics:

"Here we abandon all 'thingness,' all `solids,' all `surfaces and have recourse only to topological aspects, `relative acceleration behaviors,' and 'reciprocally transformative precessional involvements,' which sounds ominous but proves to be all that is simple."

- Cite Ltr. to Jim Fitzgibbon (?), Raleigh NC, p.j3, undated

Synergetics;

"The much simplified spherical trigonometry, plus a permeative topology, plus quanta and wave mechanics, plus thermodynamics, pluchemical structures, integrate as synergetic geometry, which sum-totally is no more difficult than is the visible reading of the Dymaxion Airocean Map, which is visible synergetics. .

- Cite Undated Sheet: THE DYMAXION AIROCEAN WORLD FULLER PROJECTIVE-TRANSFORMATION

MARKS DEFINITION MATHEMATICS DICTIONARY

Synergetics:

"A study of the relationships of symmetrical force patterns in nature and their * phase and frequency configurations in polyhedral and spherical systems.

"Energetic-synergetic geometry is based on the hypothesis that in both large-scale and sub-molecular structures all forces interact in the same way, moving most economically toward equilibrium patterns. This it is possible to isolate in one coherent mathematical system the geometric laws which govern all physical structures."

Bantam Books, Sep'64

"All local events of Universe may be calculatively anticipated in synergetics by inaugurating calculation with a local vector equilibrium frame and identifying the disturbance initiating point, direction, and energy of relative asymmetrical pulsing of the introduced resonance and intertransformative event."

- Cite RBF rewrite of 30 Oct'72 incorporated at SYNERGETICS draft Sec. 962.31, 17 Nov'72

Synergetics Calculation:

"All local events of Universe may be calculatively anticipated by Inaugurating calculation with a local vector equilibrium frame and identifying the disturbance initiating point, direction, and energy of relative asymmetrical pulse of the introduced action."

- Cite Synergetics, Secs 240 + 770.0). 1971

See Dimensional Reference Frame, Jan*72

Synergetics 14 Kay'73; 15 Jun'74

SI MrgftUB ChargeurigVisa: Inventory Of:

See Experimentally Founded Mathematics, Jun'66 Field of Coamic Formabilities, 26 Jan'73 Synergetics, (p.121) 1959

"The synergetics constant may be a reciprocal of Planck's constant. Together, they express a mutual interrelationship between arbitrary, model-less, energy accounting and numerical operational, geometrically omnirational, energy accounting."

(EJA Note: RBF says it is a very simple matter for him to work out the arithmetic and confirm the relationship, but as of this date he has not yet done so---so his suggestion is tentative.)

- Cite RBF to EJA, 3200 Idaho, Wash., DC; 10 Dec'75

Synergetics Constant: (A)

"In the synergetics' four-, five-, and six-dimensionally coordinate system's operational field the linear increment modulatability and mod elability is the isotropic vector matrix's vector, with which the edges of the co-occurring tetrahedra and octahedra are omnicongruent; while only the face diagonals--- and not the edges--- of the Inherently co-occurring cubes are congruent with the matrix vectors. Synergetics' exploratory coordination inherently commences integrally, i.e., with whole system's consideration.

"Consider the one-dimensional linear values derived from the initially stated whole system, six-dimensional, omnirational unity; any linear value therefrom derived can be holistically attuned by unlimited frequency and one-to-one, coordinated, wavelength modulatability.

"To convert the XYZ system's cubical values to the synergetics' values, the mathematical constants are linearly derived from the mathematical ratios existing between the tetrahedron's edges and the cube's corner-to-opposite-corner distance relationships;

while the planar area relationships are derived from the mathematical ratios existing between cubical-edged square areas and"

- Cite SYNERGETICS text at Sec. 982.53, 30 Dec'73

"cubical-face-diagonaled-edged triangular areas; the volumetric value mathematical relationships are derived from ratios existing between (a) the cube-edge referenced third power of the--- often odd-fractioned--- edge measurements (metric or inches) of cubically shaped volumes and (b) the cube-facediagonal-referenced third power of exclusively whole number vector, frequency modulated, tetrahedrally shaped volumes."

- Cite SYNERGETICS text at Sec. 982.53, 30 Dec'73

"The synergetics constant was evolved to convert third-power, volumetric evaluation from a cubical to a tetrahedral base and to employ the ABCD four-dimensional system's vector as the linear computational input. In the case of the cube this is the diagonal of the cube's square face."

- Cite SYNERGETICS galley at Sec. 963.10, 20 Dec'73
 gyAam tics •* (D

"The synergetic constant was meant to apply to third powering. Other power values are shown in Table 5. We have to find out what the total powers involved in the situation are. There is a tantalising proximity and magnitude relationship--- especially when they vary together. The equatability of volumes and powers - covariation.

"In Einstein's $E = Mc^2$, M is volume-to-spherical-wave ratio of the system considered. Mass is the integration of weight and volume. What Einstein saw was that the same volume could be reduced and still have the same energy mass. Einstein's M is partially Identified with volume and partly with relative energy compactment within that spherical wave's volume. There are then relative concentration modifiers of the volume before the third powering occurs."

- Cite SYNERGETICS draft at Secs. 963.11 +963.12, 14 May'73
 (Based on RBF rewrite of 30 Oct'72 floating insert.)

"All of the frozen volumetric and superficial area mensuration of the past has been derived exclusively from the external linear dimensions. Synergetics starts system mensuration at the system center and, employing $\langle Q_{ii}-60^\circ$ angular coordinates, expresses the omni-equal, radial fluid chordal, modular 11 near subdivisions in "frequency" of module subdivision of those radii and chords, which

method of mensuration exactly accommodates both gravitational (coherence) and radiational (expansion) calculations. As the length of the vectors represents given mass-times-velocity, the energy Involvements are inherent in the isotropic vector matrix,"

- Cite SYNERGETICS draft at Seem. 963.13, 14 May'73 (Based on RBF rewrite of 30 Oct'72 floating insert.)

The synergetics constant, $1.606066+ \times 39/8$, is employed to convert conventional geometrical values into synergetic geometrical values.

- Adapted by EJA from Table 5, OMNIDIRECTIONAL Halo, I960
2.0396188

6

2 573 * Fuller's vector constant for

converting three-dimensional coordinates to energetic geometry

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2,03965 12.00000.0

1 83568 5 — More accurate

2.04

183 6 T64O

1632

Points in "Octave** system of 8 intervals

300

Proton in terras of electron

Rest

Neutron 1838

mass

- Cite transcript of RBF holograph of notes while reading Scientific Americana
 "Elementary Particles, July'57



"The synergetics constants of all systems are the additive two and the multiplicative two--- and the Holy Ghost; the Heavenly Twins; a pair of twins."

- Cite SYNERGETICS at Table of topological hierarchies.

Sec. 223.66, 21 Mar'73

See Prime Vector

See Planck's Constant, 16 Aug'70

See Heavenly Twins, May*72

02

Q: "Was all your geometry in this Cooper-Hewitt exhibit implicit in your 1944 disclosure memorandum?"*

RBF: "No, some of it has been developed since then, particularly the concept of primitive vs. frequency.

The three primes are really tetra, octa and VE. The icosahedron is not prime as it only appears at special case frequency* The icosahedron is the structuring of the VE."

- Cite RBF citation of 6 Oct¹76 as rewritten by RBF at 3200 Idaho, Wash. DC: 14 Dct'76

Q: "Was all your geometry in this Cooper-Hewitt exhibition implicit in your 1944 disclosure memorandum?"*

RBF: "No, some of it has been developed since then, particularly the concept of primitive vs. frequency.

The three primes are really tetra, octa and VE. The icosahedron is not prime as it only appears at special case frequency.*

- Cite RBF to KJA at Cooper-Hewitt Museum, N.T. City; 6 Oct¹76

Synergetica vs. Model:

(A)

"Synergetics is the opposite of the word model,"

EJA Query:

RBF Reply:

"Do you mean in the case of models which represent just parts, i.e. quantitative models? Isn't the vector equilibrium okay as a model because it is a qualitative model?"

"Instead of quantitative say 'size'. And I don't like the word 'qualitative' because it seems to express limitations. My geometry is conceptual independent of size. Instead of qualitative, say 'subsize', • or you can say 'conceptual'; it's a schematic for the principles."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 9 Sep'74

Synergetics vs. Model:

<B)

"Synergetics is the opposite of the word model. Quantitative size models just represent parts. Conceptual models like the vector equilibrium are subsize and pretime and yet provide a schematic for all the principles."

- Cite RBF first rewrite, 3200 Idaho, 10 Sep'74

"Synergetics is the opposite of the word model. Quantitative size models just represent parts. Conceptual models like the vector equilibrium are subsize and pretime and yet provide a schematic of the constant interrelationships of all the principles involved which may be treated with mathematically as topology."

- Cite RBF second rewrite

and dictation to EJA,

10 Sep¹74

Synergetics vs. Model: (D)

"Synergetics is the antithesis of arbitrarily parametered or quantised models of the professional Operations Researcher. "Quantitatively sized models frequently represent aggregates of nonsystem parts. Conceptual systems like that of the vector equilibrium are subsix and pretime and yet provide a schematic of the constant interrelationships of all the principles involved which may be treated with mathematically as topology."

- Cite RBF final rewrite at 3200 Idaho, Wash., DC, 10 Sep'74

"Synergetics is the opposite of the word model. It is the behavior of the whole system unpredicted by behavior of the parts taken separately. What good are parts? Why have formulas about parts? Why have models about formulas of the past. Models are parts and about the performance of those parts."

- Cite tape transcript p.21; RBF to W. Wolf, 28 Apr'74

Synergetics Principles:

Principle of Unity

Principle of Jngular Topology: Equation

(Corollary) (Principle of Finite Universe Conservation)

Tetrahedronal Mensuration: Equation

Principle of Design Covariables

Principle of Functions

(Corollary) (Principle of Complementarity) Omnidirectional Closest Packing of Spheres: Equation "Principle of Order Underlying Randomness: Equation Principle of Frime number Inherency of Structural Systems:

Squation

Scenario Principle

"Principle of Synergetic Advantage (Macro— micro)

(Corollary) (Principle of Irreversibility) Principle of the Whole System:
Corollary of Synergy Principle of Universal Integrity

Synergetic Principles:

¹¹ Synergetic principles and theories

Thus far described

Have been experimentally demonstrated;

Their concurrent mathematical proof Is the work of others.

Laws require proof.”

- Cite ROF to EJA Sarasota, Florida 7 February 1971

Synergetics TOPOLOGY:

See Three: Number Function of Three in a Four-axial System, 24
Jan*76

Synergetics: UC6:

RBF Ltr« to Colliers (full text), 10 pp. July’59

For the earliest 400-word systematic description of synergetics see
Appendix I, Earth. Inc., pp.17-18, 1944

(u)M

See Children: Synergetics Makes Physics Lucidly Clear To Children

Closed System Hierarchy of Synergetics

Computer Obscures Significance of Synergetics Energetic-synergetic
Geometry Experimentally Founded Mathematics: EFM Field of Cos-
mic Formabilities

Force Lines: Omnidirectional Lines of Force

Four as Minimum of Relationships Synergetics

Future of Synergetics

Game: Synergetics as a Game

Geodesic Design in Nature: Confirmation Of

Geometry of Thinking

Geometry of Vectors

Ideal Synergetics

Nucleated Systems: Idealistic Vectorial Geometry Of

Sublevel Synergetics

Tetrahedral Coordination of Nature

Topology: Synergetic Topology & Eulerian Topology Visible Synergetics
Fuller, R.B: Writing Synergetics

Synergeticst

(IB)

See Euler vs. Synergetics

Atom Has Its Own Synergetics

Nature in a Corner

Conceptual Mathematics

Fourth-dimensional Synergetics Mathematics Black Holes 6c. Synergetics

See Anticipatory. I960: 6 Jul'62

Discovery. 11 Jul'62

Domains, 25 Apr'71*

Domains of Volumes. 18 Jun*71*

Einstein. 16 Nov'7**

Engineering. 3 Oct'72

Eternity (1)

Fourth Dimension, 21 Dec*71*

Geometry. 1960

Gravity (j)*

Geometry of Thinking, 16 Dec*73*

Gravitational System Zone, 14 Jan'55*

Hierarchy of Constellar Configurations, 1959* Ideal, 23 May'72*

Intertransformings, 28 May'72

Invention Sequence (A)-(D)

Models, 9 Jan'74*

Otherness Point, 24 Sep*73*

Probability Model of Three Cars (2) (3)*

Geodesic Line, 9 Sep'74*

SxnsEgslAsa:

(2B)

See Package, 17 NOT'72*

Probability (2)*

Scheme of Reference, 24 Sep'73*

Science: Gap Between Science k the Humanities (2)

Synergetics Constant (2)*

Tetrahedron, 28 Oct'73*

Tetrahedron: Inside-out Tetrahedron Begins to Grow, 10 Jan'50*

Timeless, 1 Apr'72*

Twelve Universal Degrees of Freedom, Dec'61

Two, 25 May` 72

Time & Energy, Oct'?1*

Unity as Two, i960*

Unity of Universe, 24 Sep'73*

Radislarla (1)(2)

Rhombic Dodecahedron, 24 Feb'72

Unity: Principle Of, 14 Mar*?1

Omnidirectional Typewriter (4)*

Modelability, (c)

Octahedron as Conservation & Annihilation Model,

23 Jun'75

3jn.rK.tlca:

(2C)

See Vector Equilibrium: Field of Energy. (A)(8)* Generalization 4 Special Case, Nov'71* Domains of Interference, 7 Nov'73 Multidimensional Accommodation, 11 Dec'75 Scan-transmission of Pattern Integrity, 22 Jun»77 Calculus. 22 Jun»77 Human Beings 4 Complex Universe, (5)

See Synergetics Calculation Synergetics Characteristics: Synergetics Constant Synergetics Principles Synergetics Topology Synergetics: Evolution Of

Inventory Of

Synergism vs. Enerlism:

Q: "Webster III says the opposite of 'synergism' is 'antagonism'."

RBF: "That can't be right as the 'gon' stands for

sides, as in 'polygon,' a planar affair. The opposite of synergism is energism---as in syntropy-entropy."

- Cite R13F notation at 3200 Idaho, Wash. DC: 14 Oct¹76

Synergist:

"As a synergist--- we are born synergists--- my exploration for ultimate focus to illuminate our unique pattern functioning in respect to larger patterns, must start mathematically with the largest pattern concept, i.e. Universe."

- Cite RBF draft Ltr. to Jim (Fitzgibbon?), 1954-59

"The comprehensive realixer becomes a synergist."

- Citation and context at Reciprocity (5), May'49

Synergy?

Q. "The only other word I am interested in right now is hfilifllB. ¹ think J.C. Smtta may have coined it. I know he wrote the book 'Holism and Evolution.' How does the concept of holism compare with your concept of synergy?"

RBF; "My word synergy has really a very specific meaning. Synergy means behaviors of wholes, whole systems unpredicted by behaviors of any of the system's components considered separately---which is the same as the mind; the mind is always synergetic. There are relationships existing between but not of any of the special cases con-

sidered by themselves; so there is always a relationship. The word holistic is not necessarily that? it can mean all the parts without any of the behavior between them. Say you have a holistic human body and there it is---but life is not there. So I try to avoid that word."

- Cite transcript p.13, RBF taped Interview with Dr. Michael Bruwer, Ritz Carlton Hotel, Chicago; 20 Feb'77

Synergy:

"I first developed the concept of synergy, the behavior of whole systems unpredicted by the behavior of the parts considered separately, which automatically identifies the unique behavior of the whole as resulting from the interrelationships existing between but not in any of the parts."

- Citation context at Generalised Dichotomy: Grand Strategy

Synergy:

"...Even the name we give that unexplained behavior The name gravity

The name does not explain the mystery

For gravity

Like all scientifically generalised principles

Is inherently synergetic

And synergy means the unique behaviors manifest only by whole systems Consisting at minimum Of two independent variables Whose unique system behaviors Are entirely unpredicted By any behaviors or characteristics Of any of the system's components a'hen each is considered only separately."

- Cite COMPLEXION ly'5, p.17; 31 Jan'75

Synergy: "Synergy means 'the Integrated interbehaviors of all systems unpredicted by behaviors or characteristics of any of the systems' parts when considered separately.*"

- Citation and context at Eternal Baaimlne Capability Sequence (2)

Synergy:

` ` S - Synergy: The behavior of whole systems unpredicted by behaviors or characteristics of any of the system's parte when assessed separately from the other parts of the system.

- Cite SYNEHGET1CS draft at Sec. 1056.12, 13 Hay*73

Synergy:

"The angular accelerations plane becomes a very important device of comprehension. In our generalization of generalizations we find that synergy, as 'the behavior of whole systems unpredicted by any of the systems' parts taken separately,' »braces both the generalized mass attraction and the precessional laws. Apparently synergy embraces our definition of Universe and is therefore probably the most generalized definition of Universe."

- Cite SYNERGETICS draft at Sec. 1009.97, 8 Mar*73

Synergy:

"Synergrfy manifests itself in the generalized principles and their exponential rate of interaugmentation,"

- Cite RBF in Baccalaureate Address, University of Virginia Charlottesville, 3 Jun'72

Synergy;

"Neither differential and integral calculus, nor ` probability* statistics, nor any branch of specialized hard science has accredited synergy as an a priori assumption. General systems theory... recognizes synergy as inherent..."

- Citation & context at General Systems Theory, (2), 26 May'72

Synergy;

' 'Wisdom is evolved only by synergy

Which is the behavior of whole aggregates

Not predicted by the separate behaviors or characteristics Of any one integral part.

Ergo synergy is non-occurrent cerebrally

During monofocus upon self

In preoccupations

Essentially exclusive of others.' '

**- Cite-EVGLUT-IQwAiiY I97Z=I97!>-ABOARD SPACE VEHietfi-gAfITH-
.- -Jam---*-72-----pp.**

Citation and context at Wisdom, Jan'72

Synergy:

"Our two triangles now add up as one plus one equals four. The two events make the tetrahedron the four-triangular-sided polyhedron. This is not a trick; this is the way atoms themselves behave. Just as the chemists found when they separated atoms out, or molecules out, of compounds, that the separate parts never explained the associated behaviors;

there seemed to be 'lost' energies. The lost energies were the lost synergetic interstabilizations."

-Cite SYNERGETICS text at Sec. 108.03; Nov'71

Synerx:

"There could be no atheism if you knew about synergy."

**- RBF at Students International MeditAaional Seminar - U. Mass.,
Amherst, 22 July 1971.**

Synergy;

"Synergy means studying the integrated behaviors of universe as opposed to those differentiated out."

- RBF at Students International Meditation Seminar U. Mass. Amherst, 22 July 1971.

Synergy:

Not unpredictable by the separately obeying

o*h*h* ayatamhparta*1* • • P*rat» P»«» or *F aub*aa*ably

Operating Manual SSE P. 71, 1969

Synergy:

"Behavior of whole systems unpredictable by behavior of any of its parts taken separately from the whole, A stone by itself does not predict its mass attraction for another. (Synergy is the only word in any language having that meaning. The German word gestalt like the English word constellation means a complex standing together, but infers no more than the desirability of having all the regular parts, i.e., not being deformed.) As synergy is not a popular word ... it is clear that society is not aware of the existence of such a phenomenon. . . "

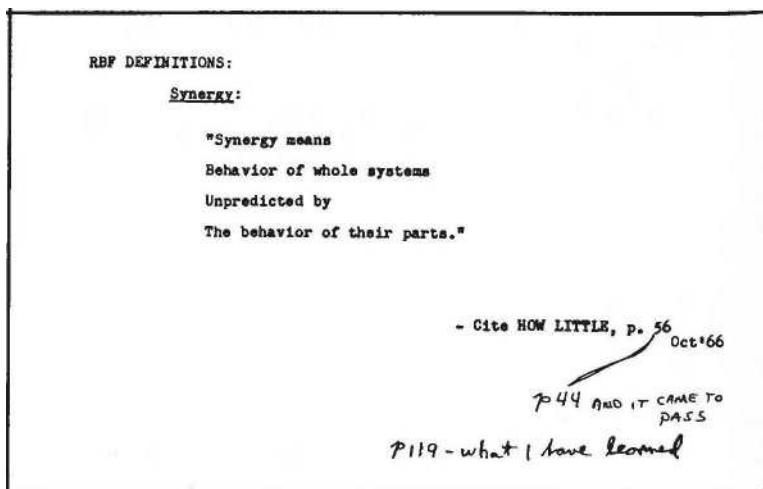
- Cite "Word Meanings," EKISTICS, Vol. 28, Oct. '69.

Synergy:

"Synergy is to energy as integration is to differentiation.

"Nature is comprehensively synergetic. Since synergy is the only word having that meaning and we have proven experimentally that it is not used by the public, we may conclude that society does not understand nature."

- Cite SENATE HEARING, p. 10, 4 Mar'69



Synergy:

"There is a phenomenon recognised by chemistry called synergy. The word syn-ergy and the word mmhw enrgy en-ergy. are companions. Lnergy studies are familiar. Energy relates to differentia ting-out the separate functions of nature*--- studying objects, isolated out of the whole complex of universe; for instance, studying gravity, without consideration of hydraulics or of plant genetics. But synergy represents the integrated behavior instead of M the differentiated behaviors of nature. The word synergy means 'behaviors of whole systems unpredicted by the behavior of any of their parts, or sub-assemblies of their parts.

- Cite MEXICO, p. 21 , 10 Oct*63

Synergy;

"The chemists discovered that they had to recognize the word synergy. The chemists found when they separated atoms out, or molecules out, of compounds, that the separated-out parts never explained the associated behaviors."

MEXICO 63, p. 23> ¹⁰ Oct'63

Synergy:

. I have just given you a word /"synergy which has a meaning which in a social sense you don't need because you don't b think it is true. It is sort of magical to say the behavior of the whole is unpredicted by the parts ... if you added something in that wasn't there before."

- Cite Oregon Lecture #1, p. 30. 1 Jul'62

Synerjr:

"The behavior of a system as a whole unpredicted by its parts."

- Cite Patent No. 2. 986.241. May 30, 1961 SYNERGETIC BUILDING CONSTRUCTION

Synergy:

"Synergy means behavior of integral aggregate systems unpredicted by behaviors of any of their components or subassemblies of their components."

- Cite OmiDIRECTIOKAL HALO. p. fe* 130 , I960

Synergy:

"The synergy is predicated upon ray definition of Universe...

"Chrome-nickel-steel is synergetic. All alloys are synergetic. All compounds are synergetic. Atoms are synergetic. Universe is synergetic."

- Citation and context at Tensile Strength of Chrome-Nickel*Steel. Jul'59

Synergy:

` ` Pattern phenomena is synergetic--- which means behavior of whole systems unpredicted by behavior of respective subsystems--- which is to say that numbers are meaningless independent of pattern.¹

- Cite Ltr. to Jim Fitzgibbons (?), Raleigh, NC, undated (1954-59)

Synergy:

"Synergy— wholistic behavior unpredicted by parte.

- Citation & context at Progressions, May*49
- ~~ffrtw Tr.TAT, m J riling, 141, pU.W, I fl/gS~~

Synergy:

"It is . . . the unpredictable degree of the super and the super-super
n degrees of complex associations of energy frequencies which seem
most preposterous. We cannot view the great confluences of sepa-
rately and remotely

significant events forwardly resultant to now. Synergy is inherently
surprising."

- Citation t context at Periodic Experience_r(5}. May'49

"Because the physical characteristics Of an aggregate's separate components And
their respective submotions Cannot explain the behaviors Of their progressively
encompassing And progressively complex systems, We learn that

There are progressive degrees of synergy.

That is to say,

Synergy-of-synergies,

'Which means

Complexes of .Behavior Aggregates

Holistically unpredicted

By the separate behaviors

Of any of their subcomplex-aggregates;

And because mass attraction

Does not predict precession Each subcomplex-aggregate Is in itself

Only a component behavioral aggregation Within an even greater Behavioral aggregation,"

- Cite INTUITION, p.34 May *72

"Whose comprehensive behaviors
Are never predicted
By the component-aggregates alone*
It is, furthermore,

In experimentally disclosed evidence That there is
A synergetic progression in Universe--- An hierarchy of total complex
behaviors Entirely unpredicted
By their successive Subcomplexes' behaviors.

"This means that there exists
A synergetic progression
Of ever more encompassing systems

Of human experience discernibility Which are spontaneously differentiated
Into unique levels
Of cognitory consideration In which the contained micro Of any adjacent
macro level Never predicts the existence"

- Cite INTUITION, pp.34-35 May '72

Synerev: Degrees of Synergy:

(3)

"Or the observed behaviors Of the adjacently next most encompassing
Macro level complex.

` ` Thus are the atoms Unpredicted by any Of their individual Neutron,
protons, Positrons, electrons, Neutrinos and antineutrinos, Et al.

"Nor does any one atom In itself predict The family of Periodically co-ordinate Unique chemical elements In ninety-two, self-regenerative varieties Of mathematically incisiive order;

Together with their several hundred Of interspersed isotopes To be coexistent In complex but orderly array."

- Cite INTUITION, pp.35-36 May '72

"And the periodic behaviors Of the chemical elements And their isotopes In turn fail to predict Their aggregate behaviors As molecular structurings Of various, harmonically complexed, Unique associabilities of atoms, Known as chemttal compounds.

Nor do the chemical compounds* molecular structures Have inherent characteristics rfhich predict the level Of organic associability Of moleculas as bioigical cells.

And the level of biological cells Does not predict Their association in turn As biological tissue--- The first human

Naked eye-discernible level--- Of these synergetic behaviors."

- Cite INTUITION, p.36 May »?2

"And the level of tissues

Does not predict

Organic biological species

In a vast variety

Of permitted design alternatives, Whose unique pattern structurings Are chromosomically programmed To reolacingly aggregate As regenerative organisms Ecologically interacting All around our planet

In chemical phase intercomplementations

All fundamentally actuated

By a combination of mathematical symmetries and cycles All pyramided upon

Mass interattraction of atoms dynamically hovering in orbits Within critical 'fall-in* proximity Of one another."

- Cite INTUITION, p.37 May '72

SynerRV: Decrees of Synergy:

(6)

"Offsetting the formidable dilemma Of comprehensive social ignorance Human mind finds A new comprehending advantage To be inherent in the discovery That within all the foregoing Progressively encompassing Hierarchy of synergetic levels, Each encompassing level does manifest Synergetic behaviors Unpredicted by the behaviors Of any of its sublevels' Components' behaviors--- Considered only by themselves. Though neither known nor anticipated By the status quo's present body of knowledge This hierarchy of hierarchies Constitutes a cosmic consistency, Warranting its recognition As a generalized law of Universe."

- Cite INTUITION, pp.42-43 Fay '72

See Precession {A)

"Take three equi-edged triangles, stack them together edge to edge as a three-sided tent. Inadvertently you have produced a fourth equi-edged triangle at their base. Altogether they form a tetrahedron. This is synergy. One plus two equals four. Take one away from the four and only two remain. The one that was lost was annihilated.

Cite NSHRU SPEECH, p.34, 13 Nov'69

"The phenomenon synergy is topologically to be demonstrated by the addition of one triangle to two triangles which combine to form a system of four triangles: the minimum system; i.e. the tetrahedron. Therefore,

$2 + 1 = 4$, " synergy; Q.E.D. and it is therefore deducible as a corollary of the latter's two faces plus one face equal four faces; $2F + 1F = 4F$, that the discovery or construction of one triangle synergetically imposes coexistence of the other three, because the $2+1=4$ accrued to fundamental 'existence' as comprising a system

of minimum tunability."

- Cite Draft Ltr to Jim (Fitzgibbon?), Raleigh, NC, (195410-1959)

OMBHI Synergy Sequence: Two Massive Spheres:

"Synergy is one

Of those generalized principles.

It is defined scientifically

As behavior of whole systems Unpredicted by behaviors

Of any of their separate parts.

Synergy is disclosed, for instance, By the attraction for one another Of two or more separate objects."

- Cite INTUITION, p.22, May »72

Synergy Sj.wncg: Two Massive Spheres;

"There is nothing in the separate behavior or in the dimensional or chemical characteristics of any one single massive entity which by itself suggests that it will not only attract but also be attracted by another neighboring massive entity. The behavior of the two together is

unpredicted by either one by itself. There is nothing that a single massive sphere will or can ever do by itself that says it will both exert and F*wjfrtW yield attractively with a neighboring massive sphere. That is synergy."

- Cite NEHRU SPEECH, p. 34, 13 Nov'69

Synergy Sequence: Two Massive Spheres:

"We've already, ourselves, learned that there is the phenomenon synergy and the very simplest case was that one . single massive sphere hung up in no way indicates that there would be mass attraction if there were another sphere, and that suddenly when you get the two together you discover this mass attraction. Nothing in the single sphere itself predicts that there will be attraction involving the two."

12 Jun-31 Jul*69

- Cite RBF to World Game at NT Studio School, Saturn Film transcript, #327, p.2.

Synergy 9f Sypepgigg:

"z/herefore it is also manifest that Universe is the maximum synergy of synergies Being utterly unpredicted by any of its parts Or by the hierarchy of synergies Of ever exponentially advancing degree--- No complex stage Having been predicted By its parts. For instance, The chemistry and structure Of the human's toenail In no way predicts The complex, organix behavior Known synergistically As humans.'¹

- Cite INTUITION, p.44 May '72

"We know the codes but we do not know the 'how cose' of their producing an elephant. The complementarity of the holifitcness of these special-case individuals balances out. Elephants are successful designs. We have no evidence of biological species which are inherently uncompleted designs. In the hierarchy of hierarchies of synergies, Universe is the unpredicted behavior of any of its sublevel synergetics. We must start our synergetic analysis at the level of Universe and thereafter with the known behavior of the greatest whole and the known behavior of some of its parts, proceed as permitted mathematically to discover its unknown parts. We have the Greek triangle

- with its known 180 degrees of angle which it compounded with the knowledge of the magnitude of any two sides and their included angle, or of any two angles and their included side, etc., will permit discovery of the magnitude of the balance of the triangle's six parts. Or, using trigonometwry if we know the magnitude of any two parts, we can ferret out the others."

- Cite SYNERGETICS draft at Sec. 1050.05, April '72 as vastly amplified from RBF Chicago tape, 31 May *71.

"Universe apparently is omnisynergetic. No single part or experience will ever be able to explain the behavior of the whole. The more experience one has, the more opportunity there is to discover the synergetic effects, such, for instance, as to be able to discern a generalized principle. Then discovery of a plurality of generalized principles permits the discovery of the synergetic effects of their complex interactions. The synergetic effect produced by the interaction of the known family of generalized principles is probably what is spoken of as Wisdom."

- Cite Nehru Speech, pp. 34-35. 13 Nov '69

sYhtitc'f of - 3CC. I si)

Synergy of Synergic

150.01-153

217.04

1050.10-1050.13

See Omniscience

Omnisynnergetic

Prediction

Whole Systems

Whole System: Principle Of

Synergy of Synergies:

See Conditioning, 14 Feb'72

Synergy:

Chapter 1: 101.01-117

400.23-400.24

640.01

724.34

931.51

1004.11

1009.94

1009.96

1031.11

1050.13

1056.12

1056.20 (37)

• 1013.12

syngrg- gyneriptic: (i)

See Annihilation vs. Synergy

Corollary of Synergy

Cosmic Synergy

Desynergize

Linear & Spherical Analysis

Metaphysical Synergy

Physical Synergy

Social Realization of Synergy

Supersynergetic

Synergy vs. Precession

Supreme Conceptual Synergy

Tensile Strength of Chrome-nickel-steel

Whole

Whole Systems

Antisynergetic: Antisynergy

See Electromagnetic Generating & Distributing, 22 May'73 Eternal Designing
Capability Sequence (2J* Jet Engine (I) Precession, 16 Jun'72 Prediction, 3 Oct'73
Tensile Strength of Chrome-nickel-steel, Jul'59* Triangle (A) Unselfishness. Jan'72
Wisdo). Jan'7** General Systems Theory, (2}* Progressions, Kay'49* Periodic
Experience, (5)* Generalized Dichotomy: Grand Strategy, (1)* Triacontrahedron:
Great Circles Of 27 Apr'77 Human Beings & Complex Universe, (1)

See Synergy: Degrees Of

Synergy Sequence: Two Massive Spheres

Synergy of Synergies

Synergy: 2+1 - 4:

Synergism vs. Energism

Synergist

Syntax:

"... Vector equilibriums are nuclear structures embracing all the variables of Universe, associating all the molecular build-ups. which has to do with syntax because I am holistic and I really don't want to be limited. ..."

- Citation and context at Vector Equilibrium. 16 Oct'72

Syntax:

See Noun Deprefixing Verb vs. Noun Verb

Synthetic a;

See Artificial, Jan'59

Wood Technology, (2)-(4) No Energy Crisis, (A)(B)

"Syntropics would be the black holes"

- For citation and context see Black Hole (1)

Syntropy:

"Syntropy can be apprehended only through overall or comprehensive review of the totally recalled information of long-term experience."

- Citation & context at Myopia; Inciting vs.

q_rnadcaBting. 22 Jan

• 75

Syntropy:

"G ` ` Syntropy: Energy associative as matter precession, gravity, magnetics, interference, knotting,"

- Cite SYNERGETICS draft at Sec. 1056.20 (Item #31), 13 Kay'73

Syntropy:

"It was only a few years ago

That it seemed logical

To cease speaking of the phenomena involved
As annjyentropy,
Entropy being disintegratively negative;
Anti entropy was, in effect, a double negative
Used to express a positive.
So to render the concept positive
And to identify its kinship
To synergy,
I started speaking of it« as syntropy
As the positive complementary
Of the negative entropy.”

- Cite BRAIN & KIND, p.U3 Kay *72

Syntropy:

”... Syntropy also means
To collect, concentrate, and store
- Cite BRAIN * MIND, p.145 May '72

Syntropy;

”And mind went on to discern
That physical experiences disclosed and confirmed
That all living tissue
During cell multiplication
Must import more energy
Than it exports
Else it could neither grow
Nor sustain healthy balance.
And mind also witnessed
That crystalline structures
Also can import energy
But not as much as they export
And mind identified
Energy importing by the name syntropy-*
4247

- Cite BRAIN t MIND,
p.82 Kay '72
Syntropy: (1)
"Syntropy —
Reverse of entropy.
For evolution is apparently Intent
That life in universe
Must survive.

For biological life Is syntropic---
Because it sorts and selects
Unique chemical elements---

From out their randomly received,
Time and locality of reception,
As celestial imports;
Or random occurrence
As terrestrial resources-- fresh or waste—
Around our earth's biosphere—
And reassociated those elements
In orderly molecular structures
Or as orderly organs
Of ever increasing magnitude.

- Cite INTUITION draft, p.28, 7 Feb'71®“

Syntropy;

"Thus effectively reversing The entropic behaviors
Of purely physical phenomena Which give off energy In ever more ran-
dom
Expansive and disorderly waya."

- Cite INTUITION draft, p.2S, Sarasota, 7 Feb*71

Syntropy:

"Syntropy: where energies are being accumulated.

as in our Earth, or in a vigorous child."

- Cite WATTS TAPE, p. 40, 19 Oct'70

"Syntropy is the law of elsewhere-always-orderly regrouping of the entropic offcasting of all dying systems. Aging and death engender elsewhere birth and growth."

- Citation & context at Completion rarity of Growth & Aging, 22 Jan'75
(A)

"We know scientifically that all physical systems are continually giving off energies. We call this entropy. Due to each of the local Universe system's unique periodicities the given-off energies are randomly released in respect to other systems. Thus various localities of the physical Universe are expanding and expending energies in an increasingly MB disorderly manner. But fundamental complementarity requires that there must be other localities and phases of Universe wherein the Universe is reconvening, collecting, and condens- ively contracting in an increasingly orderly manner as a complementary regenerative conservation phase of Universe thus manifesting a turn-around from disorder to order, from entropy to syntropy,

"Entropy is increasing local disorder; syntropy is locally increasing order. Order is obviously the complementary, not non-mirror image, of disorder."

"Local environments are forever altering themselves due to the myriad associative and disassociative inter patterning options of syntropy and entropy. Universe is a vast variety of"

- Cite SYN&rtGETICb, 2nd. Ed. at Secs. 1052.50 -52, 1 Jan'75

"frequency rates of such eternally regenerative explosive entropic vs. implosive syntropic pulsation systems. Electromagnetic radiant energy is entropic; gravitational energy is syntropic. Where entropy is gaining over syntropy death prevails; where syntropy is gaining over entropy life prevails."

- Cite SYNERGETICS, 2nd. Bd. at Sec. 1052.52, 1 Jan'75

"•Electromagnetic radiant energy is entropic; gravitational energy is syntropic."

- Citation 4 context at Gravity (d), 12 Jun'74

"Universe Is an eternally regenerative entropically vs. syntropically pulsating system."

"` ` The stars are all entropic giving off energies in evermore expansive and disorderly ways."

"Planet Earth is a syntropic center converting random energy receipts into orderly systems."

"The vegetation through photosynthesis converts the random receipts into orderly chemical molecules."

"Hydrocarbon* in turn are assembled into beautiful orderly biological species---

"The post-death residues of which are stored ever more deeply within the Earth's crust as fossil energy resources."

"Human mind operates terrestrially as a local cosmic monitor."

Humans* minds* syntropic effectiveness

As compared to that of any other species' biological functioning Is as the speed of light is to the speed of sound Which is one-millionfold more effective.

Minus their minds, human organisms function only entropically."

-r— - =-Cite Universal Requirements for a dwelling Advantage, 31 May*74

¥ ~ •SE'C / 6

"Entropy 1b increasing disorder locally; syntropy is increasingly orderly. Order is obviously the complementary, but not mirror-image, of disorder."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 5 Hay'74 OMMiT_tf'4V»6Y - SEC. fo 5 X.)

"The focal manifest of entropic dispersal, disorderly/ syntropic association which is increasingly orderly:

Syntropy: collecting, compacting, implosive. Entropy: dispersing, expanding, explosive.

Between the two they work very much like the rubber glove. There really is an annihilation into eternity with no time and dimensioning--- these are only in our temple £ sic--- temporal? EJA _/ relativity. Time is within our lags and gestation rates and in the frequencies of the electromagnetic spectrum. But every time we have annihilation into eternity, it is not lost in principle; it is only lost in the relative inaccuracy which we must have to differentiate and have awareness.

"Every time you enter eternity, everything called shape is cancelled and therefore there can be no static frame of reference. Our scenario Universe does not have shape nor is there relation to any static frame. There is an ideal which is eternal and inherently complex, which complexity"

- Cite RBF to BO'R, Kent, Ohio, 23 b.qy'72

"la accommodated by the Ideal transformability which synergetics elucidates.

"The episodes have shape, but the shape is always mildly asymmetrical and continually transforming. There is conceptual shape in the ideal, i.e., the ideal tetrahedron, but no size, no time. We have here what the Greek mathematicians were trying to say, but more accurately. Time gives specific size and asymmetry due to Inherent lags: the lags of realization!

"Synergetics is the central symmetry through which the asymmetry pulsates. There are several kinds of positive and negative. The eternal temple of positive and negative, the North and South Poles; concave and convex, inside and outside. There is a fourfold twoness: one the exterior cosmic tetrahedron and the interior cosmic tetrahedron; the other is the circumference around the pole. The additive twoness is the poles; the multiplicative twoness is the concave-convex; these are the eternity.

- Cite RBF to BU'H, Kent. Ohio, 2j Kay«?2

"A splash of water demonstrates waves and we get processional at 90° and gravitational at 180°. . .

"There! 'Two kinds of twoness,' wouldn't that make a pretty good song!"

- Cite RBF to BO'R, Kent, Ohio, 23 May*72

RBF DEFINITIONS

0 synirgpy & Eptrom-

"Because of the tidal fluctuation of sropy-entropy

Local environments are forever altering themaelves."

ON THE PHASE

1052.50 { - Cite BRAIN AND MIND, p. 81, p. 83 May

SFC- y

sxntrgBY^k Entropy:

"Entropy is the momentary disintegral, that is, the disintegrative phasing And expanding disorder Of relative asymmetry As viewed relative only To the disassociating phases And the atihdonments of dying systems Which pheifomena may also be simultaneously witnessed As syntropic recollections And increasing orderliness Relative to new system formulations."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH Jan '72, p. ?.

Synfrppy k EjftFWXS

"The star tetrahedron's entropy may be the basis of irreversible radiation, whereas the syntropic vector equilibrium's reversibility— inwardly-outwardly— is the basis for the gravitationally maintained integrity of Universe."

btteftmhndenn-tint, T21

- Citation at Star Tetrahedron. 8 Oct'71

SvntrODY 1 Entropy;

"Syntropy is the reverse of entropy."

- Cite RBF to EJA

Sara BOTA, Florida

7 February 1971

Where syntropy is gaining over entropy life prevails where entropy is gaining over syntropy death prevails.¹

* Citation and context at Feedback, Feb'71 SY- sec 52..

"We know scientifically that all local physical systems are continually giving off energies. We call this entropy. Due to each of the local systems' unique periodicities, etc., the given off energies are diffusely and randomly released in respect to other systems. Thus the physical universe is continually expanding and increasingly disorderly.

"Fundamental complementarity requires that there must be some phase of universe where the universe is contracting and increasingly orderly. . . .

"Here you see the turn-around from disorder to order--- from entropy to antientropy." '

Cite WORLD GAME (3), Oct'69

OHMiTofitiGV - SEC . / ©52 - S \

See Boltzmann Sequence

Expanding Physical Universe

Universe

Irreversibility: Principle Order & Disorder

Radiation-gravitation Tidal

Universal Integrity Information vs. Entropy Local Conservation • Cosmic Importings i Exportings Synergism vs. Energism

vs. Contracting Metaphysical

Of

Regeneration

See Action, May'65

Astrophysics, 13 May*73 Cosmic Accounting Sequence (2) Dimensional Supremacy, 16 Nov*72 Ecology Sequence (A) Eternity (1) Feedback. Feb*71* Gravity (d)* Information, 196? Instant Universe (1)(2) Life, 13 Nov*69 Metaphysical &. Physical Jun*66; IQ May'75 Relationship Analysis (f)(2) ⁷

Star Tetrahedron, 8 Oct'71* Star Tetrahedron & VE, 9 Nov*73 Tidal,
May*72 Universal Hequirenenta for • Dwelling Advantage.

J1 Miy'74

Odd Ball, 10 Nov'74 Local Entity I960 Complementarity of Cth A Ag-
ing, 22 Jan'?5»

smraier. fr-.Jntrgar

(2B)

See Cosmic Vacuum Cleaner, 16 May*75

Octahedron as Conservation fe Annihilation Model,

23 May¹75

Structural Sequence, (B)

Octahedron as Photosynthesis Model,(C)-(E)

Nucleus, 1J Nov'75

Teleology: Bow Tie Symbol, 19 Jul*76

Three: Number Function of Three in a Four-xial System, 24 Jan*76

SyntropY & T_{lra}:

"There is a more than concomitant increase of syntropy with time; i.e.,
the excess integrative effectiveness of gravity over entropic radiation
increases the order,"

- Cite RAF marginalia at R.G. Swinburne review in Times Literary Sup-
plement. 20 Dec'74; done at 3200 Idaho. ' <ash DC, u May'75

SxattaaU:

(1}

See Antientropy
Black Hole
Cosmic Syntropy
Entropy
Gravity as Syntropy
Local Syntropy
Manifests
Metaphysical Syntropy
Regenerative: Regenerativity
Stars: Implosive Forces of the Stars
See Biological Life, May'72
Boltzmann Sequence, (j)(6)
Myopia: Incaeting vs. Broadcasting, 22 Jan'75
Tunability, 19 Oct'72
Universal Integrity: Principle Of B Nay*72 Vector Equilibrium, 8 Oct'71
Gravity, 11 Feb'76
See Syntropice
Syntropy & Entropy
Syntropy & Time

System:

- It takes a minimum of four differentially experienceable event-pointe to define a system. System is primitively fourfoldedly experienceable. Whan hurtns see trfee stars they see three separate subsystemic special case events: there is neither special case measurability

nor generalised considerability. With inherent apriori systemic four-foldedness there is imagineability of topological vertexes and a sixfoldedness of unique interrelatedness of the inside-from-outside differentiating thinkability. Conceptual - imaginable."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 1071.25, 26 Dec»74

System:

"You can't have a system of less than four points that divide the Universe into insideness and outsideness of the system. The number four is the beginning number and not the number one. Unity is plural and at minimum two. There is a minimum of four vertexes, a minimum of six basic relationships that are the tetrahedron: six degrees of freedom each have a positive and negative so you have the twelve degrees of freedom right there."

- Citation & context at Human Beings & Comdex Universe. (7) 16 Feb`78

System:

'Zero... is the eternal complementation of system.

- Citation and context at Zero. 4 Nov¹73

Svaten:

"Systems are individually conceptual polyhedral integrities*

- Citation and context at Omni-intertangency_f 17 Feb*73

System:

"only systems define insideness and outsideness. Therefore, two points, or three points, cannot by themselves define insideness and outsideness. Four is minimum to system's omnidirectional differentiations of insideness and outsideness.¹

- Cite KBF marginalia at SYNERGETICS see. 010.23 of Dec'71 as rewritten Sep'72

System;

"A system divides all the Universe into three parts:

- (1) All of the Universe outside the system;
- (2) All of the Universe inside the system; and,
- (3) The remaining aggregate of the Universe whose

members altogether constitute the polyhedral system which definitely separates all the insideness of Universe from all the outside-ness of Universe.

"It takes a minimum of four points not lying in the same plane to produce insideness and outsideness. Four points not in the same plane inherently describe a tetrahedron, regular or irregular."

- Cite SET X, p.13, Aug'72

System:

"All systems are continually importing as well as exporting energy. Physics has found only myriad pattern integrities of comprehensively nonsimultaneous and only partially overlapping evolution, of disintegrative 'heres,' and reintegrative 'theres,' with omnilocal vari-intertransformabilities of limited duration identities, of an apparently eternal, physical Universe regenerating, mathematically teatable energy quanta."

Incorporated at SYNERGETICS draft. Sec. 400.11, 4Jun'72

- Cite RBF holograph, Boar's Head Inn, Charlottesville, 3 Jun'72

System;

"In addition to possessing inherent insideness and outsideness a system is inherently concave and convex, complex and finite. A system may be either symmetrical or asymmetrical. A system may consist of a plurality of subsystems. Oneness, twoness, and threeness cannot constitute a system, as they inherently lack insideness and outsideness. Twoness constitutes a wavelinear relatedness. Threeness constitutes planar relatedness, which is inherently triangular. Three triangular planes alone cannot differentiate, distinguish, or constitute a system. At minimum, it takes four triangular planes having inherent fourness of vertexes to constitute a differential withinness and withoutness. Fourness of geometrically contiguous and synchronous event foci and their coincidentally defined four triangular planes, along with their six common edges provided by the six wavelinear vectors connecting the four event foci, altogether inherently differentiate, distinguish, initially institute, and constitute prime or minimum withinness and withoutness."

- Cite SYNERGETICS text at Sec. 400.0?, 27 May*72

System:

"Unit means system integrity. Organic means regenerative system integrity. As minimum or prime systems consist of four event foci and their always and only coexisting fourness of triangularly defined planar facets, and sixness of wavelinearly defined minimum set of unique componentation relatedness, unity is inherently plural. Unity is plural.

A system is a local phenomenon in the Universe. Each of the conceivable or imaginable awareness or thinkability entities or phenomena inducing or producing onenesses of twonesses are subvisible and potentially further subdivisible, or as-yet unresolved, ergo unrecognized systems. Functions always and only co-occur as subsystem relativis-

tics, characteristics, inherencies, and proclivities. Functions occur only as parts of systems. The Universe is constituted of a complex plurality of nonsimultaneous and only partially overlappingly occurring systems, not one system."

- Cite SYNERGETICS draft, at Sec. 400.08, RBF rewrite, 26 May'72

System:

"A system is the first subdivision of Universe into a conceivable entity separating all that is nonsimultaneously and geometrically outside the system, ergo irrelevant, from all that is nonsimultaneously and geometrically inside and irrelevant to the system; it is the remainder of Universe which conceptually constitutes the system's set of conceptually tunable and geometrical interrelatability of events."

- Cite SYNERGETICS, Sec. 400.02, RBF rewrite, 25 May*72

System;

"A system is the first subdivision of Universe. It divides all the Universe into six parts: firstly, all the universal events occurring geometrically outside the system; secondly, all the universal events occurring geometrically inside the system; thirdly, all the universal events occurring nonsimultaneously and remotely unrelatedly prior to the system events; fourthly, the Universe events occurring nonsimultaneously remotely and unrelatedly subsequent to the system events; fifthly, all the geometrically arrayed set of events constituting the system itself; and, sixthly, all the Universe events occurring synchronously and or coincidentally to and with the systematic set of events uniquely considered."

- Cite SYNtHGTICS, Sec. 400.01, RBF rewrite, 25 May'72

System:

"Systems are inherently polyhedral."

Systems of thought Divide the Universe

Into the conceptual and the nonconceptual.

- Citation & context at Thought_f May'72

System:

"A system is the first subdivision of Universe. It divides all the Universe into six parts: firstly, all the universal events occurring geometrically outside the system; secondly, all the universal events occurring geometrically inside the system; thirdly all the Universe events occurring nonsimultaneously and remotely unrelatedly prior to the system events; fourthly, all the Universe events occurring nonsimultaneously remotely and unrelatedly subsequent to the system events; fifthly all the geometrically arrayed set of events constituting the system itself; art), sixthly, all the Universe events occurring synchronously ar® or coincidentally to and with the systemflBic set of events uniquely considered."

- Cite RBF rewrite at Synergetics Sec. 400.01, 24 May*72

System:

"The definition of a system as the first subdivision of finite but nonunitary and nonsimultaneous conceptuality of the universe into all the Universe outside the system, and all the universe inside the system, with the remainder of the Universe constituting the system itself, which alone, for the conceptual moment, is conceptual."

- Cite ttBF marginalis, 20 Jan.

Draft, 251.2b, Feb '72

• 72

incorporated at SfhEKETICS

System:

"Operationally speaking we always deal only in systems and all systems are characterized projectionally by spherical triangles which control all our experiential transformations

- Cite SYNLHGET1CS, "Operational Mathematics, One Spherical Triangle Considered as Four." 1971

System;

"Three planes can never have a ayetea because it takes four planes to have a withinnosdknd withoutness."

- Cite RBF to EJA, Beverly Hotel, New York, 14 Sept. 1971.

SpsriK- *sec.*)

System:

"Electromagnetic frequencies of systems are sometimes complex but always constitute the prime rational integer ,



exist in complementation of gravitational forces to

- Cite NASA Speech, p. 91

Insert added by RBF at Deer Isle, Me., 25 Aug.

SVSTeH - *sec. Hl. S'/J*

System:

"Systems can orbit. Systems can contract and expand. They can torque; they can turn inside out and they can interprocess their parts."

Cite RBF insert at Synergetics draft, Sec. 404.2, Bear Island 25 August 1971.

SYSTEM - *sec. 1(06.*

System:

"Une difference between a domain and a volume is that a volume cannot have an Interior point, because if it did it would be subject to more economical subdivisions

- Citation k context at Domains. 25 Aug'71
- bynergavioe—ttraft, faet ftbO.J, August 1971.

System:

"Planet Earth is a system. Tou are a system."

- Cite RBF, Deer Isle, 25 Aug, >71 Synergetics draft Sec. 403.2

SYSTCH-

gy fitting:

"gyatama are doaaaina of volumes.*

- Citation at Dornaing_f 18 Jun»?1
- GltrrfifiFto~EJA, Fairfieldy-Dw

971.

.\$ V5TE* - 5 FC 90' si)

Systems:

"Systems can have nuclei and prise YOIUBOB cannot
There are only three prise Yolumes."

- Citation at Prime Volumes. 16 Jun*71

SYSTEM- S6c. Mftft.Slf

"All systems— whethereBBSicosahedron or crocodile-

System

have unit surface."

- Citation at Unit Surface. 4 Jtay'71

System:

""You cannot get out of universe. Universe is not a system. Universe is not a shape. Universe is a scenario. You are always in universe. You can only get out of systems."

- Citation at Universe. May'71
- Otte SYNfaRCbTICS Draft - "Cbncptuality: Space" - May, 1971

System:

'•The local environment is a system. A line is always formed by an alteration of the local environment by another system. 'Liaes* are the pattern of consequence of one system altering another system, either by adding to it, or by taking away from it. The event leaves some kind of tracery ..."

- Citation t context at Line. 25 Apr*71

- Cite STNERGET-ICS Draft---- 'Conceptuality: Interference" ftftf-Marglnalia, Boston, 25 April 1971

System:

"Our definition of an opening is that it is surrounded, that is framed, by trajectories. Every trajectory in a system will have to have at least two crossings. These are always as viewed, because the lines could be at different levels from other points of observation.'*

~~—eirs ftft? tn—hJA=pSoasraet Club, Boston, 22 April 1971~~

- Citation at Opening. 22 Apr*71

System:

"There are no surfaces. Therore there are no areas.

So Euler's topological aspects have to be altered to

read: "lines" » trajectories; "vertexes" □ crossings: and "areas" □» openings, i.e., where there are no trajectories or crossings. This relates to systems."

- Citation at Openings. 22 Apr'71

- Cite RBF_xo—*EJLLy* Somerset Club, Bost on_r 22 April 1971

novel-¹?— *sec* SZy.So]

System:

'Systems have only one insideness and only one outslideness.'

- Cite RSF to EJA

Hotel Eeverly, New York

7 March 1971

SSStTCM *sec.* WG>0.O3{

Systems:

"Systems an, in effect, spherical gears.

Their internal-external pulsating and rotating teeth

Consist in reality

Of both circumferential and radial waves Of various frequencies

Of subdivision of spherical unity.

They often fail to mesh

With other local systems.

Some of them mesh only in snecial aspects.

The universally-frequent non-meshing

Of geometrical sizes and rates

Of wave lengths and frequencies Produces an omni-condition

In which the new system's center

As each is created

Must continually occupy

An omni-directionally greater domain." - Cite RBF DRaft

T BRAIN 4 MIND p.j

SYSTEM-XFC Too-H

"A system is the first subdivision of Universe. It divides all the Universe into three parts;; --- firstly--- all of the Universe outside the system; secondly--- all $\square\square$ of the Universe within the system; and thirdly--- the small remainder of Universe components which constitute the system considered.

"A system is an enclosure consisting of a conceptual aggregate of recalled experience items, or events, having inherent insideness and outsideness. A system is the antithesis of nonsystem, which latter lacks omnidirectional definition. Nonsystems, such as theoretical planes or straight lines cannot be found experimentally. We are scientifically bound to experimentally demonstrable systems thinking. All systems are subject to comprehension and can be coped with systematically.

"General systems theory treats wifyj phenomena which are holistically comprehensible. The objects of our experience are finite systems. Their superficial outline closes back on Itself multidirectionally as a systematic continuity of relevantly contiguous events. They are thus separable from other systems. There are systems comprised of systems."

* Cite NEUHU SPEECH, po.12,13, 18. 13 Nov'69

SYSTEM - sees. 1/0 6.61 4-qoo.iO) 72 +39

System:

"We could divide Universe into three parts: (1) all the out-^{the} inside-ness; (3) the system itself which subdivides the first two.

"The surface of any eystea. la finite— that la, it returna

- Cite "Word Meanings," EKISTICS, Vol. 28, Oct '69
SYS SEC. oToX 4~.O3 + os']

System;

"A system is any subdivision of Universe."

- Cite RBF glossary of term (P. Pearce) Synergetics draft, 1967

Svatem;

" A evatem la inherently concave and convex; it ia finite.

"A aaatem ia a local phenomenon in the univerae that ia geometrically definable becauae it returna or cloaea upon itaelf in all directiona."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, 1967

srsroi -s<c.

Systems;

in order for systems to have an insideness and an out- sideness the systems must have a geometrical form which returns upon itself in a plurality of directions.

"Flat planes or straight lines cannot return upon themselves. They reach away toward infinity.

"A polygon's perimeter does return upon itself as viewed from either pole of the axis of the perimeter. Systems require return upon themselves as polyhedra whose polygons peregrinate around three or more non-congruent axes. Systems are finite polyhedra. Systems are locally conceptual components of universe. Systems, as viewed from inside are inherently concave and as fiM viewed from outside are inherently convex."

- Cite NASA Speech, p. 42, Jun'66

System:

"Every system, as a subdivision of the total experiences of universe must accommodate traffic of Inbound and outbound events and inward-outward relationships with other system aspects of universe."

- Cite NASA Speech, p. 42 , Jun*66

SYsTe*- -Sec HO«53\

Systems:

"Topologically speaking, there are in all syetems the additive twoness of the poles and a multiplicative twoness of the coexistent concaveness and convexity of the system's insideness and outsideness respectively.**

Cite NASA SPEECH, p. 62 f Jun'66

Systems:

"All systems are polyhedra."

WBONhAijjU11A1HTI JJ te NASA SPEECH, p. 86, Jun'66

jrsre-M -Sec .03]

RBF DEFINITIONS

System:

"I found it quite possible to subdivide the universe instantly by developing the concept of a 'system.' A system is a local phenomenon in universe that is geometrically definable because it returns or closes upon itself in all directions. Systems may be symmetrical or assymetrical.

I found that systems ate the first subdivisionm of universe for they subdivide the universe into all the universe that is Inside and all the universe that is outside the system."

- Cite SUF24ARY VISION 65, p. 137

System:

. Any one of these systems can, of course, spin, so there is an axis of rotation Se any system."

- Cite LEDGEMONT LAB Lecture 15 Oct '64., p. 68.

SYsreH- *sec.*

System:

"Twoness and oneness can't make a system. They don't have inside-ness or outsideness at all."

-_Cite_Oragon» Lecture #7, p, 24S. 11 Jul'62 SfSTCH- Isd-oV?

System:

"• • • Spherical trigonometry la a very different kind of trigonometry from the plane. I want you to get familiar with it because there is no plane flat surface on Earth.

So therefore there are no plane triangles and we are dealing always in systems. Systems are characterised by triangles which are spherical triangles. These are the kinds of triangles which control our fundamental transformations."

- Citation at Spherical Triangle, 10 Jul'62

- pp. 205-6 r 10 Jul»62

System:

"... Well, they are spherical triangles and there is a concave little and a concave big as viewed from Inside and a convex little and a convex big as viewed from MK outside. Convex and concave are not the same; MBB so there are inherently four. Infact, you will always find there are four there. Four is the minimum and when we get to any kind of system there is always four there. You will get used to the fourness. ..."

- Cite OREGON Lecture #6, p. 207 , 10 Jul'62

System:

"We can state that the number of vertices of any system (including a 'sphere' which must, geodesically in universal energy conservation, be a polyhedron of vertices) minus two times $j60^\circ$ equals the sum of the angles around all of the vertices of the system."

Cite OMNIDIRECTIONAL HALO, p. 152, 1860

System;

"A system is a patterning of force that returns upon Itself in all directions--- that is, a closed configuration of vectors.

"Insofar as a system loops back on itself, its dimensions are limited; hence the system is finite. It has an inside and an outside: 'within-nese*' and 'withoutness.' Every system consequently divides the universe into two parts; that which is within the system, and that which is external. A plane (as defined by Euclid) can not constitute a system, because a plane is conceived to be a surface without limit. It extends on an on, to infinity, never returning on itself, never developing inwardness or outwardness,

"It is characteristic of a system that the angles around its vertexes must be concave or convex with respect to the position from which they are viewed--- concave if looked at from the interior space, convex when viewed from outside.

SysTrM- STc.

U)

"It is significant, however, that the angles surrounding a vertex cannot add up to 360° , for it is a condition of a system that it be finite; which is to say that it should curve back on itself from all directions. If the angles around any vertex add up to 360° , they would initiate an infinite plane. And since a plane has infinite extension and does not close back on itself, this condition violates the requirement of finiteness---the essential property of a system."

- Cite MARKS, pp.42-43, 1960

System:

"A system is a man-thinkable, tune-in-able constellation of generalized experience event cluster foci. Energy cluster foci are starts, or topological ver-texes, which are only the as-yet-nonanalyzed group phenomenon whose energetic point centers of event clustering locals are as yet too remote for the present observer's position. □ • Systems are star interrelationship considerations which logically continue to return upon themselves due to the related preoccupying importance of locally dominant event frequency proximities which altogether function as a fundamental, i.e., simplest or most unique.

feometrical set which inherently subdivides the total Universe, the cell-time-man-experienced events fall into two main and clearly distinguishable classes:

(1) All those relatively too large or macrocosmic events of Universe which must clearly occur outside the presently thought-considered tunable range capabilities and are therefore outside the timable system set; and

(2) All those relatively too small, negligible, micro- cosmic clan which occur inherently within and infra to the tunable frequency and relative size ranging of the considered set."

- Citation and context at Radome Sequence (2)0), 29 Dec'58

System:

"A system is a min-max tunable, ergo, a primary definable subdivision of Universe. As such a definable set, it separates and dismisses, inwardly and outwardly of its tuned finite pattern all that is mic»cosmically and macrocismically irrelevant and untimely. Systems have, therefore, time, and direction inwardness and outwardness, and polarity, thus identifying the hitherto seemingly abstract two-ness of Euler's topological formula: 'Faces plus vertexes equal edges plus twoness,'"

- Cite RBF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NC, 1954-59

System:

" ..Systems are inherently finite."

- Context and elution at Plurality. 5 Mar' 55

System:

"A system is a primary definable thought tune-inable subdivision of Universe. As such a definable set it separates and dismisses inwardly and outwardly of its tuned finite pattern all that is microcosmically and macrocosmically irrelevant. Systems have, therefore, inwardness and outwardness limits and electable view induced polarities, thus always identifying the twoness of Euler's formula."

- Cite RBF Ltr. to Donald W. Robertson, b Jan • 55» p. 4.

SYSTCH - sec.

System:

"A system is any subdivision of universe."

- Cite RBF Glossary of Terms bound with "The Live Book Squad" Sep`49 "System awareness begins when we find the otherness surrounding us, when we are omnidirectionally enclosed. The volume sense is only from inside. From outside four points can look like one point or they can look flat. Not until we turn a tetrahedron inside-out do we have microcosmic awareness. Not until we swallow the otherness do we have microcosmic volumetric awareness. We become the outside. At first.

we were just the inside. In the womb. In the womb we had tactile sensorial awareness of volumetric surroundment by the otherness, but no visual, aural, or olfactoral awareness of the otherness-surroundment. The child develops otherness awareness only as outside volumetric surroundment within which he finally discovers Me the Observer."

- Cite SYNERGETICS draft at Sec. 1023.20, 20 Feb'73

See Stature, 20 Feb*73

CgDW:

"Synergetics starts system mensuration at the system center.

- Citation and context at Synergetics (2), 14 May*73

Svatem Canter of Observation:

See Reciprocity, (l)

System Center;

See Central Angles 4 Surface Angles, Aug'71 Yin-yang, (1) Radiation, 11 Feb'76

Svatea Constants:

"Angles, tetrahedra. and topological characteristics are system constants independent of else..."

« • Citation & context at Time-ai«e_T 20 Dec *73

See Tirne-aize, 20 Dec*73*

Twelve Universal Degrees of Freedom, (2)

^syatwn ^DiffrenUmQn:

See Additive Twonese, 17 Feb*72

System Enclosure: (1)

"If we get rid of the word 'polyhedra', then what word do we have in its place? A high-frequency, omnidirectional spheric event, Polyhedra are finite system enclosures. They are topologically descriptably finite system enclosures. They are Universe dividers. They are not linear dividers but omnidirectional Universe dividers.

A mosquito has macro-micro cosmos system perceptivity at a different level from that of the whale's. Probdy each observer organism's stature constitutes its spontaneous observational level of macro-micro subdividing: Bigger than Me; Littler than Me; Within Me; Without Me.¹

"We relinquish the word 'polyhedra*' to re-employ our new term systematic enclosure which can be generalized to serve creatures of any size; i.e., a tetrahedron big enough for a mosquito or big enough for a whale. Faces are spaces, openings. The four vertexes plus for faces plus six lines of the tetrahedron has to become four somethings plus four nothings plus six relations. We add convergence to something and divergence to nothing--- completely incmendent of size."

- Cite SYNERGETICS draft at Secs. 1023.14, 15, 20 Feb'73

System Enclosure: (2)

"Since there are no 'things' there is no 'something.'

We are talking of an event in pure principle. We have events and no-events. Events: novents: and relationships. These are the epistemological stepping stones."

- Cite SYNERGETICS draft at Secs. 1023.1415,20 Feb'73

Equation of System:

"All systems are conceptually differentiated out of Universe.

System + environment \square Universe Universe - system \ll environment.**

- Citation &. context at Cosmic Inherency, (1), 27 Dec'74

System: Equation Of:

See Equation: Philosophical Equations

System Generates Itself:

See Frame of Reference, 24 Sep'73

Sv at, rnn-hal vi ny:

See Dichotomy: Dichotomizing Spin-halving Self-divisioning Self-halving

Smflm~halYing:

See S Quanta Module. 4 Jun'77

(2)

Trigonometry, 20 Sep¹77

System Integrity:

"Unit means system integrity."

- Citation and context at Unit, 26 May'72

SvRt.wm Integrity:

Organic

See Unit, 26 May'72

Spherical Triangle Sequence, (IT)

sxatena-Llalfc

". . . , It is impossible to have six equilateral triangles around each vertex because that would add up to 360° , which is a flat plane. It is necessary to remove an angle in order to make it concave and convex. There is then a limit to systems."

- Cite SYNERGETICS, "Numerology," pp. 12-13. 1970

Syittl LjBlt: Syttftia. lAaLV

See Equiangularity, 17 Nov'72

Topological Aspects: Inventory Of, 9 Feb'73 Positive & Negative: Four Kinds, 10 Nov'74

"A system is the antithesis of a nonsystem. A nonsystem lacks omnidirectional definition. Nonsystems such as theoretical planes or straight lines cannot be found experimentally. We are scientifically bound to experientially discovered and experimentally demonstrable systems thinking."

Cite SYNERGETICS text at Sec. 400.21, 26 May*72

See Human Beings, 22 Jun `77

SygtMfl. ---Polybsdrt

See Polyhedra, 18 Jul'76

See Prime Volumes, 17 Feb*73

SYftMWtIC

"The mathematician's 'purely imaginative,' no-thickness, no breadth, ergo, no inideness or outaideneaa points, lines, and planes are non-experienceable. All image-ing derives from experience. Conceptually Imaginable point, line, and plane experiences are systemic; that is, they have insideness, outsideness, and angular constancy independent of size.

"Size is always special case realizability. The mathematician's undemonstrable assumption that three points define a plane of no thickness--- no radial depth-- is therefore subsystemic; ergo, unthinkable, nonoperationally evidencible, and unimaginable, ergo unemployable as constituents of proofs.*

"Contrary to conventional mathematical dogma three points do not define a nonexistent, ergo nondemonstrable, no-thickness plane; nor do they define an altitudeless triangle because there can be naught to systematically do the defining. Nothickness is neither experimentally evidencible nor conceptually feasible. System is conceptual independent of size." - Cite SYNERGETICS, 2nd. Ed., at Secs. 1071.20, k .21, 20 Dec'74

See Scenario Universe, 18 Sep'74

"If I am being absolutely consistent about Universe system and structure all go together and IF11 have a vectorial model of one quantum, our friend tetrahedron."

- Tape transcript Tape 6A, Side A. p.7; RBF to Barry Farrell, Bear Island, 16 Aug'70

See Structural Accounting, 12 Nov'74

Vector Equilibrium, 8 Sep'77

"All systems alter other systems: this is the essence of evolution."

- Citation & context at Industrialisation, (A), 22 Jan'75

\$yatema ^AXtar Pxhar gyatama-

See General System Theory Heisenberg-Eliot-Pound Sequence Epi-genetic Measuring Alters the Measured

System of Systems;

See Pronoun: I -We -Us, (1)

See Tetrahedron, 22 Jun>75

System Totality:

"The reverse magnitudes of the surface vs. volume hierarchy is completely logical in the case of the total surface subdivision starting with system totality. On the other hand we begin the volumetric quantation hierarchy with the tetrahedron as the volumetric quantum (unit) and in so doing we build from the most common to the least common omnismmetrical systems of Universe. In this system of biggest systems built of smaller systems the tetrahedron is the smallest, ergo most universal. Speaking holistically, the tetrahedron is predominant; all of which is analagous to the smallest chemical element, Hydrogen, being the most universally present and plentiful, constituting 90 percent of the relative abundance of chemical elements in Universe.

"The tetrahedron can be considered as a whole system or as a constituent of systems in particular. It is the particulate

1053.62, 7 Mar'73

- Citation, SYNERGETICS draft At Secs.

See Boltzmann Sequence, 11) Geodesics 4- Tensegrities, 9 Sep'74
Omnidirectional Typewriter, (1J Time-energy Economics

S.264.01

See Universe. May'71; 26 May'72; 15 Aug'74; Jun'66 System, 26 May'72

Svatam:

(1 A-F)

See Angular Sinus Takeout Avogadro: Generalised Avogadro System

Big System

Big System & Little System

Celestial System

Closed System

Comprehensibility of Systems

Conceptual Systems Crocodile

Differentiator

Domains of Volumes

Ecosystem

Eternal Rebirth System

First Subdivision of Universe

See General Systems Theory

Gravitational System tone

Half System Information Control System Individual System Formation Inertail Systems Interconnection of Systems Intersystem Intertransformability System Sets

Life-support Systems

Macrosystem Microsystem Minimum Asymmetric System Minimum System

Nonsystem Nucleated Systems

Only the Whole Big System Works

See Omnisystem

Open Systems

Overload the System

Plane

Polyhedral Systems

Polarized System

Prime Minimum System

Relay System

Relevant System Potential

Rotative Systems

Returning Upon Itself: Systems Return Upon

Themselves

Self-bounding System

Self System

Stability: Stable & Nonstable Systems

Spherical Point System

Synchrosystem

Skinning: Tiger's Skin

Subsystem

~~S~~xaten: (1 T-Z)

See Jetrahedon as Smallest System

Tetrasystem

Time: Separating Time out of the System

Thirty Minimum Aspects of a System

Thirty-two minimum Topological Characteristics

Topological Systems

Turbosystem

Unclutchable Mechanical Systems

Visibility &. Invisibility of Systems

Water Fountain as System

Whole Systems

Zoned System

Soneness: System Zoneness

Domains, 25 Aug'71*; 18 Jun'71*

Functions: Theory Of, 1970

Human Beings & Complex Universe. (7)*
Infratunable & Ultratunable, 8 Feb'76

Line, 25 Apr'71*

Model vs. Form, 8 Apr'75

Omnitertangency. 17 Feb'73* Opening, 22 Apr'71*

Plurality, 5 Mar'55* Polarity, 12 Nov'75 Prime Thinkability 20 Dec'74
Prime Volumes, 18 Jun'71* Primitive Dimensionality, 1 Mar'76 Pull,
22 Jun'72

See Radial Depth, 20 Dec'74 Radomt Sequence, Regenerative Design:
Law Of_f (1)(2) Relevance, 22 Jun'72

Scenario vs. Absolute Symmetry, 11 Dec'75 Spherical Triangle, 10
Jul'62* Structure, 26 Dec'74

Tetratuning, 30 May'75 Thinkaboutability, 8 Feb'76 Thought, May'72*

Tunability 16 Noy'72; 24 Apr'76 Triangle, 18 Dec'74 Unit Surface, 4
May*71* Unity, 6 Jul'62 Universe, May'71*
Zero, 4 N_ov'73*

System? (3)

See Systems Alter Other Systems System Awareness System Center
System Center of Observation
System Constants System Differentiation System Enclosure
System: Equation of System System Generates Itself System-halving
System Integrity Systems & □ Nonsystems Systems - Polyhedra Sys-
tem vs. Prime Volume System vs. Scenario System & Structure Sys-
tem vs. Structure System of Systems System vs. Thing-in-itself Sys-
tem Totality System vs. V/jthoutness

Syte:

"Symmetrical Tetrahedron: Syte: Two of the AAB allspace-filling
three-quanta nodule, asynmetric tetrahedra, the Mites--- one
positive and one negative--- may be Joined together to form the
six-quanta-module, semisymmetrical, allspace-filling Sytes. The
Sytes can be assembled in three different ways to produce three
morphologically different, allspace-filling, asymmetrical tetrahedra:
the Kites, Litea and Bites, but all of the same six-module volume.

"This is done in each by making congruent matching sets of their
three, alternately matchable, right-triangle facets, one of which
is .dissimilar to the other two, while these other two are both
postive-negative mirror Images of one another.

"Each-of the three pairings produces one six-quanta module consrt-
ing of two A (+), two A (-), one B (+), and one B (-).

- Cite SYNERGETICS text at Sec. 953.40; RBF galley rewrite of 20 Dec'73

Svte;

"There is one allspace-filling tetrahedron, but it is asymmetrical because it has to go through this oscillating: it is a dynamic affair.

"It consists of four A Modules and two B Modules.

"You still have to have octahedra as well as tetrahedra if you want to fill space symmetrically. Filling all the space is positive and negative pumping against each other; in other words, from the visible to the invisible."

- Cite RBF tape transcript, Blackstone Hotel, Chicago, p.34, 31 May'71

fHMHM Svte:

"There is one all-space-filling tetrahedron but it is asymmetrical because it has to go through this oscillating, it is a dynamic affair . . .it consists of four A Modules and two B Modules . . . You still have to have octahedra as well as tetrahedra if you want to fill space symmetrically. . . Filling all the space is positive and negative pumping against each other. In other words from the visible to the invisible."

- Cite RBF tape, Blackstone Hotel, Chicago, 31 May 1971. p. 34

See Mite: (Minimum Tetrahedron)

See Coupler (1)

T

T Module:

"The triacontrahedron displays the sixty-degreenesa plus the ninety-degreeness of its minimum spherical excess resulting from its self-divisioning, its self-halvings.

"The T Module is folded out of a square of which the edge is a vector of mass x velocity to the second power. But since second-powering means using the triangle and not the square, it means that I have to rewrite Einstein's equation to become $E = 2f$.

"This simplifies Einstein: You don't have to say mass, you just say vector—which gets you out of the three-dimensional frame in which he wrote the equation. . . . The speed of light is normal—it's speed all right, but we have unit vector, that's what the vector equilibrium is... the spherical!"

- Cite RBF to EJA by telephone from Pacific Palisades, CA; 31 Jul'77

T Module:

"The T Module can be folded out of one whole triangle—the total area is a square... the four-foldability comes out as a square: a visual model of $E = Me^2$.

"The vertexes are the tunings and the edges are the central angles.

"The tetrakaidecahedron results from the truncation of the four-frequency vector equilibrium.

"With the T Modules at Ultra Limit

- the A & B Modules at Minimum Limit
- Divide $VE \times 8$ and the number is 2 J."

- Cite EJA notes from RBF patter with models and at blackboard during World Game Workshop presentation, Phila., PA;

21 Jun'77

T Quanta Module:

'The T Quanta Module is the electron in conceptual form. It manifests itself as the tetrahedra formed by the sphere center and the 120 faces of the trilacontrahedron.

"The T Quanta Module is unfoldable as a square with the unit vector radius—the prime vector—as its edge. The face of the T Quanta Module is the small triangular corner of the unfolded cube and is identical with the Basic Disequilibrium 120 LCD Spherical Triangle. That small basic triangle corner makes up part of the value $\underline{c^2}$. but it has to be unhinged and reoriented, it has to cut itself off—at which point its surface angles plunge down congruently into the central angles of the 120 tetrahedra of the triacontrahedron.

"The acute vertex of the T Quanta Module is at sphere center. This is what I was trying to draw midnight on 21 Sep'73; see Fig. 5417 in the picture of spherical photon packages as tetrahedra.

"With the T Quanta Module the Einstein Formula $E - Me^2$ becomes visual. The unfoldability had to be square for the c^2 . It shows how the electron is radiation, a model of matter turning itself around at the center, but it has to unhinge and - Cite RBF to EJA, 1200 Idaho, Wash DC; 12 May'77

T Quanta Module:

"cut off from its total self to plunge back down into the center and make the model of radiation.

"Now what we need to know is the ratio of that Basic Triangle corner to the rest of the unfolded square."

- Cite RBF to EJA. 1200 Idaho. Wash, DC; 12 May'77

Incorporated in SYNERGETICS 2 draft at Secs. 1033.133-.U5.

See 0 Module

See Trilacontrahedron as Limit Regular Polyhedron, 13 Apr'77 Trilacontrahedron, 13 May'77 Electron, 12 May'77 Min-max Limits, 8 Aug'77 Trigonometry, 26 Sep'77

TABLES

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Curves fit Trendings

Sec Charts:

Tactical Information:

"Probably our most polluted resource is that of the tactical information to which humanity spontaneously reflexes."

- Cite NEHRU SPEECH, P. M.37. 13 Nov'69

Tactical inforpatign-

See News, 25 Jul*72

Tactile:

"Tactile: preponderantly sensing the crystalline and triple-bonded atom and molecule state, which includes all the exclusively infraoptical frequency ranges of the electromagnetic spectrum's human receptivity from cold 'solids' through to the limit degrees of heat which are safely (i.e., nonburningly) touchable by human flesh."

OZO

- Cite SYNERGETICS 2 draft at 22 Feb* 77

Tactile:

"The tactile is very unreliable; it has little meaning.

- Citation and context at Thinkable You (2), 22 Nov'73

Tactile;

"The real emphasis of Judgement of life is on the tactile, the thing you can touch. . . . Reflect on some of the things it does, like making you want to get your hands on the money or the real estate, whatever it is."

Cite Oregon Lecture p. 95. 5 Jul*62

Tactile?

"• . . What we call dead is strictly a tactile thing. I put the touchable thing in the ground but I can't put the thinkable you in the ground. . . The tactile is a very unreliable thing. It has very, very little meaning."

- Ctte Oregon Leet we-#3, pp_r 99 100,—Jul'6a
- Citation and context at Thinkable Ynu_r, 5 Jul'62

"Because the human's tactile sense has been operative months before birth as the only communication means between the pregnant mother and the live child she is bearing, the tactile sense becomes the comparative base for all the post- natally and successively acquired sensibilities. . » "

"Because primitive sensBing is tactile, man measures his distances horizontally in feet, vertically in hands. .

. Kan not only thinks he sees objects outside himself, but also identifies the external objects by their tactile surfaces. Thus men tend to think of one another in the form of their tactile modeling."

- Citation and context at Brain's TV Studio. (1) +(2), 6 Jun'69

` ` And you and I have reviewed together how it is, due to the fact that our first apprehending capability inside the womb is where we have tactile communication with our mother for eight months. Then we're born. Tou can put your finger in a child's hand and already have communicated absolutely beautifully, tactiLeely.

"Therefore, all of our sensing about our life is always measured primarily in the tactile and everything else is referred to it. Distances are in feet and hands, our verticals in hands, and everything else we refer back to tactile. And you see me only when you say, 'I can touch you.'¹

You're not saying, 'You're where I hear you.' You're not saying, 'You're where I think you,' or 'Where I understand you.' This is where I really am. There's absolutely nothing going on in this room except where you and I understand each other. That we really can see a touchable group--- which is the very lowest order of apprehending of "the Universe--- and we make such emphasis of it. It was all so important for a human being because he weighs in as life utterly helpless and with no information so far; though he has extraordinary"

- Cite RBF to World Game, Jun-Jul'69

` ` information collecting, identifying, and retrieving capability but he hasn't anything put in there yet. It is very important, then, for us to recognize that in that helplessness that had to be taken care of, and it is not surprising that the first apprehension is tactile. Kan, like the physical part of all systems which is entropic, and therefore it has to break down and therefore it has to be regenerated.

"In order to be sure that life regenerates itself you have to give it a drive such as hunger, so as to be sure it takes up fuel and takes on energy. You have to give it a drive first so as to be sure to get the right chemical combining. You can have a hunger for air; that's the one it really has to have the most of. So you put in a pumping system so it really isn't even conscious of breathing. And then you give it the drive to reproduce itself, because many of them are going to break down and not work out. You've got to be sure--- because of man's function in Universe--- that life is going along in order to carry out that function.

"If you and I had to go out and buy ourselves, if you went to"

- Cite RBF to World Game, Jun-Jul'69

rasUls Sttmjuigj: (3)

"the supermarket and had to buy your own heart and your own guts and your own lungs and your own kidneys and liver, and so forth, I«m sure most of you people would leave most of it out, and we would not be very attracted to them.

"In order to get this extraordinary complex of regeneration reproducing itself, you have to really skin it in. In a very important kind of a way, you have to make it somehow a very attractive matter--- this warmth here, and so forth, as something very attractive to make them like to get together again. And so the built-in drive to reproduce, to be sure that life is there, is very intimately tied up with the touch part and getting back in the womb, and so forth, that new life will come along then. So it's very hard for man to separate the physical in his thinking from the tactile or from the really metaphysical. It's awfully hard for him. I don't want to give up that something nice in me; that regenerative drive, something that's fascinating all the time; I really can't relinquish that and say that man is really, as far as life goes, metaphysical. But so far as I can see, that really is the fact."

- Cite RBF to World Game, Jun-Jul(69

"This is by way of really identifying that we are not the physical. We have an integral phyaicalness and we have an externalized physicalness, and I can call you on the telephone and there you are, and you're not the telephone and I»m not the telephone. But what we really are has nothing to do with the physical, yet it is so intimately associated, so emphatically, due to the fact that we see and feel in these touching things. Only in this century did we learn about the speed of light. Therefore we thought that things were instant: it was instant when, of course you were the touchable.

"But if--- with no instant, then this is no longer true, and you and I are seen, we even see each other, here-- I don't see out there anyway. I'm checking up on a communications system by touching here, but I'm seeing-here in my television set."

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript #327, pp.6-9.

la£XLU:

See Feel: Feeling

Human Ssnse Ranging & Information Gathering

Touch

Touchable You Thermal *□ Tactile

See Brain'e TV Studio, (T)(2)*

Geometry of Vectors, (B)

Privacy, 22 Apr'61

Sweepout, 5 Jul*62

Thermal, 6 Mar*73

Thinkable You, (2)*; 5 Jul*62*

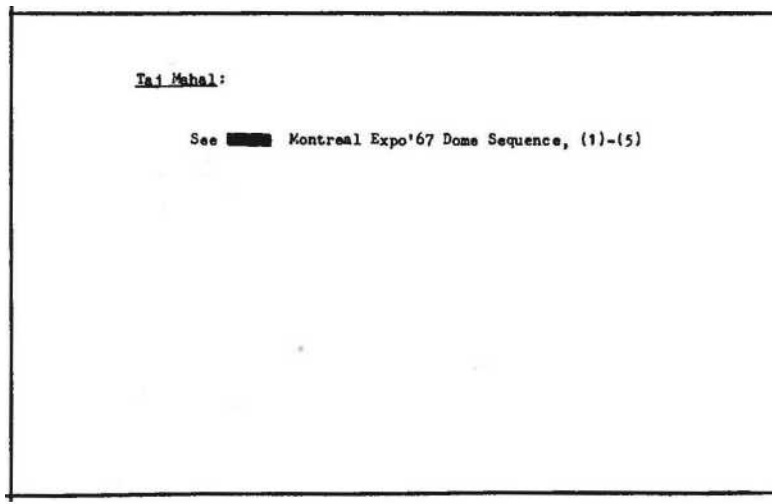
Time, 6 Mar'73; Aug*71

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Model of Toothpicks i Semi-dried Peaa, (1)

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Taka Away tha Laadara:

See Leaders: Take Away the Leaders

Soft Angular Sinus Takeouts

Conceptual System Takeout Convex-concave Takeouts Tetrahedral

Tuck in Universe Thinkability: Thinkable System Takeouts Tuck

Tuck in the Universe

Tuck in a Plane

Static

Takeouts;

See Central Angles & Surface Angles. 21 Dec'71

Conceptuality, 17 Oct'72

Conditioning, U Feb'72

Infinity i Finity, Jun'66; Dec'61

Vacuum, 1y Feb'72

Space, 9 Feb'76 Scenario Universe, 18 Jul'76; 19 Jul'76

Tala s Taliny:

See Story Telling, 18 Jul'72

"...In the talented individual there is relatively no tug-of-war for dominance on the part of the life cells, for talent has been found to be born of two parents of almost similar life cell characteristics. This talent in human beings is similar to a specific trait on which, and for which, breeders of horses or dogs continually concentrate and inbreed; for instance, 'speed' in the horse, a special head in the dog, which requires parenthood as closely identical as possible. The product, 'colt,' may be said to have a talent for speed. The word talent as applied to persons is derived from talentum, the name for a coin of varying value, or a measure of money. Its application to persons was intended to indicate, in a rate sense, persons of a special measure, not persons of a generally inclusive, average rate ability of performance.

**In contrast to genius, talent has not the two or more viewpoints of genius, but has a 'single track' visualisation. The absence of a time-and-space measuring ability limits the sight to a single nonworldly view--- *non-worldly' because, as we pointed out in our interpretation of Einstein's formula, the conscious 'world' is in fact energy radiantly manifest"

- Cite NINE CHAINS TO THE MOON, p.97, 1938

Talyft! (2)

"at relative rates of retarded speed, rate being the inseparable relationship of time and space.

"The harmonious concord inherent in this characteristic of the solitary talented personality of genius enables the talented individual calmly to preoccupy himself with the exquisite refinement of, or better rendition of, the compositions of genius, in all special articulation fields.

"There is no implication in this discussion of talent and genius of a greater importance for either proclivity.

"The function of genius is to provide new instruments and the process-means for the progressive growth of man; talent's function is the precise and harmonious popularisation of the otherwise popularly undetectable, and therefore otherwise nonuseful products of genius. What is often mistermmed as 'plagiarism*' is more precisely 'talent.' 'Plagiarism' is an ethical offshoot label of the false property illusion..."

- Cite NINE CHAINS TO THE MOON, pp.97-98, 1938

Talent-

(1)

See Capability

Genius

S» Longing: Fear *t* Longing, 1938

'rFJNPF-IBES

Tall:

See Him ns are One-Thousandth of a Mlle Tall

Tallying:

See Story-telling, 18 Jul*72

Tangent;

"Tangent ie the 'closest¹ that spheres may come to one another."

- Cite Numerology draft August 1971, p. 26,

Tangency;

"In your closest packing you have the spheres which are just high-tide aspects of vectors. . . Because the lines are now hidden between the points of tangency. It is very easy to be greatly misled when you see two spheres in tangency. There is only one line between the two/ This is where you see that unity is two because the line breaks itself into radii of the two spheres."

- Citation & context at Closest Packing of Spheres, 31 May*71
Tangency;

" A point on a sphere is never An infinitesimal tangency with a plane."

- - nne 1971.
- Citation & context at Sphere. 31 May*71

TZToK sec-. ' 5"11. II(
See Vectorial Near-mies
Vertexial Connections
SMKmAil-ixalSms
(2)
Seo Interference, Nov'71

See Centrifugal

Crossing Tangency

Intertangency

Internuclear Vector Modulus Omniintertangency

Sphere Tangent with a Plano Tactile

Tangible

Touch

Tangency: Tangential:

(2)

See Closest Packing of Spheres, 31 May'71*

Compression. 22 Jun*72

Gravity, (g)

Nucleus, (1)

Omnidirectional: Physical Existence Environment

Surrounds, (1)

Spheres, 31 May'71*

Macro-Micro, 12 Nov'75

M I^anUklc Mg;

"...The tangible me is like the water that told me that a wave went by«ⁿ

- Citation and context at Metabolic Flow (1), 9 Jul¹62

Tank:

"A tank was just a submarine come up on the land."

- Cite RBF at Penn Bell videotaping session, Philadelphia 23 Jan` 75

Tape: Tape Recorder:

<1)

See Heel of Tape Recorder

{To) Save Time, Tape, & Type

Tape Recorder:

(2)

See Fuller, R.B: Hie Modus Operand!, 15 Jun'74

Tapestry:

"The inventory of all our experiences is a tapestry. It takes me 51 hours to describe all the experiences I work in."

- Cite RBF to Paul Render, Summer Morning Films, Inc.
Beverly Hotel, NYC, 14 May '72

Tapestry:

See Kinetic Tapestry

Multidimensional Tapestry Variable Strands Braiding rfeave: Weaving
See Scenario, May'?2

lAfi: The Ureer the Taak the Duller the Brain:

See Whitehead's Dilemma: The larger the Task the Duller the Brain

See Poets, circa 1970

Tqete: Tasting:

See Principle, 6 Apr**75

RBF DEFINITIONS

Twch*blg Tffi UntafighafelV

"Everything that constitutes science Is unteachable....

"Scientific routines for specialised technicians And scientific formulas
for their reference Alone are teachable."

- Citation 4 context at Science. Oct*66

T sa ch er:

See Principle, 22 Feb'72

Igachgr:

*The teacher. . . a skilled re-dispenser of what other teachers had
successively taught other teachers to teach.

- Cite RBF Ltr. to Robt. W. Marks, p.10; 13 Mar*65

Teaching:

"Linus Pauling said 'I'm not going to teach my whole freshman class all the things that were wrong--- the whole evolution of the subject. Just start with what has been learned in the past 24 hours. It's much simpler.

- Cite RBF to EJA

Carbondale

2 April 1971

Teaching:

(1)

See Self-teaching

Teaching:

See Psychiatry, (2)(3)

(2)

Tear; Tearing;

See Angular Sinus Cutout Child Tearing Paper

Tears In. .the Evening;

See Superstition, 1938

Technocracy:

"I am not talking about the engineer# or scientist# becoming politicians. That was tried in 1930 in Technocracy wherein the engineer-scientists were to muster a host of disgruntled engineers and, taking guns, seize the post offices. They proposed gaining their end# by reverting to the ohyoical power tactics of the pirates and their politicians. But the scientists and engineers enlisted were too honest to be good politicians. Technocracy failed before it got going. So the prospect is that we are going to have to follow the medical scientists'

successful precedent of minding everybody's physical success business while avoiding any interference whatsoever from the clients or WMHBO interference with the clients' metaphysical freedoms, -e are going to have to do so by holding ourselves exclusively to reforming the inanimate environment.to make it able to supportfall men without ever resorting to the politicians policy of would-be reformation of the human beings--- their thought processes, their initiatives, and their wills,"

- Cite NASA SPccCH, p. 17. Jun'66

Technocracy:

The "natural evolution of intellectual accomplishment for the many by the few is the antithesis of such reverse gear schemes as Technocracy which sought to establish an autocracy of engineers schematically similar in aim to national socialism. Technocracy sought to convert the engineer * to the role of politician.

But the engineer proved no more effective

than the most ignorant and slothful in the ballot box gam®, and much too forthright by training to be g good politician.

Superficially saleable as an inviting scheme

Technocracy failed as an 'out' for society primarily because the engineer must vacate his creative and causal function for a negative and restraining function,"

- Cite Part II., Earth, Inc. Fuller Research Foundation Yellow typescript, p. 9, 1947

KBF uEFIhiTluHS

Technocracy;

"Technocracy? Ho. Technocracy failed because it made no allowance for passion, fashion, chance, change., intuition, the mysticism of harmony, and, most important of MW all, for--- »it happens.'

Technocracy called for an autocracy of engineers to fulfill its scheme. Political movements that call for an autocracy of a special viewpoint are ever doomed to failure as the trend indicates segregation of issues and a recomposed balance of all-time forces. Speculation and initiative in the acceleration of change, are all-time forces, and are as essential in a scheme of realism as suffrage and socialization of essentials and plenitudes."

- Cite NINE CHAINS TO THE F.UuN, pp.88-89, 1938

IssUmesxasi:

See Capability, 20 Apr'72

Superstition, 1938

Techaalafir

"I told them at Drexel that th@ reason that 90 percent of the people want to give up on technology is that they are all so totally out of touch now with the experimental evidence that is the basis for science. To give up technology... just means giving up Universe."

- Cite RBF to EJA, on telephone from Philadelphia; 22 Feb¹77

Itchnology

"Technology was not brought into our life on this planet by humans.

"he first used technology to convert vegetables and animals into eatability. But as we can see in our anthropology museums much of the best new technology goes into weapons."

- Cite RBF at Penn Bell videotaping session. Philadelphia.

22 Jan'75

Technology:

"Human beings think of technology as something new. They think of it as something negative that's used for killing people. The way human beings misuse technology has been fearful. But you never will go back to pre-technology.

"The only question about technology is how do we employ it And are we trespassing? Are we using the lever or burning the lever up? Just because we don't know what makes our fingernails grow doesn't mean that it's not technology. That's all that nature is."

- Cite RBF at Penn Bell videotaping session.

Philadelphia,

21 Jan'75

Technology;

"Technology is the integrity of interoperativeness of principles which make possible an eternally regenerative Universe.**

- Cite RBF at Penn Bell videotaping session, Philadelphia 20 Jan'75

Technology:

"I want you to think of yourself— as a grand strategysaying: I just have this one life and I really have to do my own thinking. One of the things that impresses me very much is that we are operating in an era where there is a great deal of technology that has arrived. The phenomenon industry is operative.

"We were trying to account all the new technology in the terms of the agricultural accounting. I saw then that in the industrial equation, where you're really dealing with the cumulative know-how of all of humanity, there is no such annual accounting season and this is forcing man to be shortsighted. Society was now dealing in new kinds of magnitudes of undertakings that should be thought of in very much larger blocks of years.

**In the industrial equation you might be at a machine making bolts but you couldn't put bolts in your pocket and go and swap them for hamburgers. You found then that what really happened was that you came to a river that yesterday you couldn't cross. There was a very great current; but suddenly there's a bridge there—and there were some of your bolts.

I saw that the payoffs were very different and indirect in the new kind of technology that was coming upon us.”

- Cite RBF to Harvard Law School Forum, 10 Dec'73 ”And I thought that technology itself was, even back in 1927, being identified with exploitation, with ways of making money, rather than being thought of as some evolutionary event of humanity-- some increases in artifacts and transformations of artifacts.

' • So I'll give you quite quickly my way in which I came to identify industrialization and you'll find it quite different from the business viewpoint, or from the legal viewpoint*

I said: Alterations of the environment produce artifacts— like bird's nests— that are essential to the survival of the species. You can call it an extracorporeal artifact; but it is a tool.

I saw these in terms of solving functions. Human beings were not at all the only tool makers.”

- Cite RBF to Harvard Law School Forum, 10 Dec'73

(cchnloKx:

”Not a single stage of our technology has ever been predicted

- Cite THINKING OUT LOUD (2): WE ARE NOTHING BUT A SPACt PRUGKAH, World Nag., 1? Jul»73

Technology:

"Man evolved technology is thus far amateurish compared to the elegance of nonhumanly-contrived eternal regeneration. Man does not recognize technology other than his own so he speaks of the rest as something he ignorantly calls nature. Most of man's technology is of meager endurance being comprised at the outset of destructive invention such as that of weaponry, oft for something in support of the quickprofit, man-invented game of selfishly manipulative gameplaying and rule inventing for the playing of his only- ignorantly-preoccupying value systems.¹¹

- Cite RBF draft Ltr. to Karan Singh incorporated in SYNERGETICS text at Sec. 173, 13 Mar'73

Technology: "In its complexities of design integrity the Universe is technology."

- Citation and context at Biological Design. 13 Mar*73

Thnoo:

"There is nothing wrong with technology.

The Universe is technology—

The most comprehensively complex technology.

Human organisms are Universe's Most complex local technologies.

"Technologies may be used

To "kill* technologies;

That is, to smash

Or degenerate other organisms— machines."

- Cite Dreyfus Preface, "Decease of Meaning 28 April '71, pp. 1 -3.

Technology;

"The Universe is regeneratively transformative technology,"

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 158, Dec *69

Teghnplgfy:

"We must realize that technology was not put into the universe by man. The universe is the comprehensive system of technology. . . . These generalized principles were all found to be operating a priori to man. Man simply finds and employs. He does not put anything into the universe."

- Cite WORLD GAME (3) Oct'69

"We hear a great deal about technology as something *wj* threatening— something new. I'm going to try to define automation. By automation I would mean any regulatory pattern or control operative independent of man's controlling it: that would be automated. I'll point out to you that the orbiting about the Earth and all the pulsing of the Sun • • • this is all automated. I point out that none of you know what you're doing with your lunch right now. . . . this is all automated. You're not consciously saying, 'I'm going to send this off to make hair for tomorrow, and I'm going to have curly hair, or whatever it is. You don't have the slightest idea why you were born at seven pounds and why you went to 170 and why you stopped. Wherever it is, it's all automated. People learned accidentally that they pushed some buttons and made some babies, but all the rest is automated. They haven't the slightest idea why. I point out to you that we have never had anything but automation."

- Citation at Automation. Jun-Jul'69

Technology;

"What we call technology is the externalization and amplification of our original integral functions and capabilities. In our technology we have not invented and developed any new functions."

- Cite SENATE HEARINGS, p.13, 4

Technology:

"Many of the large scientific breakthroughs in our recent history are fundamentally unheeded by society.

Society employs the technology which accrues to the scientific breakthrough but keeps on thinking in the prebreakthrough ways.

Society is, therefore, continually surprised, puzzled, and disturbed by the overall effects of the technology which are comprehensible only through an understanding of the fundamental physical principles governing the phenomena."

- Cite NASA Speech, p. 25 » Jun'66

Technology:

"Technology paces industry by progressively increasing the range and velocity inventory of technical capabilities.

__ Cite NO NOrU SECONDHAND Cub, Preface, p. ix. i960

Technology:

"Technology reprewntn ohllo»ophv re.olved to th« aoflt cogent Brzunent. . □ If a»n did thia, each would result. In technology man la empowered to explore and develop his own "if" without reference to the limiting response of other preoccupied egos. Through technology alone the creative M individual can of free will arrange for the continuing preservation of mankind despite individual man's frustrating propensities. Mechanisms are the antithesis of the Frankenstein concept. They represent the direct and only means of articulation of free will. Mechanisms can only be operated by man."

Cite EARTH, p. 11, 1947

- Cite RBF Reader (Ed. James Meller) pp.213-132.

Technology:

"Technology--- instrumented and documented intellect--- improves with every reemployment

because experience is consolidated in increasing degrees of precision, behavior and dimensional data."

- Cite Part II., Earth, Inc.

Fuller Research Foundation

Yellow typescript, p. 13. 1947

»,^{Na}_PX' of Ch*» ? .r

Technology;

"In terms of absolute principles, the more you use
technology the more it improves instead of wearing out; thus
balancing other factors of thermodynamics where there is some
possible question as to the ultimate conservation of matter. •

Cite: Ephemera - Wichita, Jansas 1946 {Coll. EJA.)

Technology:

"Scientific laws are statements of observation of consistently observed characteristics and behavior patterns. Technology applies science by composing the phenomena of the individual laws in reciprocal arrangement,"

- Cite ARCHITECTURE FROM THE SCIENTIFIC VIEWPOINT

NYU Symposium 12 May '39, p.2

TisimXagx:

"One of the best ways to get new technological advantages at work in society is to make them tantalizing enough so people will steal them."

(RBF, recapitulating an assertion he has made many times in the past.)

- Cite RBF to EJA, New York, U Sept. 1971.

See Invention Sequence. (2) Technology, 17 Jul*73; Jun'66

"The computer has given man physical hardware without his understanding how he arrived there, this has brought about a general disenchantment with technology. Enchantment can only be sustained in those who have it, or regained by those who have lost it, through conceptual inspiration. Nothing could be more exciting than the dawning awareness of the discovery of the presence of another of the eloquently silent eternal reliabilities of Universe."

- Cite RBF dictation to EJA for SYNERGETICS, Beverly Hotel, New York, Feb. 26 Feb. '71, Re-drafted by RBF 7 det. '71. See "Synergetics," Sec. 204.W Oct. '71.

Technology & Culture;

"Technology is the wellspring of culture which must evolve as technology includes and refines and makes obsolete many of our local tribal customs.

"The culture is in the design; the components, the materials and the metals are universal. Technology is immaculate.

"Culture is the capability to take advantage of energy design with the technology available. . . • How to behave appropriately to the technology, how to work its multiplying advantages to the enhancement of the many is what distinguishes the really cultivated human."

- Cite RBF holograph fragment and dictation to EJA; 3200 Idaho Wash, DC; 25 Oct'77

RBF DLFtilTIOliS

Q. "How do we cope with the acquisitive and competitive

factors in our society to avoid the misuse of resources... and in a way that our artifacts must be responsive to our values?"

RBF: "I don't accept any must-be-so about anything.

There are six moves with every turn of the play. We are designed to make mistakes. Parents don't want children to get in trouble with the system. We punish everybody for making mistakes. I exult in all the bad news of the mistakes being made because that's how we get something done about it.

"Universe is nothing but technology. You can pick up a stone and throw it at someone's head---a horrible mistake, killing explicitly... but it's not the fault of technology. Using the faculties of Universe is what it's all about.

"•>'e are not going to get there by talk... or by electing somebody over here. W'e are going to get there by knowledge and competence."

- Cite R3F to World Game Workshop; Phila., PA; 2? Jun'77 ' 'When I wrote NIKE CILAINS TC THE KOON I started the book out with a tentative cosmic inventory:
' • '/'hat do we know?

I had designed my book from the whole to the particular.. And I wrote in there, in the chanter about E - Me* and Kurphy... and about Einstein's 'Cosmic Religious Sense/ the article he had done for the New York Times Magazine on the nonanthropomorphic idea of God, about how Johane** Yepler, though a heretic had such faith and inspiration alone with the stars... Fear and longing... I got permission to run that piece. »'hat I wrote in the book was that in due course Einstein would affect all our everyday life.

"Christopher Korley had persuaded Elpnincott, here in Philadelphia to publish my book, but they balked at the chapter on Einstein. They said there is a list of only 12 people who understand Einstein and you're not on that list: in fact, you're not on any list! So I asked Lippincott if they would send the chapter to Einstein in Princeton and after he had read it he agreed to meet with me one evening at the aptment of Dp. Fishbein on Riverside Drive in Hew York. That '-/as"

— Cite RDF to World Game Workshop; Phila. PA; 22 Jun*77

Technology: Enchantment vs. Disenchantment : (3)

"when Einstein said to me, ' young man, you amahsse me... I can't imagine any of my ideas having even the slightest practical application.' He wrote his theories for a small audience of astrophysicists and cosmogonists. But it was his original idea of getting energy out of matter that led the scientists to seek his authority in warning President Roosevelt about the heavy water research the Germans were up to«.. and that led eventually to the bomb at Hiroshima.

"And since then the scientists have just laid eggs while the financial and political exploitation system hatches them. The scientists' specialization gives them no control over such matters; they have nothing to cope with---they just stay In their laboratories and lay 6pgs.

"But the ouestion was about competition and acquisitiveness... all of which was okay when there was not enough to go around.

I can understand selfishness being rationalized as it has been in history: exploitation of colonies in the nameof God and the Ring... Cortez in Mexico and so on: 'Ey people are flB a little holier than yours so we've got to have a fight about it

- Cite R3F to World Game Workshop; Phila., PA: 22 Jun'77

Technology¹ Enchantment vs. Disenchantment.: (4)

^{wy}e now have a new lawyer-kind of capitalism where wealth no longer consists of property and they are beginning to put the control of know-how in the books, into the accounting... And the multinational corporations are getting out from under all of the sovereignties. A_nd the managers don't seem to have much to do with it. The lawyers saw that the nurpose of the corporation was to cut down the responsibil-

ity of the individual---limited liability. The bankers have had no more control than the postmasters handling the mail, but they end up with more of the peoples' money than they have kept to themselves... the banks and the government.

"The \$80 billion spent for the first A-bomb project would cost out at worth about \$3 trillion now. And the banks all persuaded President Eisenhower to turn it all over to private industry as a present. Now while it is true that freedom of initiative is essential to human progress, here it was just being selfishly exploited in the name of 'free enterprise,' an example of a really noble idea being selfishly corrupted.

"And we're also up against \$53 billion a year of advertising,"

- Cite RUF to World Game Workshop; Phila., PA: 22 Jun'77

Technology: Enchantment vs. Disenchantment: (5)

trying to persuade us to buy things we don't need. The big companies don't even want the little individuals to latch on to the wind with wind-mills. But Hans Keyer persuaded the public utilities to accept excess wind power into the main grid. He did it by more efficient conversion from DC to AC and by introducing more sensitive meters. There is a 10 percent loss of efficiency if you feed direct current into storage batteries; therefore the solution was to feed it into the power grid---selling it at wholesale and buying it back at retail prices. This is how you can impound Sun radiation for society without going against the system.*,

"taking sense and making money are mutually exclusive. I have nothing against regenerative economic sustenance; I'm just against the people who want to get in on the right stocks to make a killing.¹

__ Cite RBF to WoMd Game Workshop; Phila., PA; 22 Jun'77

"I'm confident of bringing science and the humanities together with another book. I hope to make science comprehensible to mankind. My lifelong work is 'Synergetics.' This describes the comprehensive mathematical, rational coordinate system apparently employed by nature.

"Much of the dilemma of our time is that 99 percent of the people who are not scientists have no sense of what is going on. The teaching of science is playing such a part in life today that you can say we have reached the point of a new revolution when man defeats himself by his own knowledge."

- Cite RBF to Australian journalist, Jane Ram; Hongkong, 1? Dec¹⁷⁴

See Frankenstein Concept

Science: Gap Between Science & the Humanities

Sea Technology: Computers, 7 Oct'71 Free Will, 1947 Universe is Technology, (1)(2)

See Airplane Technology

Airspace Technology

Automation

Autonomous Living Technology Packet

Capability

Design vs. Technology

Domestic Technology

Fallout Technology

Humanity-considerate Technological Accommodation

Invention

Inventability

Know-how

Landborne Technology

More with Less: Sea & Air Technologies

See Nature*s Technology vs» Humans' Technology

Prototype

Pyramid Technology

Research & Development

Sea Technology

Science as Tool

Science-technology-industry-economics-politics

Sequence

Secondhand Gadgetry

Space Technology

Standby Technology

Technocracy

Universe is Technology

Weapons Technology Wood Technology

See Automation, Jun'69*

Biological Design, 13 Mar'73*

Cultural Life, 1 Jul'62

Nature, May'70

Outlaw Area, 8 Jan'66

Tree, Feb'73

Robin Hood Sequence (2)

Pathology: Preventive vs* Curative, (1) Doing 'what Needs to Be Done,

(3) Cosmic Accounting, 20 Sep'76 Buddha: Christ: Mohamed, (1)(2)

Dymaxion Car, 13 May'7?

Teeth:

See Gee re

TglglActarg:

""Telefacture' may well supplant ¹ manufacture.

- Citation & context at Teleology. (1)

Telegraph:

"When the telegraph came in then the one-to-one correspondence of democracy went out. The news used to travel by word of mouth. But with the telegraph the news could travel faster than the reaction: you could have the stimulus, but no response."

- Cite RBF to Hugh Kenner, Phila. PA, transcript p.10, 8 Jun*75

Telegraph: Telegraphy:

See Sovereignty, (1)12) Planetary Democracy, (4) Teleology, (1)(2)

TelanaUon* Satellite-relayed;

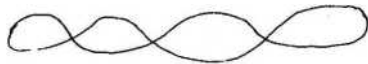
See Nines Above Grade, 30 Jan'75

Teleologic Converaion of Information:

..."The apprehending-comprehending teleoloecic conversion of information from subjective awareness to objective use in the ever developing cjeiaility to adjust and cope with environmental events."

- Citation and context at Brain's TV Studio (1)£ Jun'69

"Teleologies quanta series produce basic wave systems which always return cyclically back upon themselves."



- Cite RBF holograph for Herman Wolf, Boston, 1:20 a/m/,

8 May '72

Teleology;

"Teleology is where you go through a subconscious awareness as a wave formula from experience to intuition,"

- Cite RBF to EJA, Beverly Hotel, New York, 26 Jan '72

8fi&

Teleological Schedule of Universal Design Requirements:

See Environment Events Hierarchy

Universal Requirements of a Dwelling Advantage

"One of the things I never ask myself is how are people going to like it. I would say: What is the Universe trying to do? How and why are we here? I am assuming that we do not know. I am not assuming that we have the competence to judge. I do not look at things in terms of being an elite with Universe disclosing to us some of her recirculatory capabilities, particularly in eternally regenerative Universe, 'When I ask what are we here for I get into the function of man as the local monitor of problem-solving with reference to capabilities of a generalized sort that no other phenomenon has. We are here then for that function and not for our personal satisfaction — or the satisfaction of local political bodies— or proving any ideological system to be great. Those are transitory and unnecessary to the development of man. But we are coming out of this shell— and this is qll in the metabilical cord. The trick is not knowing that it is going to break our legs. You never know who is going to be using those legs. I think that all of humanity is in exactly that position today. We are going to have a very different orientation of humanity to Universe. The younger they are the more they feel it."

- RbF tape transcript #4 to W. Wolf. Phila., PA., pp.2-3, 15 Jun'74

Teleology:

"Teleology--- as part Of communications theory Relates to the pursuit of truth As entropy and antientropy. It may be that Communications theory May be mathematically equated With electrical Transmission theory ./hereby the higher The meaning or voltage The more efficient And longer distance Communication attainable."

- Cite HOW LITTEE, p. 32. Oct'66

TM^{ei}?19KY =

"Teleology embraces

The theory of communication.

Though as yet having special-case limitations.

It is an hypothetical

Approach to a pure, abstract generalisation

To say that teleology

Is only intuitively initiated by humans."

- Cite HOrf LITTLE, p. 30. Oct'66

Teleology:

"Teleology means the intuitive conversion by brain and mind of special-case subjective experiences into generalized principles and their subsequent objective employment in special-case undertakings.

"The discovered principles governing the inter- transformative structuring of .universe permit the subconsciously teleological and conscious design-initiating individual to reform the environment in such a manner as to provide ultimately higher advantage for men and in such a manner as to regenerate in other individuals the drive to further transform the environment to even higher advantage for all. The design may increase the degrees of freedom of individuals by reducing environmental interferences or it may decrease freedoms as with traps and prisons."

- Cite DCXIAD1S, Pp. 319-320 +318 20 Jun*66

KBF DtFlMiluhb

Teleology:

"A name for the process of observing consciously, or absorbing sub-consciously, from the outside inward so that one may do from the inside outward is teleology. When finally solving from the inside out, the teleologic perspective will be universal, and the equation of performance will be:

'Degree of Satisfaction - Degree of Factor
Encompassment inclusion.'''

- Cite NINE CHAINS, p. 42, 1938

1919: (1)

"The words 'telegraph' and 'telephone' have quite naturally been derived from teleology. The process they represent mechanically abstracts the original, with the minds of operators interpolating at abstract stages to produce an ultimately sensorial result. ('Telefacture' may well supplant 'manufacture.')

"To illustrate the process in 'telegraph' let us suppose an original phenomenon such as death of Uncle John.

"A telegram is sent to a florist by someone, the message being transmitted as a dot-and-dash interruption on an electrical circuit. The dot-and-dash symbols are converted at the receiving end of the wire into ink symbols, codified with the dot-and-dash system, on a piece of yellow paper. This piece of paper is transmitted to a florist who sends flowers to 37 Bond Street--flowers but that morning growing in a field only to be suddenly severed from their roots, covered with waxed paper, packed in a receptacle of water standing next to a black box in which has been deposited a discarded human machine. The telegram sender, rueful or*

- Cite NINE CHAINS TO THE FLOOD; p.46, 1930

Teleology: (2)

"death, caused further death to be a paying business, an odd result from the original cause.

"The means of provoking the effect by the cause was not merely a mechanico-electrical process; more important were the phantom captains who performed the function of 'interpolation' at the various receiving instruments by transforming the dots and dashes not only into ink symbols but into further botanical death.

"The essence of this phenomenon is that the interpolating function is one that no machine will ever perform. The art of teleologic design is, then, one of delicacy of attunement in the interpolation of every seemingly casual event of life into non-haphazard objective Instruments--- whether written words, medical prescriptions, or pencils, the function of the instrument being, in turn, the harmonic abetment of the trends intuitively to be detected by the teleologist through the keyhole of his 'own' phantom captain's study. Teleology will have more and more significance as the teleologist carries on the vast task of exploring and including all factors making up man's "

- Cite NINE CHAINS TO THE KOON; pp.46-47, 1938

IlflflPlQgy:

"universal status quo.

"The consumption and digestion of facts and statistics is somewhat like eating and chewing hay and thistles. Their is nourishment in them in their raw state, to be sure, but a cow is needed to convert them into milk. Likewise the average human mind needs an intermediary---a teleologist--- to convert vital factors into digestiblea for his objective use.

"To the student of teleologic design, particularly as applied to shelter service, we offer a 'coving* of the vital factors of man's estate at this moment of ken. Only by awareness of this estate can the teleologist interpolate therefrom an adequate industrial design of world-encompassing shelter service, which will be so utilitarianly adequate and harmonic as to insure man's irrepressible appetite for such shelter service's industrial reproduction."

Teleology: PQW Tjy SytaX:

"My original 4-D, convergent-divergent, vector equilibrium conceptualising of 1y27-28 was

primitive /zxz\$7 Bow Tie: the symbol of intertransformative equivalence as well as of complementarity: convergence divergence

Also tha symbol of entropy-entropy

and of wave and octave

-4, -3, -2, -1, +1, +2, +3, +4."

- Citation & context at Primitive. 1y Jul'76

KBF U*F1N1T1UNS

` ` There really is no equality. That's why I use the bow tie symbol."

- Cite RBF to EJA., Beverly Hotel, New York, 2b Jan '72

"Did you ever see my 'Nine Chains to the Moon' book, Lippincott, 1938. I had the press produce a little bowtie symbol for teleology. I use the word many times. I also felt that the equation symbol was false as I felt that parallel lines were inadequate to the exquisite transforming balances of inside-outing involved in equations. I substituted my bowtie symbol for the equation marks leaving the parallel lines symbol for statement of analogy."

- Cite RBF Ltr. to Gene Fowler, 9 May '60.

"Let us symbolize teleology $a^* > 1$, like a bow tie. This is a neat and specific equation mark, combining the symbol of symmetrical expansion (the "x", multiplication, or 'times mark) with the equation mark ("J. it is currently more fitting as an equation symbol than the old equation mark because we now know that parallel lines, or conditions, are impossible. Moreover, quasi-parallel lines, never coming in contact, are procreatively sterile. The is, then, inaccurate as a sign to link integrators and product:

(2 x 3 \square SHBM & ^b theoretical) (2x3 PO b lactuar

"our teleologic symbol \square represents, by its loose-ended "x" inclusion and by the conjunction of its ends, a finite radial limit of the segment of inclusion and the segment of conclusion like an hourglass on its side. It is offered, then, as the logical successor of the familiar equation symbol for use in any consideration of the now apparently expanding Universe.' "

- Cite NIKE CHAINS, p. 42, 1938

See Nonequals: Nonequality

Now Hourglass: Cross Section of Teleological Bow Tie

Bow Tie

Equals Sign

Equation Symbol

Parallel: Quasi-parallel Lines

See Equality, 26 Jan '72

Equals, 24 Apr '76

Teleology - Heuristics of Part:

See Algebra, 1933

Titelsgj SBga.taj«, 9, w w, Bromnsr

See Cause

Design Science

Determinism

Emergency Teleology

Spontaneous Teleology No End in Itself Ends

Mathematical Explanation of Life Meaning

Evolution: Man as Evolution Modifier Man's Conscious Participation in
Evolution Un as a Function of Universe Man as Local Problem Solver
Un as Local Universe Technology Amused: We Are Not Here to Be

See Algebra, (p.141) 193S Brain's TV Studio (1) Creativity. 10 Apr'73
Design, 4 Aug'74 Environmental Events Hierarchy, 1954 Feedback
Lags, 1954 Industrial Theory, 1971 Intellect. 1972 Meaning, 29
Jun'72 Pattern: Hierarchy Of, 1954 Performance: Equation Of, 1938
Principle (1)(2); 1 F_eb'75 Rearrange the Scenery, May'72 Simplicity.
1954 Unanswerable. 20 Jun'66

Telepathy:

"... Subconsciously telepathic ultra-ultra-high frequency electromag-
netic wave propagation, signalling subconsciously reflexed feedback
attitudes..."

- Citation and context at Electronic Neferendua. 29 Jun'72

Telepathy;

"Telepathy is a standby capability tht everyone has, one of nature*s
fail-aafea."

- Cite RBF quoted in HOUSE & GARDEN Interview by Beverly Russel,
p. 198, May *72

Telepathy:

"Almost everyone hae had

The strange sensation of telepathy

Occurring as various kinds or awareness, Anticipations or sensing

Of the imminent presence of other persons.

- Cite BRAIN 4. MIND, p.1\$9 May '72

Telepathy;

' 'This experience persuaded me that telepathy

Might well be very short-range,

Very high-frequency

Electromagnetic-wave propagation.

Assuming this to be so

We arrive at some new vistas of thought.**

(* Alexandra theme)

- Cite 4 HIND, p. 161 May >72

Telepathy:

" . . . Time and again my wife and I, or the trained nurse and my wife, had a sentence formulated and about to be spoken when she / ' ` AJexandra_7 would say our words before we could do so, though those words often were phrased in a vocabulary other than her own. Clearly telepathy was being demonstrated as a commonly innate capability. We all have experiences which can only be explained as telepathy, which lacks scientific proof and remains indefinable, implying magic. Our child clearly demonstrated that it was an innate capability and not a supernatural aberration."

- Cite Museum Keynote Address Denver, pp. 1-2. 2 Jun'71

Telepathy;

"In the great overall evolutionary trending of humanity's gradually learning to produce ever more with ever less, it is implicit that the present discoveries of the electromagnetic behaviors of the brain and its local

nerve system controls by mind will eventuate in telepathy¹s being graduated from society's assessment of it as a mystical-magical phenomenon to an everyday communication facility."

- Cite Dreyfuss Preface, "Decease of Meaning." 28 April 1971, p.

Telepathy:

"For humans to have within their cerebral mechanism the proper atomic radio transceivers to carry on telepathetic communication is no more incredible than the transistors which were invented only two decades ago, and far less incredible than the containment of the bat's radar and range-finding computer within its pin-point sized brain."

- Cite RBF Intro, to Gene Youngblood's EXPANDED CINEMA, P. 27.
Oct'70

Telepathic Tunability

See Eye-beamed Thoughts, (VII)

**See Eye-beamed Thoughts Fuller, R.B: Alexandra Theme Jury: Trial
by Jury Scan-transmission of Pattern Integrities**

Subconscious

Electromagnetic Transmission:

Extraorganic Travel

Subjective & Conscious

See Discovery, 11 Jul'62

Electronic Referendum, 29 Jun'72*

Lecturing, Oct*70

Rationalixation Sequence (5)

World-around Communication Transcends Politics, (I)

Womb Population, (2)

Telephone:

"The Bell System could have focused on the instrument instead of the service. They could have had telephone architects like so much napalm and voodoo."

- Cite RBF at Bell Studios videotaping, Phils. PA., 26 Jan*75

Telephone: (1)

"The design scientist deals in comprehensive artifacts to alter the environment; he also deals in how do you produce the artifacts, what are the relative efficiencies, what are the alternates, and what are the options, of how it mixes the structural and mechanical, the electrical and the chemical. The design scientist has to know about all these aspects and be responsible for not only designing the end product, but How do you produce it? Having produced it, How do you get it where it needs to be? And he designs the economics of it; so he shows that it will be working much better being rented as a service industry like the telephone than being sold. If you sold all the telephones then people would hang on to their old ones. (They have brought in some classical modern designs or a modern rock designed telephone instrument; and they're really no good.)

"The most extraordinary thing is that the telephone makes its money by frequency of use of the telephone. They've found that everytime they've taken the phones away and given them back a better telephone that's clearer or easier to talk over, people use it much more. So they have found that by improving and"

Tape transcript, p.20; RBF to B. Brooks, 200 Locust, Phila. Pa. 30 Apr'7L

Telephone:

"owning the technology, not selling it to the people, their earnings have gone up. This working towards service industries is making obsolete one of the great political problems of all history, which is ownership. As man begins to live in much bigger patterns--- much bigger sweepouts and going around-the world-- you find people beginning to rent cars instead of owning them."

- Tape transcript, p.20; RBF to B. Brooks, Phila. Pa., 30 Apr*74

See Radio Set le Not the Music

See Communication. Oct*70 Information, 12 Feb'72 Democritus, 6 Jun'69 Human Beings & Complex Universe, (13)(14)

etans:

(D

See Service Industry

Service vs. Instrument Self-rebuilding Telephones

See Brain's TV Studio,(3)

Communication, Oct'70 Copper Sequence,(II)(III) Economic Accounting System,(B)-(D) Information, 12 Feb¹72 House, 1971 Self, 1971

Service Industry, 29 Aug*74

Tactile Sequence (4)

Tools: Craft 4 Industrial (2)

Trespassing: Not Trespassing,(c) Distribution, 25 Jan'75 Everybody's Business, (1) Teleology, (1) Mobile Homes, (1)(2) Human Unsettlement, (1)

Mobile Rentability vs. Immobile Purchasing, 20 Sep'7b

Telophotograph to the Brain:

See Reflection Sequence: Apple, (1)(2)

Teleportation;

See Scan-transmission of Pattern Integrities, 22 Jun*77

See Satellite: Telescopes Mounted on Satellites Sweepout: Spherical Sweepout Infoscope

TUegfiQPv

(2)

See Sweepout in Scientific Exploration, 6 Jul*62 Synergetics, 22 Apr*71

IfllflllXen:

"Television is important, not that it has a name, but because it is a way in which man individually has been able--- as a young child--- to get information from around the whole world. The parents used to bring home all the news, Daddy and Mommy. They don't bring home the news now. They come home and the kids tell them what the news is because television is giving it from around the world. And the people who get their jobs in television--- like yourself--- get it by virtue of your diction and your vocabulary and your versatility in using it. So that the authority for the news--- what's going on--- is coming to the young world over the television or the radio, and coming with better diction and vocabulary than the parents usually have. So the child then emulates the communication pattern of those who give him the most reliable information. So it's not a matter of the parents not loving their children or children not loving their parents, but children are now really peeling off and saying intuitively: I see that man can do

anything he needs to do; our parents are locally preoccupied, they have apologies and say we can't afford to do that. We see that man can't afford to do anything else but make his world work. That's the spirit of the young people."

Feb - Cite RBF in Edward Newman TV Interview, transcript pp. 38-39, 73

"... Even the seemingly most steady population is not steady at all, it is all drifting. We have mobilizing world man, he is not vagrant at all, and the degrees of freedom of man have been increasing and his capabilities have been increasing-- he knows about his whole world and each child that is born is born in the presence of less misinformation and in the presence of more reliable information. Particularly the young world with the television, are told about the whole world on the hour, right in their own home. And they hear much more from their third parent (which is what I call the television) than they do from their own parents. Their parents talk about the local things--- local and visual--- and the third parent tells them about the whole world and all the problems of all the world, and is the first to tell them about the inventions, what man can do. Everything extraordinary that man can do, the third parent tells them about that, so they go to the third parent and they find that he has good diction, so we find the young world thinking 'world,' it is the first generation of man to think 'world.'"

- Cite RBF Address THE HADITABlx. CITY, 14 Oct. '69

"Approximately everything man thought he understood will be useless within the next decade. We are going to develop an environment in which the new generation is so protected from the lovingly administered nonsense of grownups that it can develop naturally just in time to save man from self-annihilation. What I call the third parent, TV,

brings the babies half-hourly world news as well as much grownup-authored and discredited nonsense. The student in revolt in California are the first generation of TV-reared babies. They insist on social justice the world around. Imminent change is inexorable."

- Cite RBF in AAUW Journal, p. 174, May '65

"Children looking at TV today see it quite differently from the way we do. It begins to be very much a part of their lives and they accredit it the way we accredit what we get out of our eyes regularly. I am sure that when they are looking at a baseball game, if they are interested in baseball, they are right there in the field. I am now giving you an omnidirectional TV set and there is no way for you

to escape it. That is all we have ever lived in. You have been in an omnidirectional TV set all this time and you have gotten so use to the reliability of the Information that you now have projected yourself into the field. You insist that you see me out here but you don't. We are all working back here in TV sets."

Cite Orggon Lecture #3, p. 98* 5 Jul'62

See Brain's TV Studio

Broadcast

TV: The TV Generation

Scan-transmission of Pattern Integrities

Television: TV:

(2)

See Communicating (1)

Daddy (1)(2)

Newspaper, 16 Oct*72

Weapons Technology (2)

Club of Rome: Limits to Growth (2)

Seeing vs. Hearing, 22 Jan'75

Set, 5 Jul '62

Politicians At Defense Budgets, 20 Sep*?6

Temperature:

"Temperature should be thought of as relative heat concentrations or dissipations."

- Citation and context at Cold k Vacuum. (6), 1946

Temperature of the Human Body: (A)

"For an Instance, the heating of the hydrosphere Involves the fact that water takes on heat and loses it At the slowest known rate of all substances.

As a consequence the temperature of the watery mantle
Covering three-quarters of Earth
Vary between such close limits
That the world average temperatures throughout the years
Have varied less than one degree Fahrenheit
Over all the years in which temperatures
Have been recorded around the world.

Within these exquisitely stable electro, thermal, chemical limits The
metabolic regeneration of humans is sustained As the apparently ultimate focal formulation Of the metabolic interchangings and intertransformings

Of the total evolution of bio-ecological intercomplementation.”

- Cite RBF rewrite of BRAIN & MIND AT p. 11J, July'72

Temperature of the Human Body:

"So delicate are the microclimatic-ecological balances That, humans at all times manifest

An internally permeative organic operating temperature Of 9th 6 degrees Fahrenheit No matter what their age, Their geographical location, Or their clothing may be. Manifest Number Seven Of Earth's cosmic functioning Is its progressive geological submerging Of the hydrocarbon energy residue concentrates Buried ever more deeply and at increasing pressures Either within the Earth's crust, or its hydrosphere, Whereby those biological residues are chemically transformed Into rigid, liquid, or gaseous fossil fuels."

- Cite RBF rewrite of BRAIN & MIND at p.114, July'72

Temperature of the Human Body:

(1)

"A Sixth Manifest of Earth¹ s

Unique celestial scheme functioning

Is discoverable as the impoundment

Of star energy radiation

In both the Earth's atmosphere

And in its hydrosphere,

./hich provides the weather and ocean currents

And which maintains the critical temperatures

Within which the biological proliferation of metabolic formulations
And feedback chemical process exchangings must occur.

For an instance, the heating of the hydrosphere

Involves the fact that water takes on heat and loses it

At the slowest rate of all known substances.
The water temperatures of the Earth
Vary between such close limits
That the average temperatures throughout the years
Have varied less than one degree Fahrenheit
Over all the years in which temperatures
Have been recorded.”

- Cite BRAIN & MIND, pp.113-114, Kay’72

Temperature of the Human Body;

’Within these exquisitely stable limits

(2)

The metabolic regeneration of humans is sustained
As an ultimate focus of the metabolic interchange
And transformations of the total biological ecology complementation.
So delicate are the thermal balances involved
That healthy humans, for instance,
At all times manifest a temperature
Of 98.6 degrees Fahrenheit
No matter what their age,
Their geographical location,
Or their clothing may be.’

- Cite BRAIN & MIND, p.114, Kay*72

”The only difference between ourselves and hard cold machinery is that we also
have these metabolic processes processing energy to be regenerated and these have a
by-product heat of 98.6 . . . ”

- Citation and context at Human Beings and Hard Machinery. 20Apr*72

HUF DEFINITIONS

**4BMMBHNA Temperature of the Human Body: "Without weight you
do not exist physically--- nor without a specific temperature. You can
convert the velocity x mass into heat."**

- Cite RDF to EJA, 3200 Idaho, Washington DC, 21 Dec. »71.

See Degrees: 98.6'

See Human Beings & Hard Machinery, 20 Apr'72*

Man as an Invention, 1 Aug*72

Trees, (d)

Wind Stress 4, Houses, (£)

See Heat Thermal Limits

Temperature:

See Quantum Sequence, (3)

Cold & Vacuum, 1946*

Four-dimensional Reality, 30 Apr*77

See Permanent Symbolic Communication Devices

See Domes, 12 May¹??

Temporality:

**« • • In our temporal life there will always be some degree of lag or asymmetry which misses the exactitude of the ideal. . . »

-For citation and context see Ideal. 1 Apr '72

See Truth, 22 Jun*75

See Eternal & Temporal

Residual Ignorance of Temporality

See Humans, 8 Mar'73 Ideal, 1 Apr'72* Life, 13 Mar'71 Truth, Jan'72

Finite Event Scenario, (2)

Language:

"Experience is all temporary."

- Citation and context at Absolute Integrity,. 4 Nov*73

Temporary;

"The chemical compounds are temporary and have limited associabilities."

- Citation and context at Compound. 13 Mar'73

Temporary HeallMt.lQgs:

See Things, 19 Feb'72

See Special Caee

(D

Terminal

Life's Temporary Vehiclee Limited Aassociabilitiee

Ttaesrary:

(2)

See Eternal, 13 Mar'73

Computers as Specialists, 13 Aug`64 Absolute Integrity. 4 Nov'73*

Compound, 13 Mar'73*

Ten:

"The ten in $10F^2+2$ comes from the 92, 162, 252, J62, etc. sphere shells of the vector equilibrium. Three is nine to the second power; 16 is four to the second power; 25 is five to the second power--- but the second powering has to be times 16, that's the point. And the Plus Two is a constant also."

- Cite RBF to EJA, World Game Workshop, Phila., PA, 22 Jun*75

"They happened to be enumerating with congruence in modulo 10 which does not include any prime numbers other than 1, 2, and 5. The rational three-ness of the cube in relation to the tetrahedron is not accomodated by the decimal system; nor is the prime seven inherent in modulo 10."

- Cite SINERGETICS draft at Sec. 223.91, 26 Sep'73

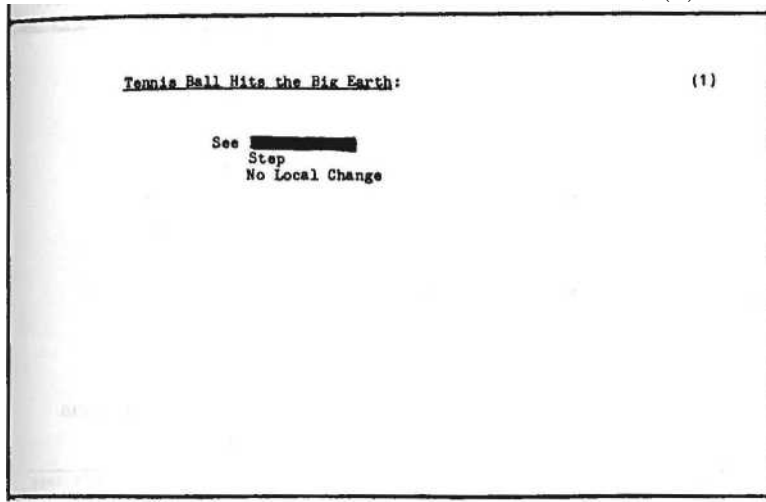
Ten: Ten-nosn: (1)

**See Decimal & Duodecimal Precession of Two Sets of 10
Closest-packed Spheres**

See Synergetics, 29 Nov*72

Tendril Curve:

See Locomotion: Radius of Man's Locomotion, (1)



Tennis Ball Hit? the Big Earth¹

<2)

See Interference, (1)

Step, 22 Jul*71

Vectorial Model of Interference, Apr*71

Tennis Alfred Lord:

See Advertising 28 Apr'71

Custom: Let One Good Custom Do Corrupt the World, (1)

Tensed String:

**See Pythagoras, (1)(2) Quarks. 22 Jun*77 Mites & Quarks as Basic
Notes, (2) (3)**

Tenaggrlty:

"Engineers agree that tensegrity is operative but they are only permitted by their art to calculate the compression components. We will have to get hydraulic and pneumatics engineers to develop tensegrity accounting. There probably are compression limits in liquids but we don't know what they are as yet; but there are no limits to tension structuring.

The functions are limit and limitless: the hard compression of a stone vs. the low pressure of truck tires which are low pressure because the loads are evenly distributed."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

TenBOKrity:

"Synergetics identifies tensegrity with high-tension alloys, pneumatics, hydraulics, and load distribution."

- Citation and context at Apple_t 10 Nov'73

Tensegrityv:

"It is also not surprising, therefore, that Universe is made its spherical compression aggregates and cohere# the whole exclusively with tension: discontinuous compression and continuous tension: I call this tensional integrity of Universe Vftna.MT.UX»^w

- Cite RBF marginalia on SYNERGETICS galley at Sec. 640.22,

9 Nov'73 *

[n]₁₂, Tenserrity:

•*The kinetically interbalanced behaviors of tensegrity systems manifest discretely and elucidate the energy-interference-event patternings that integrate to form and cohere all atoms. The tensegrity system is always the equilibrium- balance phase, i.e., the omnipotential-energy phase visually articulate of the push-pull, in-out-and-around, pulsating and orbiting, precessionally shunted reangulations, synergetically integrated."

- Cite SYNERGETICS draft at Sec. 720. 20 Oct'72

Tensegrity;

“The word tensegrity is an invention: it is a contraction of tensional integrity. Tensegrity describes a structural-relationship principle in which structural shape is guaranteed by the finitely closed, comprehensively continuous, tensional behaviors of the system and not by the discontinuous and exclusively local compressional member behaviors. Tensegrity provides the ability to yield increasingly without ultimately breaking or coming asunder.*1

- Cite SYNERGETICS text at Sec. 700.011; U Oct'72

Tensegrity:

"Tensegrity is a confluence of optimum factors."

- Cite RBF to HUU Engineers, Washington, 26 Jan '72

Tensegrity~ sec

Tensegrity;

Synergetics has discovered "the identification of tensegrity with pneumatics and hydraulics--- it's load distribution, that's the point."

- Cite RBF to EJA re SYNERGETICS Draft. Sec. 251.19, 20 Dec. '71

SEC.

Tensegrity:

"The increasing ability to give without breaking.**

CORRECTED by RBF, Beverly Hotel, New York, 19 June 1971 to read as follows, (See Synergetics draft at Sec. 615,01)

"Tensegrity provides the ability to yield increasingly without ultimately breaking or coming asunder," >

- Observation to E.J.A. in layflower Hotel some time in 1969.

nr- sec. Cjra-oi\

Tensegrity:

"The 12-spoke wire wheel. . . opposes turbinizing or torque members. Universal Joints of two axes or three axes are analagous to the wire wheel as a basic system relying on the differentiation of tension and compression for its effectiveness. These all may be considered basic tensegrity systems."

(Adapted.)

- Cite SYNERGETICS ILLUSTRATIONS- caption #10 1967

TfistM.ry

Tensegrity:

"'Tension,* 'integrity,' discontinuous-compression, jdisLontinuous-tension system."

Cite RBF Glossary of Terms bound with 'The Live Book Squad 1967

Tensegrity:

"Tensegrity. The word is an invention: it is a contraction of a tensional integrity, a structure the skipe of which is guaranteed by the tensional behaviors of the system, and not by the compressional behaviors.^{1*}

- Cite MEXICO 63 p. 28; 10 Oct'63

Tensegrity:

"Now we come to the first structures that we call tensegrity structures--- discontinuous compression, continuous tension--- in which the coherence of the whole is explained by the tension, and the compressions are local islands."

- Cite Oregon Lecture #5, P. 176. 9 Jul'62 sec. LS'o-oll

Tensegrity:

"Then I had also one day gone into the faithfulness of our experience where I said you could not have two actions going through the same point at the same time and we had come to the discovery of the tensegrity structures which had not been the kind of structures that men had tended to think of in the early days. We saw that they had come to a concept of a solid Earth, a solid brick and brick on brick as apriori-- and from time to time MB they might help hold things together by throwing in a little tension, maybe bind the things together in tension as a barrel is a tensional thing and they put some hoops around it to hold it together, but primarily you start with the compressional interrelationship, compressional mass helped by the staves in tension--- tension is secondary. Then we found when we tried to differentiate tension and compression in thinking of structures in Universe that apparently the macrocosm and microcosm were something that you might call tensionally cohered. They were at least discontinuous compression. The compression members did not touch one another and the Earth did not ball-bearing around on Mars and this was true in the nucleus. We came to a really different kind of a structure in which the tensegrity principles seemed to coincide with the structuring of Universe--- "

M Cite Oregon Lecture #8., p. 279. 12 Oct '62 T&t)SEC<»TY - sec. tr/Tdi;
Tensegrity: fBHP

"--- both macrocosmically and microcosmically, and we find that whereas man seemed to be blind in employing it at his everyday level, we found that we could make the tensegrity structures which did make it possible to operate that way in the everyday level and we found the tensegrity structures satisfied our $\square\square\square$ conception that we could not have the two events going through the same point at the same time because we had divergences of these vectors but they never actually got together. They get in critical proximities, twist by each other, but go on. We found that the tensegrity structures also occurred at certain levels. *ou can't make anything in tensegrity but there are certain geometries which appeared . . . and they were all fashionable methodically in tensegrity."

- Cite Oregon Lecture #8, pp. 279-280. 12 Oct '62

Tetiiecnirx- Sec. 6S/.

(3)

RBF DEFINITIONS

Tenseexitv: $fK R K B$

" I have given you some of these measurements where we looked at tetrahedra and octahedra and so forth as if the edges were coming discretely together at one point in the Platonic way of looking at a solid. We have also realised that if we looked at any of these microscopically that the ends are pretty well twisted and we discovered that we could make all the same figures with the tensegrities and we realize that the gap in the tensegrities can be visual. As I began to show by further experiment we get to the point where they go below resolution by the ever remembering human eye which can only go down to resolving distances to about one-hundredth of an inch bantam and below that we don't see the distances between them. We don't see the distances between the points any more. We see a set of black points on a white field, and when they get below a certain point they run together. That

is what the printers learned with the Benday screen--- you can develop what seemed to be continuous form, continuous surface, and so the colors, grays and various colors we speak of as color, but we can't see the intervals between the waves or the occurrence of frequency of their components. I saw then that the tensegrity structures did go down into nonvisible gaps. .

aCite Oregon Lecture #8, p. 280.

12 Oct '62

C5t.es/

Tenseerity: MH*

"I saw then that the tensegrity structures did go down into nonvisible gaps. . . simply down to where I don't see the space between the critical proximity of the converging lines--- but every time I magnify it. . . I find they really are not coming together. We get into bubble experiments and every kind of physics experiments and we find that □ every time we get lines tending to converge they always seem to do some kind of twisting around each other and they don't come through the same point."

TEHse<«'Tr-J

12 Oct '62

Sft £57.6\$ f“ Cite Oregon Lecture #8, p.280.

Tensegrity:

"All structures are tensegrity structures from the solar system to the atom."

- Cite OREGON Lecture #6 - p. 197, 10 Jul*62

RBF DEFINITIONS

Tensegrity;

"Tensegrity structures are pure pneumatic structures and pneumatic structures are doing what they do at the subvisible range."

(Adapted.)

- CITE OREGON Lecture #5 - p. 189, 9 Jul'62

Tensegrity:

"In a tensegrity system ... if you just tauten one point all the parts of it tune the same. Every part is a non-redundant system. If you tighten it, it tunes up. The tension goes up and the frequency goes up--- but it goes up uniformly all over. It gets to be an extremely rigid structure but it is a nonredundant structure. Anything that we would really call rigid such as one of the atoms of very high integrity pattern is explained by this type tensegrity patterning."

- Cite Oregon Lecture #5, p. 178. 9 Jul'62

Tensegrity • Basic Tensegrity Structures: Three and Only: "Now you see these same six members as they transform in relation to each other. They go from the tensegrity icosahedron through the tensegrity octahedron phase and finally become the tensegrity tetrahedron. The same six members can transform from containing one volume to containing 18.51 volumes. The same six members transform through the full range of the three and only fundamental structures of nature. What I am showing you here are the principles actively operative in atomic nucleus behavior in visual intertransformations. There are very extraordinary qualities in these structures. The tensegrity tetrahedron and tensegrity octahedron are volumetrically complementary and together will fill all space, but the tensegrity icosahedron refuses to complement the tetrahedron or octahedron but Isolates Itself in space or goes on to make up triple-bondedly into large octahedra which may then complement tetrahedra to fill all space."

- MEXICO Address, 10 Oct '63, p. 35 (Illustration D-1-123)

Tensegrity: Basic Tensegrity Structures: Three and Only:

See Prime Structural Systems

"Surprising behaviors are found in tensegrity structures. The illustration shows a house and a tree and a clothesline. The line hangs low between the house and the tree. To raise the line so that the clothes to be dried will not sweep the ground, the line is elevated by a pole that has one end thrust against the ground and the other end pushed outwardly against the line. The line tightens with the pole's outer end at the vertex of an angle stretched into the line. The line's angle shows that the line is yielding in the direction away from the thrusting pole.

"As the clothesline tightens and bends, it always yields away from the pushing strut. In spherical tensegrity structures the isolated compression struts pull the tension lines to angle toward the strut ends.

"When we release a compression member from a tensegrity sphere, one end does not thrust by the tension member to which it was fastened in a circumferential direction. It was not fastened in thrust or sheer. It was not pushing circumferentially. It resists being compressed, and like a cork in*

- Cite SYNERGETICS text at Secs. 712.01-.03, 19 Oct'72

Tensegrity v Clothesline:

"a bottle, it was employing its frictional contact with the tension net at both its ends to resist its only tendency, which was to exit radially outward from the system's center.^{1*}

(2)

- Cite SYNERGETICS text at Sec. 712.03, 19 Oct'72

£ £ 0 IfinaegritY:

Clothesline?

- 'Here we are looking down from the air onto a house

and there is a tree by the house and here is the clothesline. And in order to keep the clothes line off the ground, you put a couple of struts against the clothesline sag. So you put a strut this way and one that way. That is the natural shape it takes. That is what you expect it to take. It can't take anything else, but the tensegrity structure here is a red strut, and you think it ought to push the line the way this one does. Not at all; it pulls on the line and the one coming the other way pulls on the line so in a tensegrity structure tension members yield to the compression members. The compression members were trying to fly apart like bricks, they are pulling the tension members and not puffing them" This is one of the most interesting characteristics of a tensegrity structure."

(RBF Comment on SLIDE 4:1-3)

- Cite OREGON Lecture #5 - PP. 184-185, 9 Jul'62

'TWSEG&tv- (FxWter)

Tensegrity Clothesline:

See Tension, (1)

Tensegrity: Depolarized Orientation of Tensegrity-Octahedron Universal Joint: (1)

"I had been ransacking the tensegrity concepts using the multiple-rimmed, parallel or concentric wire-wheel phases of tensegrity since 1927, in the multi-decked 4-D mast structures and the Dymaxion house. . . . Despite the fact that I called it the 4-D house--- for fourth dimensionality--- was a polarized, i.e., single-axis system of three dimensionality, with equatorial and latitudinal compressional atolls, isolated from one another in parallel in the comprehensive triangulated tensional network." But "I had been unable to integrate" synergetic geometry "and three-dimensional tensegrity.. . . thus

to discover multi-dimensional four, five, and six axes symmetrical tensegrity. I had realized that the two-axis universal joint, long known to man and often employed by mechanics as a flexible membrane--- sandwiched between two diametrically opposed yoke-ended shafts, with yoke planes symmetrically oriented at ninety degrees to one another-- constituted an octahedronal tensegrity. but its shafted axes tended to make it appear as a single axis system similar to the hexagonal-wheeled Dymaxion house."

t - Cite "Tensegrity," FOKTFOtIU ahT NEWS, p.121, Dec '61

Tensegrity: Depolarized Orientation of Tensegrity-Octahedron Universal Joint: (2)

"In 1948 Kenneth Snelson showed me a sculptural construct embodying a cantilevered strut of octahedra, accomplished with tensegrity applied to the mechanics' universal joint octahedra, re-oriented from their shaft axes to a parallel plane alignment. Though Snelson thought of this only as a unique art form and was apprehensive to my aversion to VI artistic exploitation of energetic geometry (I have shunned the daily recurrent opportunities to exploit the energetic-synergetic geometry either as toys or objets d'art), he was eager for me to witness his discovery of a novel and exciting structure. His depolarized orientation of the tensegrity-octahedron universal joint catalyzed my comprehensive integration of the whole hierarchy of mathematical interrelationships of my tensegrity structures with my energetic-synergetic geometry and its multi-dimensional, multi-axial symmetry."

„ —JJite "TensegrityJ' PORTFOLIO + ART REWS, p. 121. Dec. '61
LAST- HT9 x " ' . r >

Tensegrity: Depolarized Orientation of Tensegrity-Octahedron Universal Joint: (3)

"My initial harvest of mathematical structures produced by this new conceptual tool was a family of four tensegrity masts characterized by vertical side-faces of three, four, five, and six each, respectively. The three and four sided masts consisted of discontinuous compression islands of tetra- hedronal strut groups mounted only in tension one above the other, while the five and six sided masts consisted of local islands of icosahedronal and octahedronal strut groups mounted vertically above one another, again only by tensional connectors."

- Cite "Tensegrity," PORTFOLIO + ART NLWS, pp. 121-122, Dec. '61

"That is also exactly what happens in a three-way grid tensegrity geodesic spherical grid. In the balloon we get paths of these positively and negatively paired, kinetic molecules reacting from one another in a random set of directions. If they went into one path only they would make a single circle which would push the balloon outwardly only at its equator making a disc and allowing the poles to collapse. If they made a two-way stack of parallel lesser circles as a cylinder, the cylinder would contract axially into a disc. A two-way grid would make only unstable squares and diamonds which would elongate into a tubular snake. But once we have three or more sets of angularly independent circularly continued push-pull paths, they must inherently triangulate by push-pull stabilization of opposite angles. Triangulation means self-stabilizing; which creates omnidirectional symmetry; which makes an inherent three-way spherical symmetry grid; which is the geodesic structure."

- Cite SYNERGETICS ILLUSTRATION //96, caption.

B.LUIU *secs* (Same text: Mexico 'oj, p. 47); 10 Oct'63

See Qnnirational Control Matrix

Spherical Grid

Three-way Great Circling: Three-way Grid

"We have in the geodesic tensegrity the ability to assemble unprecedentedly large clear-span structures whose overall diameter dimensions are limited only by the relative alloyed coherence of the associated metallic atoms therein involved, whose improving coherences

are in swiftly multiplying metallurgical evolution augmentation. We can go therefore into the same magnitudes of clear-spanning dimensions as our largest suspension bridges. As these bridges demonstrate the continually improving tensile capabilities of constantly improving alloys, one could now be made twice the size of the Golden Gate Bridge. We may, therefore, consider clearspan geodesic tensegrity spheres in the magnitude of two miles diameter as now realizable for use as satellite environment controls,' or as hemispherical, or other spherical segment, Earth contacting enclosures (in which the Earth completes the sphere) e.g.. for arctic city environment controls or as water floatable enclosures."

rryr **tu I** < T -f< /7Z>]

- Cite "Tensegrity," PORTFOLIO + ART NEWS, p.12}, Dec. *61

"Suspension bridge cables are parallel to one another, and therefore give one another no more anti-rhombic structural stability aid than do the parallel tension wires of a barrel. In geodesic tensegrities all the tension members cross one another in great-circled chorded triangulations, thus providing .highest possible dimensional stability. For several well-known reasons there are ways in which geodesic tensegrity spheres can be made to provide diameters way in excess of the currently greatest suspension bridge span:

(1) We know that the progressive subdivision of a given metal fiber into a plurality of fibers, provides tensile capabilities of the smaller fibers at increased magnitudes up to hundreds and thousandsfold that of the unit section. This is because of the increased surface-to-mass ratios and because all tensile capability is apparently invested in the surfaces.

(2) The geodesic tensegrity spheres are capable of mathematical treatment in such a manner as to multiply the frequency of triangular modular subdivision in an orderly second power progression and formulaic control."

- Cite "Tensegrity."¹¹ POr.TFPIJO. ART n, 121 Drli. LSI—

"We now have the ability to introduce the above orderly mathematics into the computer, which permits of practical calculation and engineering feasibility previously nonexistent. This ability, combined with the fact that the higher the frequency the smaller the tensional sectional area (yet the higher the tensional capability, and the smaller the local islands of compression) allows us to state that the higher the frequency, the more ephemeral the tensegrity complex becomes. Also, then, the total weight of the structure required per given level of performance grows smaller, and the whole structure becomes less vulnerable to total violations by any, or many, inwardly or outwardly originating impinging forces."

J,1. r, 7

- Cite "Tensegrity," PORTFOLIO + ART ULH\$, p.123, Dec '61 **"When we introduce the tensegrity structure and its many surprises, we see that we have broken through to a structural knowledge and technique which permits a progressively decreasing relative weight of structure as proportioned to the linear gain. This is to say. the gain of weight in structures, as ratioed to basic linear dimensions, is as one is to one minus 1/x weight ratio as the same structure is multiplied in relative size.**

In the above progression, as frequencies go up, the sizes of the islands of compression diminish. Islands of compression are the only residual 'solids' and their diminishing size diminishes their relative weights at a cube root progression of advantage. Halving the size of a solid spar reduces its relative weight by eight. Halving the size of a hollow spar reduces weight by a factor of approximately four."

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- Cite "Tensegrity," PORTFOLIO + ART NEWS, p. 124, Dec. »61

'The higher the frequency the greater the proportion of the structure which is invested in tensional components. Tensional components are unlimited in length as proportioned to section ratios. As we increase the frequency, each tension member is parted into a plurality of fibers, each of whose strength is multiplied many-fold per unit of weight and section. If we increase the frequency many times, the relative overall weight of structures rapidly diminishes, as ratioed to any given linear increase, or even to any fixed linear increase, in overall dimension of structure. The only limit to frequency increase is the logistic practicality of more functions to be serviced, but the bigger the structure, the easier the local treatability of high-frequency components. In contrast to all previous structural experience, the law of diminishing return is operative in the direction of decreasing size of geodesic tensegrity structures and increasing return in the direction of their increasing dimensions."

- Cite "Tensegrity," PukTFOLlp + ART Mia'S, p.124, Dec. »61

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"If the frequency is high enough the size of the interstices of the tensegrity net may become so relatively small as to arrest the passage of any phenomena larger than the holes.

If frequency is high enough, neither water nor air molecules can pass through. They may be made to keep out the weather complex while admitting radar's microwaves and light, etc. If we 'up* the frequency sufficiently we will decrease the residual compressional islands to

the microcosmic magnitude of atoms, which only serves to disclose that the atoms and their nuclei are themselves geodesic tensegrity structures, ergo compatible with this ultimate frequency limit--- a fact that is now swiftly looming into the nuclear physicist's ken, "•ie now comprehend that the tensegrity geodesic structuring provides the first true and visualizable model of pneumatic structures in which the relative thibkness of the enclosing films, in proportion to diameter, rat idly decreases with the increasing" size of the balloons."

- Cite "Tensegrity," PORTFOLIO + A.tT hL.. 'L, p. 124, Jec. '61

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Tensegrity: Unlimited Frequency of Geodesic lenserrities: (7}

'•In the case of geodesic tensegrity structures no overcrowding of interior gas molecules, imprisoned

within a submolecular mesh net, is necessary to thrust the net's structure outward from its spherical geometric center, because the comprersional struts, locally islanded, as outward thrusting struts at both their ends, push the spherical net outwardly at every vertexial advantage of network convergence. Geodesic tensegrities are then 'hollowed-out* balloons, discarding their redundantly 'solid¹ air core.

'The geodesic tensegrity is a hollowed out balloon in which those specific molecules of gas which happen to be imninging from within against the skin at any one moment (thus pushing it outwardly) are replaced by the islanded geodesic struts. It is possible then to sew pockets on the inside surface of a balloon skin corresponding in pattern to the islanded geodesic struts, and to insert stiff battens into those pockets which cause the otherwise limp balloon bag to take spherical shape as it would if filled with a pressured-in gas.

- Cite "Tensegrity " PORTFOLIO+ ART NE./b, p. 125, Dec. '61 *TtSECS tSS.X3*

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"Local stiffeners of skin suitable to preferred activities, at any structural focus, can be had by increasing the inwardoutward angular strut depths and the local surface frequency patternings as well as by multi-layerings of surface truss frequency--- thus thickening the truss depth without weight penalties. Here we have nature's own trick of local stiffening as accomplished by the higher frequency 'closest packing*' pattern of isotropically moduled, local cartilages and even higher frequency local bone structuring, as ratioed to the frequency of tissue cells of animal flesh.

"If we employ hydraulic pressure within the local islands of compression for dimensional stability, and gas molecules between the liquid molecules for local compressibility, ergo, flexibility, we will find that our geodesic tensegrity structures will, in every way, have taken advantage of the same structural strategy principles employed by nature in all her sizes of biological formulations."

- Cite "Tensegrity," PORTFOLIO+ART NE.7S, p. 125, Dec. *61

"Geodesic tensegrities are true pneumatic structures in purest designed frequency principle without the disadvantage of the randomness and redundance accruing to the inert (sic) designer-ignorances (which have only just happened to be successful), when depending on subvisible chemical structure' behaviors through the separation of all the components into two majorly opposed magnitude classes, of all the outward bound things that are too large to pass through all the inward-bound net holes that are in the class that are too small. This is the same kind of redundancy that occurs in reinforced concrete which, if drilled out wherever redundant components exist, would disclose an orderly four-prime magnitude-complex, octahedron-tetrahedron truss network disencumbered of

more than 50 percent of weight. Tensegrity geodesic spheroids have none of the portal pressurelock problems of 'solid-oozing* pneumatic balloons. The pressure is discretely localized and locked in place by the tension net, ergo cannot escape. Tensegrity geodesic spheroids may have several frequencies simultaneously--- a low frequency major web and a high frequency minor local web.- If they are of sufficiently high frequency of secondary or minor webbing to exclude atmospheric molecules, they may be partially vacuumized, ergo made air-floatable.*

Cite "Tensegrity" PG.-CPHOT in + ART NETS, p. 125, Dec. '61 *Secs*
Tensegrity Icosahedron; (1)

"The six-strut tensegrity icosahedron consists of three sets of parallels with their ends held together in tension.

If a pair of three-strut tensegrity octahedra are mildly reorganized in asymmetrical form, they may be combined in two sets of three struts each to form the tensegrity icosahedron. There are 12 terminals of the six struts (the two octahedra combines--- each with three struts of six ends) and when 12 terminals are connected up, the 12 vertexes of the icosahedron appear. There are 20 equilateral triangles of the icosahedron clearly described by the tension members connecting the 12 vertexes in the most economical omnitriangulated pattern."

- Cite Synergetics Illustration ;/82, caption. 1967

- sec. tfl.vd

Tensegrity Icosahedron: (2)

"There are six tension members which join parallel struts to each other. If these tension members are removed from the icosahedron, only eight triangles remain from the original 20. These eight triangles are the eight transforming triangles of the 'jitterbug.' Consequently this 'incomplete' icosahedron demonstrates an expansion-contraction behavior similar to the 'jitterbug' although more restricted.

"If two opposite and parallel struts are pushed or pulled upon, all six members will move inwardly or outwardly causing the icosahedron to contract or expand in a symmetrical fashion. When this structure is fully expanded it is the regular icosahedron and it becomes, in its contracted state, an icosahedron bounded by eight equilateral triangles and 12 isosceles triangles (when the missing six tension members are replaced). All the 12 vertexes may recede from the common center in perfect symmetry of expansion, or, if a concentrated load is applied from without, the whole system contracts symmetrically, i.e., all the vertexes move toward their common center at the same rate."

- Cite Synergetics Illustration #82, caption. 1967

Tensegrity Icosahedron; (3)

"This is not the behavior we are used to in structures of our previous experiences. These compression members do not behave like conventional engineering beams. Ordinary beams deflect locally or, if fastened terminally in tension to their building, tend to contract their buildings in axial asymmetry. The tensegrity 'beam' does not act independently but acts only in concert with 'the whole building,' which contracts only symmetrically when beam is loaded. The tensegrity system is synergetic: a behavior of the whole unpredicted by the behavior of the parts. Old stone-age columns and lintels are energetic and only interact locally with whole buildings. The whole tensegrity

icosahedron system, when loaded, contracts symmetrically, and because of this its parts get symmetrically closer to one another; therefore gravity increases as of the second power and the whole system gets uniformly stronger. This is the way atoms behave."

r. Cite Synergetics Illustration #82, caption. 1967

"A six-strut tensegrity tetrahedron can be transformed by changing the distribution and relative lengths of its tension members to the six-strut icosahedron.

"A theoretical three-way coordinate expansion can be envisioned with three parallel pairs of constant length struts in which a stretching of tension members is permitted as the struts move outwardly from a common center. Starting with a six-strut octahedron the structure expands outwardly going through the icosahedron phase to the vector equilibrium phase. When the structure expands beyond the vector equilibrium, the six struts become the edges of the figure; they consequently lose their structural function (assuming the original distribution of tension and compression members remains unchanged). As the tension members become substantially longer than the struts, the struts tend to approach relative zero and the overall shape of the structure approaches a super octahedron."

- Cite SYNERGETICS ILLUSTRATION # 83, caption. 1967

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Tensegrity: Icosahedron Tensegrity:

"The six-islanded strut icosahedron tensegrity and its all-space-filling, closest-packing capability provides omni-equi-optimum economy tensegrity universe structuring."

- Cite "Tensegrity," PORTFOLIO + ART NEWS, P. 122, Dec. '61

Tensegrity Icosahedron: Volumetric Comparison of Tetra + Octa:

"In the first of the fairly large geodesic spheres which were built by the tensegrity principle we used the spherical icosahedrons because they provide by far the most volume with the least structural effort of the three basic structural systems. The tetrahedron has the least volume with the most surface; the octahedron is in the middle; and the icosahedron gives the most with the least.

"Six vector struts make one unit of quantum corresponding to the six edges of the tetrahedron.

"In the icosahedron five units of quanta give 20 units of enclosed volume which means four units of volume for each unit of energy quantum invested in the enclosing structure, whereas in the tetrahedron one unit of quantum will structurally enclose only one unit of volume. The octahedron gives you two units of volume for each quantum unit. The icosahedron gives four units of volume for each unit of quantum enclosing the structure. Therefore, the icosahedron gives you the most for the least effort."

a Cite Tel Aviv Address, Dec '67?

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Tense/yity: Interstabilization of Local Stiffeners:

'•Of first interest to engineers and artist-conceivers is the fact that my potential prototypes of satellite- and moon-structures are tensional integrity, omnitriangulated, high-tensile-cabled, spherical nets in which local islands of compression act only as local sprit-stiffeners. The local stiffeners are so oriented that they angle inwardly and outwardly between comprehensively finite, exterior and interior, tensional, spherical nets thus producing positive and negative waves of action and reaction in interstabilized dynamic equilibrium."

- Cite "Tensegrity, PORTFOLIO AND ART NEWS, Dec '61 , p.117

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Tensegrity: Miniature Tensegrity lasts:

"The tensegrity masts can be substituted for the individual (so called solid) struts in the tensegrity spheres. In each one of the separate tensegrity masts, acting as struts, in the tensegrity spheres it can be seen that there are little (so called 'solid struts.' A miniature tensegrity mast may be substituted for each of those 'solid struts.' The subminiature tensegrity masts within the tensegrity struts of the tensegrity sphere and a sub-sub-miniature tensegrity mast may be substituted for each of these 'solid' struts, and so on, to sub-sub-sub-subminiature tensegrities until we finally get down to the size of the atom and this becomes completely compatible with the atom for the atom is tensegrity and there are no 'solids' left in the entire structural system. There are no solids in structures; ergo, no solids in Universe. There is nothing incompatible with what we may see as structure at the visual level and what we are finding out to be the structural relationships in nuclear physics."

- Cite SYNERGETICS ILLUSTRATION 93, caption.

— - _ (Same Text: Mexico *63, p. 42)

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HMHHHMM Tensegrity: Miniature Tensegrity Masts:

"Going back to these spheres of the 270 struts and the 90 struts, looking at any of those struts you can see that you could substitute for it one of the tensegrity masts. There is nothing to keep you from doing that. It is simply that each of the members are smaller, each of the struts get smaller. Then as you look at each strut in the tensegrity mast you can make a little miniature tensegrity mast to replace it. So now it is going to be getting pretty small with these struts but you look at it and you make a very beautiful miniature miniature. Every time you see a strut you make a miniature tensegrity mast and substitute it for the previous one. Finally by substitution you get down

to the size of the atom and this is perfectly compatible, because this is the discontinuity; this is the structuring of the atoms. There you are in the discontinuous compression, continuous tensions where you are simply in the energy islands in sign concentration of tensional coherences. Finally this kind of structuring becomes completely explicable by the atom and yet we have

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Tensegrity: Miniature Tensegrity Masts:

"It was obvious that each of the seemingly 'solid' compression struts in these island complexes could be replaced by miniature tensegrity masts (of any of these four types) and for the miniature struts in the miniature tensegrity masts, subminiature tensegrity masts could also be substituted.

By such process of progressive substitutions in diminishing order of sizes, a final sub-subminiature stage of tensegrity mast would be substituted for the last stage of seemingly 'solid' struts, i.e., at a size magnitude of a single atom's structural diameter. At this stage of local miniaturization, the inherent discontinuous-compression, tensional integrity of the non-solid atomic structures themselves would coincide with the overall structuring principle of the whole series of masts-within-masts complex. This eliminates any further requirement of the now utterly obsolete conception of 'solid' anything--- as intervening in the man-tuned sensorial ranges between macro- and micro world of ultra- and infra-sensorial tensegrity. My demonstration of the stable structural supporting capability of such man-witnessable tensegrity masts thus eliminated any further requirement of any 'solid*' conception whatsoever."

illite "Tensegrity," PUHTbULIO + ART KWL, p.122. Dec *61 TeuSfrY-
Tensegrity: Miniature Masts: Positive and Negative:

"These were now demonstrable as consisting of both positive and negative tensegrities, simultaneously employed, './hereas either the positive or the negative tensegrity mast would independently provide the same overall compressional strut capability as did MM the two together, obviously either the positive or the negative tensegrity within the 'solid' combination must be doing all the 'strut* work at any one time--- the other is entirely superfluous, ergo redundant.

Their alternate capabilities, being approximately equal, would alternately tend to exchange the loading task, thus generating an oscillating interaction of positive vs. negative load transferral which would expend the energies of their respective structural integrities, thus tending to self-interdeterioration (crystallization) of their combined alternating strut functioning longevity of structural capability."

- Cite'Tensegrity," PORTFOLIO + ART NEWS, p.122, Dec *61

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Tensep.rity Masts: Pentagonal Polarity:

'The crossed-spiral, vector-strut, tubular-shaped structures occurring when the pentagonal poles of the spherical form /hex-pent sphere? are released, consist of five-edged spirals countering each other---with one turbinedly dominant.

"This structure corresponds to one which is produced as a tensegrity mast. Since we are dealing with nature's maximum limit number of equilength vector struts, the same wavelength frequency, and resonance conditions obtain."

"We are comprehending here the spherical geodesic protein shells of the DNA-RNA tetrahelix tubular-shaped, internal structuring logic."

- Cite RBF Ltr. to Glenn Dewar, 27 Dec*76

Tensegrity Mast:

See Geodesic Spiral Tube

Tensegrity Model of Self-interference of Energy:

"In working out this business of the octahedron as an annihilation model I've just come to realize that this relates very closely to what we have in the chapter on tensegrity about the reciprocal behaviors of pneumatics and hydraulics.

"The molecules find their own great circles and then develop their own intertriangulation. Here we have an interference pattern where energy can interfere with itself. It is a tensegrity pattern, a making of knots. Tensegrity is a model of how energy-as-radiation can shunt itself inwardly to make matter."

- Cite RBF to EJA by telephone from Toronto, 25 Mar*75

Tensegrity Model of Self-interference of Energy:

See Octahedron as Annihilation Model

Pattern Integrity: Atomic Knots

"The three-islanded octa-tensegrity, in positive and negative phases, is fundamental to all tensegrity structures."

- Cite "Tensegrity," PORTFOLIO + ART NEWS, p. 122, Dec '61

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See Geodesic Spinnaker (2)

"Pushing on one individual pole of a tensegrity geodesic sphere is the same as pushing on two poles, because you only have to push at one point for the Inertia of the system to react against your pushing. This point produces a spherical wave set that if uninterfered with, will

travel encirclingly around the sphere from any one MBM starting point to its 160-degree antipodes. It is like dropping a pebble into the water: the crest is the expanded phase of Universe, and the trough is the contracted phase of Universe. Looking at the ripples, we see that they are the locally initiated, expanding-contracting of whole Universe as a consequence of local energy-event inputs. This is why tensegrity and pneumatic balls bounce. Contracting as they contact, their equally violent expansion impels them away from the--- relative to them--- inert body of contact."

Cited from *TMCS gallery at 2005_11*, as rewritten by RBF,

"A basic tensegrity sphere can be constituted of six equatorial plane pentagons, each of which consists of five independent and noninter-touching compression struts, totaling 30 separate nonintertouching compression struts in all. This six-pentagon equated tensegrity sphere interafyss in a self-balanced system resulting in six polar axes each perpendicular to one of its six equatorial pentagonal planes. It also results in 20 triangular interweavings, which structuring stabilizes the system.

"*Instead of having cables connecting the ends of the struts to the ends of the next adjacent struts in the six-axes-of- symmetry tensegrity structure, 60 short cables lead from the ends of each prestressed strut either to the midpoint of the next adjacent strut or to the midpoint of tension lines running from one end to the other of each compression strut. Each of the two ends of the 30 spherical chord compression struts emerges as an energy action, out over the center of action-and-reaction effort vectors of the next adjacent strut, at which midpoint the impinging strut's effort is angularly precessed to its adjacent struts. Thus each strut precessionally transfers its effort and relayed interloadings to the next two"

- Cite SYNERGETICS draft at Sec. 726.01+02, 15 Oct'72

'adjacent struts. This produces a dynamically regenerative self-interweaving basketry in which each compression strut is precessed symmetrically outwardly from the others while simultaneously precessing the force efforts of all the tensional network inwardly.

"In this pattern of six separate, five-strut-membered pentagons, the six pentagonal unsubstanced but imaginable, planes cut across each other equiangularly at the spheric center. In such a structure we witness the cosmic principles enabling the recurrence of locally regenerative structural patterns. We are witnessing here the principles and regenerating the atoms. The struts are simple, dynamic, energy-event vectors which derive their regenerative energies by an eternally

symmetrical interplay of inbound-outbound forces of systems which interfere with one another to maintain critical fall-in, shunt-out, proximities to one another."

- Cite SYNERGETICS draft At Secs. 726.02+03, 15 Oct'72

Tensegrity Sphere: Six Pentagonals:

•'Tony Pugh at S.I.U. tells me that the version of the tensegrity sphere on which I based my exposition--- same one you have on your office floor--- is, in fact, degenerate because it imposes loads on the struts: as it does. In the pure tensegrities the tension network is continuous and the struts merely float in it. holding its nodes apart and undergoing no stress except axial (end-to-end)."

- Cit Hugh Kenner Ltr. to EJA, 14 Sept'72

Tensegrity Sphere: Six Pentagonals:

"Instead of having these cables going from end to end and the struts impinging on those cables, we have, from the end of the strut, a single cable going to the middle of the member. Here we have a very interesting pattern of the atom. You see a pattern here of a pentagon: five members. . . . six planes of pentagons cutting across each other. One energy action as it emerges here comes over the middle of the center of mass of energy there and it is angularly precessed. Then its own middle becomes the processor for the next two. You find this weaving around; this basketry, in which each one is precessing the other ones inwardly. You begin to see how there is a regenerative local pattern in Universe. I am quite confident that we are witnessing the principle by which the atoms cohere. These are dynamic events. These are vectors and they are strictly a tremendous energy event. . . . as it comes over the other end it gets its maximum concentration of energy at its center of energy, and then we get the precessional effect, and get into the critical proximities,"

- Cite Oregon Lecture #5, p. 185, July *62

Tensegrity Sphere:

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See Geodesic Sphere
Sky-island City

See Gravitational Field, 8 Mar*73

Sphericity of Whole Systems, 26 Sep'73

Three-way Great Circling: Three-way Grid, 17 Feb*72

Tensegrity: Stability Requires Six Struts:

"It is a synergetic characteristic of minimum structural systems (tetra) that the system is not stable until the last strut is introduced. Redundancy cannot be determined by energetic observation of behaviors of single struts (beams or columns) or any chain-linkage of same which are less than six in number, or less than tetrahedron,"

- Cite RBF undated holograph on M.I.T, memo pad. (1950*8)
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. From the end of a compression member there is a little tension member going to the mid-part of the next compressional strut unit. The end tension members from two adjacent struts make a V-shape, We are used to fastening things into buildings in shear where structural members push. The members in tensegrity structures pull apart as the V of tension shows. Tensegrity structures are not fastened in shear. If I tighten up a turnbuckle it will tighten up the whole tension V-shape and therefore the structure will get bigger and not smaller when tensed more tightly. Each of the tension V's get a little flatter. These structural behaviors are very typical of the energy interference patterns which structurally cohere all atoms. A strut is comparable to a vector energy action and its end is pulled by the center of mass of the next vector strut. Pulling the end of the vector strut changes its direction toward the center of the whole system. Thus each of the vectors is continually steered to encircle the same center. In the same way energy self-interference patterns result in locally regenerative structural systems as atoms,"

- Cite RBF in Tel Aviv Address, December 1967. (Zodiac 19).

"The aggregate of all the inter-great-circlings resolve themselves typically into a regular pattern of 12 pentagons and 20 triangles; or sometimes more complexedly, into 12 pentagons. 30 hexagons, and 80 triangles described by 240 great circle chords.

"This is the pattern of the geodesic tensegrity sphere. The numbers of hexagons and triangles and chords can be multiplied in regular arithmetical-geometrical series, but the J2 pentagons. and only 12, will persist as constants; as will also the number of triangles occur in multiples of 20; and the number of edges will always be multiples of six."

- Cite SET X, p.15, Aug'72

Tenserricy: Twelve rentarons:

See Hex-pent Sphere

"The tensegrity vector equilibrium could not be a better proof of the modelability of a complete abetracton: the eizeless tetrahedron."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

Tensegrity: Vertexial Connections: (1)

"The turbinig, tensionally interlaced joints of the tensegrity geodesic spheroids decrease the star-like vertexial interference patterns.

"./hen a photostat is made of a plurality of lines crossing through approximately one point, it is seen that there is a blurring or running together of the lines near the point, causing a web-like shadow between the converging lines even though the lines had been clearly drawn. This is caused by a refractive light-wave bending. When the masses of the physically consisted lines converge to critical proximity, the relative impedance of light-wave passage in the neighborhood of the point increases as of the second power of the relative proximities as multiplied by a factor of the relative mass-density. The tensegrity geodesic spherical structures eliminate the heavy sections of compression members in direct contact at their terminals, ergo keep the heavy mass of respective compressions beyond critical proximities."

- Cite "Tensegrity." PORTFOLIO * ART NEWS, p. 128, Dec. '61 ~*Tensrap>rr-*
Tensegrity: Vertexial Connections: (2)

"As the vertexial connections are entirely tensional, the section mass is reduced to a minimum, and frequency increase provides a cube-root rate of reduction of section in respect to each doubling frequency. Thus very large or small tensegrity geodesic spheroids may be designed with approximate elimination of all microwave interferences--- without in any way impairing the structural dimensional stability."

- Cite "Tensegrity," PORTFOLIO + ART NEWS, p.128, Dec, '61
Tensegrity: Vertexial Connections: Locked Kiss:

• 'As we increase the frequency of triangular module subdivisions of the sphere, and thus increase the numbers of compression struts, the struts get progressively halved in length, while their volumes and weights shrink eightfold. At the same time the arc altitude between the smaller arcs and chords of the sphere decreases, and finally we get to the condition where the compression members get closer and closer to the adjacent compression members which they cross. Finally we get to the point where the space between them is the same dimension as the girth diameter of the struts. We can then let them •kiss' touch, we may then lock them tensionally together in their 'kiss,' but when we do so remember that they were not pushing one another when they kissed and we locked them in that position of nonstructural coincidence. They are therefore not fastened in shear even though their 'locked kiss' gives a superficially 'solid' appearance.'*

- Cite Mexico '63, p. 44
 Tensegrity: Vertexial Connections
 See Vertexial Connections

'•I found that nature was not using that primarily structural logic. In our solar system the Earth is not touching and ball-bearing around on the Moon's surface. They cohere gravitationally and remotely. And in the atoms the energy components are equally remote from one another. I found that nature is using what I call continuous tension and discontinuous, islanded compression. Man's first discovery of that was when he made the wire wheel with a compressional hub as the counterpart of Earth with rim corresponding to the Moon's encirclement of the Earth with the spokes corresponding to the gravity which coheres the two islands of compression only by tension.

"I find then that it is possible to make structural units which are only held together by tension. I call these clearly differentiated tension-compression structural tensional integrities, or tensegrity structures."

- Cite Tel Aviv Address, Dec '67

Aspension

See Balloons

Clothes Line

Domes

Geodesic Structures

Pneumatic Structures

Rigidity

Snow Mound

Geodesics & Tensegrities

Four-triangular Circuits Tensegrity

See Apple, 10 Nov '73

Cosmic Structuring (3) Engineering, 3 Oct*72 General Case, 16 Feb'73
Vectors & Tensors, 19 Oct*72 Kite, 28 Jan'75

See Push-pull Members, 28 Oct'72

Tensegrity-

(3)

See Tensegrity: Basic Tensegrity Structures: Three &
Only

Tensegrity: Depolarised Orientation of Tensegrity- Octahedron Uni-
versal Joint

Tensegrity Geodesic Grid: Three-way Grid

Tensegrity: Unlimited Frequency of Geodesic

Tensegrities

Tensegrity Icosahedron

Tensegrity• Miniature Tensegrity Masts

Tensegrity: Octa-tensegrity

Tensegrity Octahedron

Tensegrity Sphere

Tensegrity: Stability Requires Six Struts

Tensegrity Structures

Tensegrity: Twelve Pentagons

Tensegrity Vector Equilibrium

Tensegrity: Vertexial Connections

Tensegrity: Wire Wheel

Tensegrity Model of Self-interference of Energy

Tensegrity Clothesline ⁿ... The tree having to have its own young out from under its shadow... Laiftyiing all those seeds... She sends only the tensile blueprint in the seed. And part of this is crystals and the crystals will grow.*

__ Citation and context at Trees (A), 20 Apr '72

See Preetreseed Concrete Sequence. (3)

Seed, 1965

Tree, (A)*

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"Here is another synergy confirming instance: the tensile strength of chrom-nickel-steel is 350,000 pounds per square inch. Thi is 100,000 pounds stronger than 250,000 pounds per square inch which is the sum of the tensile strengths of each and all of chrom-nickel-steel's cpnstituent metals; which are. nickel 80,000 p.s.i., chromium, 70,000,MM iron, 60,000, while the sum of their minor ingredients--- carbon, manganese, et.al., is 40,000 p.s.i. The augmented coherence of the whole chromenickel-steel alloy is accounted for only by the complex inter-mass attractions of the crowded together atoms. That is synergy."

-Cite NEHRU SP feEgH. P. 34, 13 Kov'69

! Tensile Strength oL Chrome-Nickel-Steel:

"The synergy is predicated upon my definition of Universe as the aggregate of all men's consciously apprehended and communicated (to self or others) experiences. Synergy means behavior of aggregates unpredicted by the behavior of the|r components or any subassemblies of their components.. Chronnickle-steel nay

have a tensile strength of 350,000 psi whereas its three strongest alloy constituents have only 60,000 psi, 70,000 psi, and 80,000 psi respectively. Unlike the chain whose strength is no stronger than its weakest link, chrome-nickel-steel is six times stronger than its weakest link and Stronger than the sum of strengths of all its individual links. Chrome-nickel steel is synergetic. All alloys are synergetic. All compounds are synergetic. Atoms are synergetic. Universe is synergetic.*

- Cite RBF Ltr. to Colliers (full text), Pp. 3-4, July'59
Mexico *63, p. 14, 10 Oct *63 (In this case, aluminum alloys)
Intuition, pp.51-52, May *72
Univ. of Alaska, pp. 13-16, 20 Apr *72
Mexico *63, pp.21~24, 10 Oct *63
Later Development of My Work, I&I, pp.64-65, 5 Jun *58
Kepes, p.85, 1965
How to Maintain Man As A Success, Utop or Obliv., p.226, 18 Mar *65
Doxiadis Ltr, Utop. or Obliv., p.313, -20 Jun *66
Orgeon Lecture #1 , pp.31-32, 1 Jul *62
Ltr to James Fitzgibbon (?)» Raleigh, NC, undated, p.4. (1954-59)
Senate Hearings, p.11, 4 Mar*69
See Alloy

Chain Stronger than its Weakest Link

Jet Engine

Steel

See Cube: Diagonal Of (2)

Industrial Lag (1J

Synergy, Jul*59

Tools: Craft & Industrial, (2)

Tension;

****..If tension is secondary and local in all men's structural projections, tension must also be secondary in man's philosophic reasoning."**

- Citation *ic.* context at Airplane Flight as Lift_f 4 Oct'72

Tension:

"Tension is unit: universally cohering and comprehensively finite."

- Cite SYNERGETICS draft at Sec. 640.70, Dec'?1

Tension:

"Tension is an unlimited structural principle and inherently comprehensive and eternal."

- Cite RBF Holograph, Beverly Hotel stationery, Spring, 1971.

"Now I am going to give you an analogy. It's actually a model in our processes of thinking. Say you were a kid and your mother said, 'I would like you to go out and hang something on the clothesline'--- so you had a clothesline.

Later on you are getting on a boat and somebody says, You have never been in a boat before. Now this is called a "sheet." It's like the sheet on your bed. I want you to pull in on this jib sheet.' And then you find that there are halyards and other kinds of lines, then you pull on those and you get used to all kinds of lines. Then you are pulling on the anchor rope.

"So then the clothesline and the different pieces of line you have handled on your boat rotted and you get in someone else's boat and you see ropes again. They have ropes nowadays with better cordage, of nylon, and dacron, and mylar. In the sum total you have a great many

experiences with tension, but every one is a special case. Then you begin to draw from all those special cases certain generalized principles about tension, rthen you pull on a rope it tends to straighten out."

- Cite RBF to Verner Smythe, NffC, Reel 1, p.9, 11 Mar'69

Tension; (2)

"When you push the two ends it begins to coil; the radius gets shorter, the radius gets longer. You begin to generalize.

' 'Now let's get out to a very high-frequency radius from a given sphere center of a great matrix of the closest- packed spheres. I will go out to the one-hundredth layer and at the one hundredth layer I would have--- we know our frequency is 100--- so our frequency to the second power, 100×100 is 10,000, to the second power times 10. so it makes it now 1,000,000, plus 2. So it's 1,000,002. I know the number of balls now in the one hundredth layer is 1,000,002. Very interesting.

"Now you and I and all the people who have had any rope experiences have had 1,000.002 experiences. More than enough to remember all the special experiences, and out of that we generalize certain experiences of tension. We call it 'tension.* We don't just call it a different piece of rope--- it's now no longer the main sheet, and so forth, it's just tension. And this generalization works in to some layers"

- Cite RBF to Verner Smythe, NYC, Reel 1, pp.8-9, 11 Mar'69

"inside. In other words, we have special-case experiences originally and out of those special-case experiences we resolve generalized principles. And I find what I call a generalization of a generalization, so that brings us into a layer further still. It could be that our generalizations come again close toward center and we finally get to the center one which is called the Universe and that involves them all. This is pretty much the way our thought processes work, We begin to have a whole lot of experiences with tears and so forth, and gradually with experiences we get wiser and

we see generalized principles. You really resolve something out of that and as you get older and older you resolve more and more generalized principles. And the reason you get quite full of equanimity and confidence is because you have generalized so many that you can handle any special case. I think these balls schematically are really the way our thought processes work. We are trying to identify what we do here. It is like the brain. This is the way the brain handles... We have discovered that the difference between the brain and the mind is that the |>rain

- Cite RBF to Verner Smythe, NYC, Reel 1, pp.10-11, 11 Mar'69 "is simply a storing and retrieving system for all the special-case experiences. But once you and I have resolved it, and the mind resolves the generalised principle... but once the mind has discovered the generalised principle, then it deposits it in the brain as another kind of special case. Generalization becomes storable in the special case words, because we do it in words, we do it in concepts— that gets to be storable. It's quite a different kind of storage from the original special case. I think there are a great many people who Just really live in the special case and don't really tend to generalize as much. What they have are some rules. Those are special cases because they remeber that their minister told them always to do this— Raise your hat going by church.. Those are conditioned reflexes.

"I think we really have given you the prime entry here."

- Cite RBF to VERNER Smythe, NYC, Reel 1, p.11, 11 Mar'69

Tension:

"The generalized principle of tension Holds true in all cases

Be the tensed phenomenon a silken cord, A wrought-iron chain,

Or the invisible gravity cohering The Earth and Moon

Which rotate synchronously

As they 'fly twin-spin formation* Around the Sun

At one thousand miles a minute Which is four times

The additional acceleration At which our Christmas Eve Moon orbiting

Manned capsule Averagely enrouted

Its successful round trip."

- Cite GLNuhALIZED PRINCIPLES, p. 1, X8 Jan'69

Tension;

"... Tension members work towards arcs of greater radius but ijjer completely straighten out. . . The tensions are not in a plane, anyway. Tension tends to do the big things in universe, do the big action, and compression is towards the little action. Furthermore, compression member has a limit ratio of length to section, we call it a slenderness ratio, it very readily busts because it is too long, . . But there is no limit of cross-section to length in a tension member, no inherent ratio. If you make a better alloy, you make it very much longer."

- Cite LEDGEMONT, pp. 30-31, 15 Oct'64

Tension:

"Tension is shown experientially to be nondimensional, omnipresent, finitely accountable, continuous, comprehensive, ergo timeless, ergo eternal,"

{Ed, Note: Date of RBP rewrite not determined in this file.)

« RBF SYNERGETICS draft, 'Tension and Compression' revision of Oregon Lecture 5, pp. 157-15B. 9 Jul'62

RUF DuFI.iITiULS

'lens ion:

"I pull on the rope and all its curls begin to go out and they begin to be arcs of greater radius. But we find that it is neveit operating in a plane or in a line and therefore it is consisting of spirals. And spirals get to be arcs and a plurality of arcs of ever greater radius but it never gets to be straight. Tension mebers keep doing bigger and bigger tasks. The big patterns of universe are done by the large radius patterns and to account for the large pattern integrities."

- Cite OREGON Lecture #5 - pp. 157,158, 9 Jul'62

Tension;

"The big jobs are done in tension and the small jobs in compression. We find that the tensions, because they are always curved, never can get straight. There is no meaning to the word 'straight!' in Universe. Therefore the tension members spiraling around must always come back into themselves. They are inherently self-closing, maybe not with simultaneous experiences--- obviously not In simultaneous experiences--- but around comes the Halley's comet. Every 70 years around she comes again. It is not a simultaneous experience at all. Several life times may be involved, and some of them may be coming around more slowly, but there is an integrity of the tensions as around they come again. We find an idea about some kind of closed circuit."

- Cite Oregon Lecture #3, pp. 111-112. 5 Jul'62

Tension:

"All tensile capability is apparently invested in the surfaces."

- Cite "TensegrityPORTFOLIO + ART NEWS, p. 12J, Dec. '61

(A)

Tension:

"As structural systems are omni-directionally coherent, tensile factors were unwittingly taken advantage of to cohere man's compressive structures. Comprehensive tensile coherence provided by nature was atomic, the enormous amount of which Induced into action was manifested by the weight of the structural masses. The Invisible structure was E - me*. . . .

"Throughout the universe, compression and tension are energetically juxtaposed. Their juxtaposition provides dimension--- the basic of awareness of life itself. . . Tension is comprehensive. Universe tensionally coheres non-simultaneous events.

"Man's structuring ability is by principle distinctly limited in the proportional ratios of width and length of compression members. . . The tensile principle has no such'ratioed limit of length to section. Tension members, no matter how elongated, tend to pull true. Tension is limited only to the initial cohesiveness of the chemical elements. As man's knowledge of chemical

- Cite Previews, I&I, pp.211-212, 1 Apr 49

Tension; (B}

"interaction improves the length of tensile members, relative to given section diameter or given stress, trends are to increasing amplification--- to infinite length with no section. Incredible? No* Every use of gravity is a use of such sectionless tensioning. The electrical tension first employed by man to pull energy through the nonferrous conductors, and later to close the wireless circuit, was none other than such universally available sectionless tension.

"In the phenomena tension man is in principle given access to unlimited performance. It seems fantastic, but there it is!"

- Cite Previews, I&I, p,212, 1 Apr'49

Tension:

"Tension is both internal and external to the octave and is harmonic to the unit octave or to octave pluralities. Tension is comprehensive, attractive, and gravitational. Tension is infinitely extensible."

. Tension is radial and is electromagnetic."

- Citation & context at Tension 3c Compression, 1944

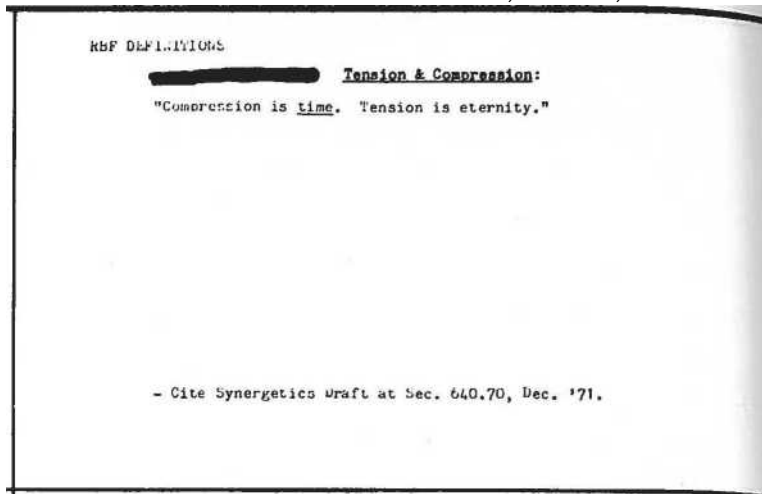
"In 1851 tension came to parity with compression."

- Citation and context at Civil War (1) > 20 Apr'72

Tension 4 Compression:

"Compression is inherently partial. Tension is inherently total."

- Cite SYNERGETICS draft at Sec. 640.70, Dec'71



Tension & Compression: "Compression is higher frequency tension."

- Cite RBF to Speech Class (per Mike Mitchell notes), SIU Edwardsville, 14 Feb'* 74

Tendon & Conpregglop:

"We find that nature employs discontinuous compressions and continuous tension. For this reason comiressions are plural and tension is singular."

- Cite Goddesses, Sat Review 2 liar 68

"Tension tends towards arcs of increasing radius;

Compression tends towards arcs of decreasing radius.

- Cite P. PEARCE, Inventory of Concepts, June 1967

"Compression behaviors are disassociative while tension behaviors are inherently associative and spontaneously cohering."

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, ed., Kepes P.85, 1965

k/hen you tense a rope its girth contracts— ergo compresses.

- Cite MUSIC OF THE NEW LIFE, U. or 0, p.14, 10 Dec'64

" . . One thing very clear about compression and nad tension, in the first place they are never innocent of each other. If I pull a rope, its girth contracts, it is going under compression at 90 degrees. If I load a cigar, it tries to bow outwardly ... as I load it. So . . . this girth is expanding; therefore it is getting higher tension, Tension and compression always operate at right

angles to one another and we simply have one at high tide and one at low tide of aspects of conceptuality."

- Cite LEDGEKONT, p. JO , 15 Oct'64

HiCH r 1 CmTo|7

RBF D&FIKITIuKS

"Compression tends to be local and separable and divisible while tension tends to be unit and cohering and finite and very large."*

- Cite OKSBON LECTURE #5 - P. 159> 9 Jul'62

- "Functions are never independent of one another.

No tension member is Innocent of compression and compression member innocent/of tension."

- Citation and context at Function_T 9 Jul¹62

*) Tgnflisa *, CQpprgflPlQn--

"Compression tends to be local and separable and divisible while tension tends to be unit and cohering and finite and very large,"

- Cite OREGON Lecture '5 - p, 159, 9 Jul*62

Tflnaifn.. &_cj}pj?rgfcl9n •

"Compression is micro and tension is macro.

- Citation and context at Macro-Macro_r 1955

"Compression is lateral or circumferential and is electrostatic; tension is radial and is electromagnetic. Compression is expressive internal to the octave and is limited to the mathematical properties and harmonic laws internal to the octave. It builds up potential. As demonstrated in the arch, compression is limited to absolute phenomena and fixed relationships of one spherical system.

"Tension is both internal and external to the octave or to octave pluralities. Tension is comprehensive, attractive, and gravitational. Tension is infinitely extensible.**

- Cite Dymaxion Comprehensive System, caption. Table ft, 1944

"Throughout the universe, compression and tension are energetically juxtaposed. . . Compression is limited to dimensionally minuscule tasks in the universe, to the spherical convergencies of energy in elemental systems.

"Man's structuring ability is by principle distinctly limited in the proportional ratios of width and length of compression members. Elongated compression tends to deflect and fail. 'The best compression OM abilities are in the planetary form of the sphere, whose neutral axis is dynamic through omni-directional symmetry. Ball bearings are man's best accomplishment in compressive structuring."

- Cite IDEAS AND INTEGRITIES, P. ENG 212 "Preview of Building," 1 Apr'49

See Twelve Universal Degrees of Freedom, (1)

See Discontinuity & Continuity

Dog Pulling on a Belt

Generalization: Second Degree

Rope

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TfiwI mi

Structural Functions

Radial Compression vs. Circumferential Tension

Fit: Pressured or Tensed Fit

Push-pull

Tidal

See Civil War, <1)»

Colloidal Chemistry, 1938

Coherence. 1 Apr'49

Comet, 5 uul'62

Convergece & Divergence, 8 Sep¹75

Domains of Actions, 21 Dec'71

Function, 9 Jul'62

Geodesic Domes, 24 Jan'58; 12 May'77

Hydraulics, 20 Apr'72

Implosion, Explosion. Dec'70 Instant Universe. (2) Male 4 Female.
20 Apr*72 Macro-micro, 1955

Nature Ships Tension, 29 Jul'76

Octahedron as Conservation & Annihilation Model, 23 I<ay»75

Pattern Generalisation, (2)

Quantum: Event-paired Quanta, Jul`66 Spirallinearity. Nov'71
Tensegrity, 19o7

See Tidal, Dec*61; 9 Nov'73 Universal Integrity, 7 Nov*73 Wind
Stress & Houses, (10)(11) Wire Wheel, k May'5?

Tensional Constancy:

See Islanded Radiation &. Tensional Constancy

See Cork: Triangular Corks in Spherical Barrel

- Cite I SEEM TO BE A VERB, Bantam, 1970

See Tensegrity

See Interpoaltoning, 4 Oct'72

Tension members represent 'milky-way-like' arrangements of atoms, the atomic or inter-stellar spaces of which are relatively infinite. The tension members may no longer be thought of as chains, no stronger than their weakest link. Tension structures arranged by man depend upon his relative knowledge in purest principle--- in purest initial volition of interpretation--- of pure intellect. Universe is tensional integrity."

- Cite PREVIEWS, I&I, Pp. 212, 213

1 Apr'49

Tension Structure:

"A tension structure is nature's fundamental pattern cohering principle."

- Cite ITEM "0", p. 196 May* 55

Tensive:

"Gravity la tensive, ergo tends to decrease it a overall curvature. The ultimate reduction of curvature is no curvature.... The tensive tends to arcs of ever greater radius."

- Citation and context at Curvature, 23 Sep*73

- Cite RBF to EJA, 3200 Idaho, Wash DC, 12 Nov'74

Tensive vs. Pushive:

See Push vs. Attraction

See Electrical Tension

Fish: Playing the Fish on a Heel Intellect as Tensile Length-to-girthRatio Oonitenaional Pull Hope Sectionless Tensioning Supradiractlonal Tidal

Wind Sucking Sequence Precession - Tension Tensegrity

Nature Ships Tension Intertension

See Airplane Flight as Lift. 4 Oct'72 Chad, 20 Feb'73 Crystallines, 9 Dec'73; Aug*71 Curvature, 23 Sep'73 Engineering, 3 Oct'72 Ephernalization, 1938 Eternity, Dec'71 Formless, 10 Oct'63 Octave, Dec'71 Precession: Analogy of Precession i Social Behavior.

May'72 Seed, 30 Oct'72 Universe, 1 Apr'49 Female, May'65 Measurement Trends, 1938 Prehending, 19 Dec'74 Inward Explosion, 8 Apr'75 Knot, 7 Noy'73 Lasso, 1946

See Tensile Blueprint

Tensile Strength of Chrome-nickel-steel Tension & Compression
Tension Diamonds Tensional Integrity Tension Structures Tensive vs.
Pushive Tensional Constancy

Teanor:

(D

See Vector# Vector-tensor Vectors 4 Tensors

Tunaqr;

(2)

See Octahedron as Conservation & Annihilation Model 23 May'75

Push-pull Members, 28 Oct*72

Tentative:

``Tentative is a fine word which, with frequency of redefining gets more and more exact." *

- Citation 4 context at Time_T 1971
f£BfS2Q*H££SSfi£
Tentative;

See Definitions, Oct'69 Time, 1971*

See Back Pack North Face Domee

Tent; Tents:

(2)
See Grow-a-dorae, 1 Dec*76

Space Technology, (6}

Tenuous:

"Because of indeterminism, discontinuity, the exclusive tenuous nature of integrity, means that no exact hard particulate models may ever be fashioned by man."

- Cite SYNERGETICS draft at Sec. 1009.J0-, 10 Feb'73
EJA to RBF: "Tenuous— doesn't that sound too tentative?"
RBF to EJA: "But it holds together, doesn't it?"
- See SYNERGETICS draft at Sec. 1009.34, 10 Feb'73

Tenuoua:

See Particulate Model

Vertexial Connections: Hulee of N_{BV}er-quite-touching

"The education revolution requirea the elimination of all academic tenure,"

- Citation at Education Revolution (1), 29 Jun'72

"We could have a man who is really a very bright professor, but he was really not sticking enough and the king was bothered about him. So he said, Mister, you're getting off base a little over there. I'm going to really tie you up. I want to really tie you up: I'm going to give you tenure. Now how do you like that I Don't do anything for anybody else. You're set for life! Nobody can ever take it away from you. But I want you to be an absolutely pure scientist. None of that nonsense about applied science. Pure scientist. You just lay eggs and I'll take them away from you.... Today, this is just the way our university is."

- Citation and context at Divide and Conquer Sequence (5), 28 Jun'72

See Fellowships: Life Fellowships in R & D Professors

Specialization Tollgate

See Divide 4 Conquer Sequence (E); (5)* Specialisation, 1970 Education Revolution (1)* Education, 1 Feb*75

"... We make further discovery of the utter interrelatedness of synergetic accommodation as we find the half-spin *tepee* twist also turning the tetrahedron inside-outT Here we find that the vector equilibrium, or the vector equilibrium's eight tetrahedra's external vertexes all converged toward one another only to suddenly describe four half-great-circle spins as they each turned themselves inside-out just before the convergence: thus accomplishing sizeless invisibility without ever coming into contact. Eternal interval is conserved. Thus the paradox of particle discontinuity and wave continuity W| is conceptually reconciled."

- Cite SYNERGETICS draft at Sec. 1012.38, 20 Feb'73

Tepee-Tripod:

"Best picture of what happens locally is the following: The three sides of a tepee-tripod, composed first of three vertical triangles rising from a fourth ground triangle and subsequently rocking toward one another until their respective apexes and edges are congruent and the three triangles plus the one on the ground constitute as minimum system, for it has minimum 'withinness.' Any one edge of our tepee, acting alone, as a pole with an universal joint base, would fall over into a horizontal position, two edge of the tepee acting alone form a triangle with the ground and act as a hinge with no way to oppose rotation toward horizontal position, except when prevented from falling by interference with a third edge pole, falling toward and into congruence with the two other poles' common vertex."

- Cite RBF Ltr. to Donald .V. Robertson, 8 Jan '55, p.5.

c«ncr*uT 'fUrftrirs of 6XJ.

See Now House, (1)

Tffnalnabla-

See Definitive, 1959

Terminal:

"[.special cases are all inherently terminal: that is in temporary employment of the principles."

- Citation and context at Special Case. 13 Mar'73

Terminals:

"If your world was in a plane, then all the perpendiculars to that plane would be parallel to one another. One way you went up; the other way you went down; and you could have terminals like Heaven and Hell."

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb. '68, p.1.

'•The center ball of a vector equilibrium is zero. The frequency is zero just as in the first layer the frequency was one. So zero times 10 is zero; to the second power is zero; plus two is two. So the center ball has a value of two. The significance is that it has its concavity and its convexity. It has both insideness and outsideness. Its center is as far as you can go inwards. You turn yourself inside~out and come out in the outside direction. Its inbound shell and its outbound shell are equally valid and though you see them as congruent and as one, they are two. This central sphere center is a terminal condition."

- Cite SYNERGETICS draft, Sec. 441.03, 9 Jun • 72

I Terminal Condition:

"... I give you then a tetrahedron which has an external and an internal: a terminal condition. . .

You get to the outside and you turn yourself inside out and come the other way. This is why radiation then does not go off into a higher velocity. Radiation gets to a maximum and then turns itself inwardly again--^tbecomes gravity, Then gravity comes to its maximum concentration and turns itself and goes outwardly--- becomes radiation."

- RfJ T" y v dt SCohO_t -Ciu uagu-
- Citation & context at Zero, 31 May*71

Terminal Condition:

"The center ball of the vector equilibrium has a value of two for outaide-inside, convex-concave: terminal condition.

- Cite RBF to EJA_t Blackstone Hotel Chicago. 31 tey 1971 Pp. 17-i»

Terminal Intertraneonnabilities:

See Stardust (2)

See Universal Integrity: Second-power Congruence of Gravitational
&. Radiational Constants, 9 Jan'74

Terminal Rate?

See Rate & Terminal

(1)

See Absolute Speed

Top Speed

See Limit Reach, 17 Jan¹74

Terminating:

. initiating and terminating are most often
of different duration*”

(In the context of: "Experiences are all finite because each begins and
ends.")

- Cite RBF marginalia Universe draft 28 Feb '71

See Beginnings t Endings

Biterminal

Endings

Finite

House as Terminal of Community Mechanism

Interterminal

Limit

Omnidirectional Terminal Case Corner

Rate &. Terminal

Service Terminal Installation

Zero

See Change, 9 Nov'72 Entropy, Jan'72 Experience. 12 Sep¹71
Finite, i960; 196? Gravity, 31 May'71 Rate, 9 Nov'72 Special Case,
13 Mar'73* Stardust (2) Two (2) Nuclear Sphere, 16 Dec'73 Zero,
31 May'71* Atom, 30 May'75 Line, 1938 Events & Novents, Nov`71
Doing What Needs to Be Done. (1)(2) Multidimensional Accommoda-
tion, 11 Dec'75 Dymaxion Airoceln World Map, (g) Height, Length ft
Width, 19 Jul'76 Subconscious, 20 Feb*77

See Cosmic vs. Terrestrial Accounting

See Gonads

Test: Testing:

See Fluidity, 1\$ Oct'72

Tether Ball:

Synergetics, draft, Sec. 401.02, 28 May¹72

Tether Ball:

See Me Ball

Restra ints

Tether: Tetharg:

See Sweepout, May'72

IfiLra-ftrc;

See

Invisible Quantum as Tetrahelix

23 May'75

Gap Closer,

Octahedron as Conservation 4 Annihilation Model, (1)

7A

Tetra-cone:

See Trees, () (vi)

See Domains of Tetra, Octa & Icosa

Prine Structural aystems

See Geodesic Sphere, (2)

Twelve Pentagons, Aug'71

Stable & Unstable Structures, 7 Jun*72

Structural Quanta, 9 Nov'73

Dimpling, (1)-(3); (A)(B)

Tetra, Octa & YF?

"The three primee are really tetra, octa and VE. The icosahedron is not prime as it only appears at special case frequency²."

- Citation in context at Synergetics: Evolution Of. H Oct'76

Tetrahedron:

"A tetrahedron is defined topologically by four conceptually locatable microsystems interconnected by six interrelationship lines whose 12 ends are oriented to corner-converge in four groups of three lines each, whose lines terminate in one of four infratunable microsystem corners, whose at-minimum-of- three-other corner-defining microsystems lie outside the tune-in-able tetrahedron defined by the six lines.**

- Cite SYNERGETICS 2 draft at Sec. 1052.353; RBF rewrite

8 Aug'77

Tetrahedron:

Q. "What's so great about the tetrahedron?"

RBF: "It's nothing to do with being great, darling,

it's Just the 'simplest something.' It is the minimum configuration with insideness and outsideness. Nature structures in tetrahedra: they cannot be piled up like building blocks, but they do Aaln."

- Cite RBF to Sue Liberman at WAMJ taping Wash. DC; 26 Apr'77
Tetrahedron;

"Tou say I an in homage to the tetrahedron. I am not In homage to anything, certainly not the tetrahedron as an object, merely as the minimus structural system in Universe."

- Cite RBF to BJA, 3200 Idaho, Wash,DC; 11 Aug'76 Incorporated in COSMIC FISHING: MS p. 10-7.

Tetrahedron;

"A tetrahedron consists topologically of four microsystems or of six lines converging into four critical proximity corner-defining groups of three lines each, whose lines terminate in four microsystem groups of three microsystems each lying outside the tetrahedron defined by the six lines

- Citation t context at Microsystems. 22 Mar'76
Tetrahedron:

"The tetrahedron la a system and not anything in ita own right."

- Citation & context at Nucleus. 22 Jun*75
Tetrahedron?

"Tetrahedra always have a square central section on which they may be precessed."

- Cite RBF videotaping session Philadelphia, Pa., 1 Feb*75
Tetrahedron:

"Tetrahedron is the accommodation of all the aberrations of Universe.^{1*}

- Cite RBF to Earth Metabolic Design, Inc., New Haven, 10 Dec'73

Tetrahedron:

"Interconnect the ends of any two lines in Universe--- and there's your tetrahedron!"

- Cite KBF to Earth Metabolic Design, Inc. New Haven, 10 Dec'73

"The tetrahedron can handle all couplings because one edge is pre-processed to the other edges."

- Citation at Couplings, 10 Dec*73

Tetrahedron:

"Synergetics shows that the tetrahedron can be extrapolated into life in all its experience phases, thus permitting humanity's entry into a new era of cosmic awareness.*

- Cite RBF galley correction to SYNERGETICS at Sec. 232.03, 28 Oct'73

Tetrahedron:

"Of all the regular polyhedra, the « ph era (l.o.. the high-frequency, conitriangulated, geodesic spheroidal polyhedron) encloses the most volume with the least surface. Whereas the tetrahedron encloses the least volume with the most surface. The contained energy is at minimum in the tetrahedron. The structure capability is at maximum in the tetrahedron."

- Cite SYNERGETICS draft at Sec. 223.87, 26 Sep'73

Tetrahedron:

"There are many transformation patterns, but tetrahedron is the absolute minimum limit case of structural system interself-stabilising. A tetrahedron is an omnitriangulated, four-entity, six-vector interrelationship with system-defining insideness and outsideness independent of size; it is not a rigid frame and can be any else."

- Citation and context at Scheme of Reference, 24 Sep*73

Tetrahedron:

"Radiation is tetrahedral* A tetrahedron is a tetrahedron independent of size. There are points and no-points. They are both tetrahedral.*"

Tetrahedron:

"The tetrahedron can be considered as a whole system or as a constituent of systems in particular. It is the particulate."

- Citation and context at System Totality. 7 Mar*73

mr*hergn:

"The tetrahedron is the smallest omnisynnetrical structural system in Universe."

- Cite SYNERGETICS draft at Sec. 1053.61, 7 Mar»73

Tttrahgdr<n:

"This primitive fourness identifies exactly with one quantum of energy and with the fourness of the tetrahedron's primitive structuring as constituting the 'prime structural system of Universe,' i.e., as the minimum omnitriangulated differentiator of Universe into insideness and outsideness, which alone, of all macro-micro Universe differentiators pulsates inside-outingly and vice versa as instigated by only one force vector impinging upon it,"

- Citation and context at Number: Cosmically Absolute Number, 5 Mar'73

Tetrahedron:

"We relinquish the word 'polyhedra' to re-employ our new term systematic enclosure which can be generalized to serve creatures of any size; i.e., a tetrahedron big enough for a mosquito or big enough for a whale. Faces are spaces, openings. The four vertexes plus four faces plus six lines of the tetrahedron has to become four somethings plus four nothings plus six relations. We add convergence to something and divergence to nothing--- completely independent of size. Since there are no 'things' there is no 'something.' We are talking about an event in pure principle. We have events and no-events. Events: novents: and relationships. These are the epistemological stepping stones,"

- Citation and context at System Enclosure (1)(2), 20 Feb'73

"The tetrahedron, which is the minimum system consists of four structural triangles and is therefore the minimum, ergo fundamental structural system in Universe.

"The minimum structural system's defining four points are those of the four vertexes of the tetrahedron which, being omnitri- angulated, are self-interstabilizing.

"The tetrahedron is at once both the minimum system, having both insideness and outsideness, but also consisting inherently of four triangles which are the only structures, the tetrahedron is the minimum structural system of Universe. The tetrahedron is the basic energy quantum. It is the minimum self-stabilizing energy integrity.

"All tetrahedra always have six great circle chord edges.

"When all of their nontriangular facets are triangularly stabilized to structuralize them, all structurally stabilized polyhedra will always have great circle edge chords whose number will always be an even multiple of six. The sum of the angles around all the facet corners of every tetrahedron,"

- Cite SET X, pp.13-14, Aug'72

Tetrahedron:

"regular or irregular, is always 720° . When circular unity is taken as 360, every tetrahedron is angularly quantized as constituting two cyclic units." "The great circle chords of all polyhedra are always found to be systematically developed out of sets of exactly six great circle chords, never more nor less. These six vectors are the six vectors of one quantum unit of energy. $V^6 - 1$ quantum

"The octahedron's 12 vector edge chords to two sets of six-chord vectors, i.e.

are equal energywise to two quanta."

- Cite SET X, p.14, Aug'72

Tetrahedron:

"The simplest sphere which is concave and convex is the tetrahedron."

« Cite Univ, of Alaska Address, p.JO, 20 Apr '72

Tetrahedron;

"Four balls are closest packed when a fourth ball is nested in the triangular valley formed atop the closest packed first three, which fourth ball addition occasions each of the four balls becoming tangent to all three of the other balls as altogether they form a tetrahedron: which is an omnidirectional symmetrical array with no ball at its center but with one ball at each of its four corners,"

- Cite bfl&rtULTICS Ora ft EoU*71, jmu.
at Sec. 942.01, 23 Feb*72

Tetrahedron:

"1'ia thematically. there are some very important concepts about the tetrahedron. It is made up of four triangles.

The angles of each are interstabilized. Each of the separate angles, originally amorphous, becomes stable. The triangle is the fundamental structure, but it takes two functions--- the positive and the negative--- to make a structure. The tetrahedron is the simplest known structure."

- Cite RBF to Vta. I'arlin, Architectural Forum, p.77, Feb'72

Tetrahedron:

"In the conceptual process of developing the disciplines for carrying on the process of consideration, the process of temporarily putting aside the irrelevancies and working more closely for the relationships between the components that are considered relevant, we find that a geometry of configuration emerges from our awareness of the minimum considered components.

"A minimum constellation emerges from our preoccupation with getting rid of the irrelevancies. The geometry appears out of pure conceptuality. We dismiss the irrelevancies in the search for understanding, and we finally come down to the minimum set that may form a system to divide Universe into macrocosm and microcosm, which is a set of four items of consideration. The minimum consideration is a four-star affair that is tetrahedral. Between the four stars that form the vertexes of the tetrahedron, which is the simplest system in Universe, there are six edges that constitute all the possible relationships between those four stars."

- Cite SYNERGETICS text at Sec. 620.01, Nov'71

Tetrahedron:

"The tetrahedron is the supreme conceptual synergy of Universe."

- Cite RBF holograph, "Cheese Polyhedra," Ilvrl Delhi, Nov. *71

Tetrahedron:

"Tetrahedrons occur conceptually independent of events and relative
eise."

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. »71,
Haverford, Penna.

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Tetrahedron;

"A six-trajectory isolation of Insideness and outsideness has four in-
terweaving vertexes or prime convergences of the trajectories, and
four areal subdivisions of its Isolation system and constitute tetrahe-
dra.*

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. '71 Haver-
ford, Penna.

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Tetrahedron:

'Six unique vectors constitute a tetrahedral event."

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. 51 Haver-
ford, Penna.

Tefrahedron:

"We cannot produce constructively and operationally, a real experience-augmenting operational system, with less than four points, i.e., a fourth point not in the plane of the first three points. It takes three points to define a plane. The fourth point not in the plane of the first three produces a tetrahedron having inside-ness and outsideness corresponding with the reality of operational experience."

- Cite SYNERGETICS draft "Antitetrahedron," 7 Oct. '71. p. 1.(Dictated to EJA.)

Tetrahedron:

"Sixth poking is all the perpendiculars to the rhombic dodecahedron which is all the internal truncations of the tetrahedron."

~~Bum~~

- Citation at Powering; Sixth Powering- 25 Aug'71 TFr<W>- let. C21.eS'j
Tetrahedron:

"A cone is simply a tetrahedron being rotated. Omnidirectional growth--- which means all life--- can only be accommodated by tetrahedron-*

« Cite HBF to EJA. Bear Inland. 25 Aug'71
-fee. fciio3)

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Tetrahedron;

"We have used the tetrahedron as tnpoas for camera8 and many such devices, but we have not used it as a volumetric concept."

- Cite RBF at SIMS, U. Mass, Amherst. 22 July '71.

Talk 12, p. 26

Tetrahedron:

"For every tetrahedron there is one convex and one concave. Because the tetrahedron is inherently the minimum structural system, it provides the minimum omni~coexisting convexity and concavity condition in universe.

"For every tetrahedron there is an inside tetrahedron and an outside tetrahedron, . , Spherical arrays and compound curvature begin with the tetrahedron."

- Cite Synergetics draft Secs. 810.2 and 810.3, 22 July 1971.

Tetrahedron:

"The tetrahedron accepts further cloaaat packing of apharea.

The icosahedron refuses further closest packing. . . *

- Cite RBF to *Elk*. Fairfiled, Conn., Ches Wolf.

IS June 1971.

'Tr***e©<*M - 62J.O11

RBF DEFINITIONS

Tetrahedron:

"The tetrahedron. octahedron and icosahedron relate to physics, the internal affairs of the atoa.*

WiST9RQ9 BgfryMR PbTBlgfl

- Citation A Context at Physics?

ADd ChfiffllCtr.Y, 31 May^V71

Tetrahedron;

"Compound curvature begins with the tetrahedron. . .

Ae get this high frequency. . . The number of points you want look like a sphere. . . π Pi (l/) is irrelevant because the mnimum sphere is tetrahedron."

- Cite RPF tape to EJA and BO'R. Blackstone. Chicago.

31 Fay 1971, p. 18

Tetrahedron:

"Tetrahedron is the inlaum sphere."

- Citation and context at Sphere. 31 May'71

Tetrahedron:

"A tetrahedron is a form of energy package."

- Cite RBF to EJA, Beverly Hotel, New York, 14 March 1971.

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Tetrahedron:

"The tetrahedron is the basic structural system of Universe. All polyhedra may be subdivided into component tetrahedra, but no tetrahedron may be subdivided into component polyhedra of less than the tetrahedron's four faces."

- Cite Synergetics draft at Sec. 506, March '71 as rewritten by RBF. (Originally from I & I, p. 166.)

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Tetrahedron;

"The tetrahedron is a vectorial model of one quantum of energy. The tetrahedron le the basic structural system of Universe."

- Cite NEHRU SPEECH, p. 14, 13 Nov'69

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Tetrahedron:

"A tetrahedron le a triangularly faceted polyhedron of four faces. It is unique as a system for it is the minimum possible system. . .

"A triangle is a triangle independent of its edge-sizing; as is the tetrahedron independent of edge lengths or its relative volume. In tetrahedrons of any size the angles are always sum-totally 720 degrees. Tetrahedrons always have six edges, four faces, and four vertices."

"We can say that the difference between any conceptual system and total but non-simultaneously conceptual--- and of course non-simultaneously sensorial-- scenario Universe is always one tetrahedron of whatever size may be necessary to account for the balance of all the finite quanta thus far accounted for in scenario Universe, outside the conceptual system considered."

-Cite NEHRU SPEECH, p. 13 Nov*69

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Tetrahedron:

"As an appendix to my discourse, I am presenting a chart of the /Syn-ergetic/ hierarchy of rational vectorial- geometric relationships which characterize general systems discovery of the tetrahedron as the basic structural unit of physical Universe quantation."

- Cite Nehru Speech, p. 29. 13 Nov'69

- *SEc.* £3.0.03

Tetrahedron:

'Thus we see both the rational energy quantum of physics and the topological tetrahedron of the isotropic vector matrix rationally accounting all physical and metaphysical systems.'*

- Citation at Isotropic Vector Matrix. 13 Nov*69

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Tetrahedron:

"The tetrahedron is the minimum structural system for we cannot find an enclosure of less than four sides--- which is to say--- of less than 720° of interior {or exterior} angle interaction."

- Cite Nehru Speech, p. 14. 13 Nov*69

T&TPAHFW«M - sec. 4144}})

Tetrahedron:

"... Now I have a fourth ball that comes around and in there and it nests on top of the first three. . . . This makes a tetrahedron. This is where stability begins. The tetrahedron is where the triangle gives what we call a 'structure or something that doesn't change its pattern any more. It was dynamic up to that time.'"

- Citation and context at Structure. 25 Feb'69

Tetrahedron:

"A tetrahedron is the simplest subdivision of universe.

- Cite P. PEARCE, Inventory of Concepts, June 1967

Tetrahedron:

"The volume of a tetrahedron is one-third the base area times the altitude. Any arbitrary tetrahedron will have a volume equal to any other tetrahedron as long as they have common base areas and common altitudes.

"As the tetrahedron is pulled out from the cube the circumference around the tetrahedron remains equal when taken at the points where cube and tetrahedron edges cross, i.e., any plane taken through the regular tetrahedron will have a circumference equal to any other rectangular plane taken through the same tetrahedron and this circumference will be twice the length of the tetrahedron edge."

19o7 (See Illustration j/20.) - Cite SYNERGETIC ILLUSTRATIONS,
caption 2(

Tetrahedron;

"The stable structural behavior of a whole triangle, which consists of three edges and three individually and independently unstable angles or a total of six components, is not predicted by any one or two of its angles or edges taken by themselves. The six edges of the two triangles can and frequently do associate with one another, one as left helix and the other as right helix, to form the six-edged tetrahedron which having four triangular faces gives synergetic demonstration of four triangles occurring as the result of associating only two triangles. Incidentally, the right and left helixes formed of the two triangles' respective sets of three edged each constitute the vectorial modelling in conceptual array of the positive and negative 'half spins' or 'half quanta' corresponding respectively to the proton set and the neutron set consisting of neutron, $\bar{\nu}_e$ and ν_e on the left hand and the proton, electron, and antineutrino on the right hand. Together these six make one quantum unit--- which is identified as the tetrahedron."

- Cite DOXIADIS p. 312, 313 , 20 Jun'66

-SEC

Tetrahedron:

`` Tetrahedra have a fundamental prime number: oneness

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- Cite N*S* Speech, p. 72. Jun-66

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Tetrahedron:

"When we use the term 'regular¹ tetrahedron we mean all six of its edges are approximately equal in length."

"The tetrahedron is one of Plato's 'solids'.¹ The Greeks tried hard to employ the regular, i.e., equi-edged, tetrahedra to 'fill all space' but failed to find a way and gave it up."

- Cite Gai Uuriddle Return to Ifedelabillty, p«-V»2

- Cite NASA Speech, Jun¹66
- Cite NASA Speech, p .6a. Jun'66

Tetrahedron:

** . . . The cube requires threefold the energy to structure it as compared with the tetrahedron. We thus understand why nature uses the tetrahedron as the unity of energy, as its energy quantum, because it is three times as efficient."

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- Cite Nasa Speech, p. 72. Jun'66

Tetrahedron:

"The teahedron with three positive edges and three negative edges consists of two half quanta. These add to exactly one quantum unit. The tetrahedral quantum unit constitutes the basic structural system of universe. It is transformable, but topological and quantum identity persists in whole units throughout all experiments with physical Universe. It is the only polyhedron that can be turned inside-out and vice versa bp one energy event."

- Cite NASA Speech, p. 56 , Jun*66
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Tetrahedron:

'The twelve degrees of freedom are also then identified as the push-pull directions of the tetrahedron¹s six edges.

- Cite RBF Ltr. to Prof. Theodore Caplow, 18 Feb. '66.

Tetrahedron:

"The minimum set that may form a system to divide universe into micro and macro cosms is a set of four items of consideration. Between four stars that form the vertexes of the tetrahedron, which is the simplest system in universe, there are six edges that constitute all the possible relationships between those four stars."

- Citation & context at Star Events. Oct¹65

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Tetrahedron:

"The tetrahedron ie a six-edged pyramidal frame. ... We may link tetrahedra in six different directions."

- Citation and context at Pauline_T Linus. 1965

Tetrahedron:

"Tetrahedra ... are the volumes bound by the planes of four edge-joined triangles."

- Citation and context at Fourth Dimension. 1965

- Cite CONCEPTUALITY OF FUNDAMENTAL STRUCTURES, Ed. Kepes 1965. p. «2.

Tetrahedron:

"Of the three fundamental structures the tetrahedron contains the least volume with the most surface and is therefore the strongest structure per unit of volume.**

- Cite Mexico »6J, p. 28. 10 Oct'63

Tetrahedron:

"I am just going to give you tetrahedron. Around any one vertex in the tetrahedron there are three planes. You can see them going around. Looking down on the top of a tetrahedron you see three planes and three edges. You see three faces and three edges around any one vertex. That seems very symmetrical and nice. You say that is logical. How can it be anything else. If you think about it any more it is rather strange because it is M H M H H I three edges and three faces out of an inventory of four faces and six edges. They are not the same Inventories. It is interesting that you could come out with symmetry around each of these points out of a dissimilar inventory."

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- Cite Oregon Lecture #8, p. 307. 12 Jul*62

Tetrahedron:

"Tetrahedron is an indestructible, conceivable phenomenon independent of size."

- Citation 4 context at Vffitgr figuUlhlwn: Ears Tfltrahgdrga (3) 11 Jul*62

Tetrahedron:

"The tetrahedron will not fill all space. . . But can fill all space with tetrahedra and octahedra."

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- Citation A context at Allspace Filling. 10 Jul*62

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HBF DEFINITIONS

Tetrahedron:

** . . Ky definition of tetrahedron as a first subdivision of universe, the simplest subdivision of _universe. It could not have an insideness and an outsideness unless it had four vertexes and six edges,"

- Cite OREGON LECTURE # 5 - p. 175. 9 Jul*62

Tetrahedron:

"There is nothing at all polarized about tetrahedron or icosahedron..

(See RBF rewrite of above at Icosahedron. 8 Apr*75)

. citation at Icosahedron, 9 Jul*62

Tetrahedron:

"By tetrahedron . . I mean the minimum thinkable set that would subdivide Universe and have interconnectedness where it comes back upon itself. The four points have six interrelatednesses. You might say that four is a minimum system. . . . There are two kinds of number systems here: four being prime number two and six being prime number three, that n are involved. So there are two very important kinds of oscillating quantities number-wise and they begin to generate all kinds of fundamentally useful mathematics.*

- Cite Oregon Lecture #3, p. 90. 5 Jul'62

Tetrahedron:

"At all times we are seeking how it can be that nature can develop a virus and billions of beautiful bubbles in the wake of the ship. How does she formulate these lovely geometries so rapidly. She must have some fundamental pure simple way of developing these extraordinary life cells at the rate she develops them. When we get down to something as simple as finding the tetrahedron was the minimum thinkable set that subdivided the Universe, and had relatedness that

we could really establish--- and to find that the organic chemist from an entirely different viewpoint came down to tetrahedron as apparently controlling-- the tetrahedron in this case would join vertex to vertex--- and then the metallurgist half a century later discovering the tetrahedron, but they were not interrelated vertex to vertex but they were interlinked edge to edge. So all the chemists found all the structuring of nature to be tetrahedrally contrived, the minimum system, and we find our thought going that way and it is again a comfortable experience."

- Cite Oregon Lecture #3, pp.90-91. 5 Jul'62

Tetrahedron:

"Organic chemistry and inorganic chemistry are both tetrahedrally coordinate. This relates to the thinking process where the fundamental configuration came out a tetrahedron. Nature's formulations here are a very, very high frequency thing-- nature makes viruses and things in split seconds. Whatever she does has very high frequency and certain simultaneous acts, sort of fundamental relationships, occur. We come to tetrahedron as the first spontaneous aggregate of the experiences.

We discover that nature is using tetrahedron in her fundamental formulation of the organic and inorganic chemistry. All structures are tetrahedrally based and we find our thoughts resolving themselves spontaneously into the tetrahedron so it should come to us as something very interesting when we begin to get what we might call generalization of these special cases which are the physics or the chemistry.'"

- Cite OREGON UNIVERSITY Lectures, 1962 Second Lecture p. 75

2 Jul*62

Tetrahedron:

"So we have come to structure and we have come to pattern. Pattern has emerged first from our preoccupation with getting rid of the irrelevancies and out of it has emerged a minimum constellation, a minimum consideration and it is a four star affair. It is tetrahedron 1. It is very amazing to have a geometry just appear out of our just considering what is thought. We have come to some conceptuality and this conceptuality is essential to this thinking process. When we say, 'I understand,' there is some conceptuality finally developed."

- Cite Oregon Lecture #2, p. 69. 2 Jul*62

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Tetrahedron:

"A polyhedron having four equal equilateral triangular plane faces or sides. Like the octahedron, it may be skeletal, continuous, or a combination of the skeletal and continuous forms."

- Cite Patent i'o. 2,986.2V, >'ay 30, 1961 SYNERGETIC BUILDING CONSTRUCTION

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"If we combine, first, the fact of van't Hoff's discovery that all the Worganic chemical compounds are structurally cohered in the terms of the tetrahedra's four vertexes and, secondly, the fact of Linus Pauling's X-ray diffraction implemented discovery that all the metallic elements thus far experimentally analyzed combine in nonvertexially interlinked tetrahedral structures, and thirdly, the facts which 1 have disclosed in this and the preceding pages, we may well conclude that it is reasonable to adopt the working assumption that: all of the definable structuring of Universe is tetra- hedroally coordinate in rational number increments of the tetrahedron."

- Cite UkNliHithCTIUNAL HALO, p.151, 1960

Tetrahedron;

"Substituting the tArahedron for the number two completes ay long attempt to convert all the residual heretofore unidentifiable integers of topology into geometrical conceptability."

- Citation at Unity as Two, i960

Tetrahedron:

"All of the definable structuring of universe is tejrah edr® ally coordinate In rational number increments of the tetrahedron."

- Cite OMNIDIRECTIONAL HALO, p. 151, i960

RBF DEFINITIONS

The minima® set affording macro-micro separation of Universe ie a set of four local event foci. These four stars have an inherent sixness of relationships. This four-foci, six-relationship set is definable as the tetrahedron."

(Adapted)

- Cite OMNIDIRECTIONAL HALO, p.1_{w>} :960

Citation at Star Events. 1960

Tetrahedron:

"In a con-stderation four is the minimum number of stars having an inherent arrangement of withinness and withoutness. Therefore we discover next that the minimum conceptually-considerable generalized-experiences-set, affording macro-micro separation of universe, is a set of four-local event foci. These four stars have and

inherent sixness of interrelationships. This four-foci, six-relationship set is definable as the tetrahedron. This minimum fourness of relevant-frequency, ergo thinkable 'stars' coincides with quantum mathematics requirement

of four unique quanta numbers per each uniquely considerable ¹ particle' quanta are inherently tetrahedral."

ICTit*H- 3 t'e -o5A“ i960-

RBfr DEFINITIONS

Tetrahedron:

'Among geometrical systems a tetrahedron encloses the minimum volume with the most surface and a sphere the most volume with the least surface,**

- Cite OWNIDIDRtCTIONAL HALO, p. 12*1 f i960

"In structural systems the tetrahedron uniquely articulates the prime number 1. and is therefore logically to be identified as the most economic quantatlon unit in universal energy accounting."

- Cite"Dymaxion World of RBF," Marks, Ed., p. 48, i960

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The tetrahedron is the lowest common rational denominator of universe. The four unique quanta numbers of each and every fundamental 'particle' are the four unique and minimum 'stars* of every tetrahedron."

- Cite COLLIER'S, p. 115, Oct'59

Tetrahedron:

"All polyhedra may be subdivided into component tetrahedra but no tetrahedron may be subdivided into component polyhedra of less than four faces."

- Cite PENNA. TRIANGLE, p. 10, Nov '52

Tetrahedron;

"It is a synergetic characteristic of minimum structural systems (tetra) that the sytem is not stable until the last strut is introduced. Redundancy cannot be determined by energetic observation of behaviors of single struts (beams or columns) or any chain-linkage of same which are less than six in number, or less than tetrahedron."

- Cite RBF uhdated holograph on M.I.T. memo pad. (1950's)

Tetrahedron;

"All polyhedra may be subdivided into component tetrahedra, but no tetrahedron may be subdivided into component polyhedra of less than four faces."

- Cite I&I, p. 166

- Cite DOMES, Their Long History,etc. Date undetermined

"I do not recognise lines or planes as nonspontaneously reflexed.

"Primitive geometric conceptuality occurs independently of time-size dimensioning. A tetrahedron is conceptual independently of relative size consideration. It is conceptual as a self-bounding system of six most-economical interrelationship directions induced by any thinkable constellation of four only-separately-discernible, concurrent-event 'stars.'"

Cite RBF marginalis on EJA Memo, to Macmillan, 28 Jan'73

"Organic and inorganic chemistry are both tetrahedrally coordinate. This relates to the thinking process where the fundamental configuration came out a tetrahedron,... We come to the tetrahedron as the first spontaneous aggregate of the experiences.... All structures are tetrahedrally based and we find our thoughts resolving themselves spontaneously into the tetrahedron as it comes to the generalization of the special cases that are the physics or the chemistry."

- Citation in context at Organic 1 Inorganic. Nov*71
See Cognition, 19&0

"Now combining van't Hoff and Pauling and our own experimental explorations, we may dare to guess that because experimental chemistry has as yet found no contradiction to tetrahedral linkage, despite vast probing, all the structuring of nature is probably done by rational tetrahedral increment coordination in which the XYZ coordinates also may be employed to describe the arrangements but only in awkward irrationality because of the cube edges' inherent irrationality in respect to their cubic face diagonals' hypotenuse values, which hypotenuses are the edges of the tetrahedra in the omnidirectional matrix of vectors in the natural structuring itself. The contemporary development of giant electronic computers makes the handling of the XYZ awkwardness a practical matter but serves to obscure the significance of my discovery of nature's own rational, nonsimultaneous, vectorial coordinate system oriented to the tetrahedron-octahedron lattice and its importance to fundamental clarity of thinking in a democratically- coagulating world bewildered by a 'foreign-hieroglyphicking' science,"

- Cite Conceptuality of Fundamental Structures (Kepes), p.76, 1965
ogove e-r *Jet*

"Tetrahedra are geometrically unique in that they may be added to on any one of their four surfaces while Increasing symmetrically in size. The tetrahedron may grow symmetrically by adding to any one of its faces without changing overall shape."

- Cite PLAYBOY , P. 12, Feb'72



"The production of motion and spiral and wave by alteration of face couples: *



"All apparent notion and growth and variable time frequencies of local occurrences of Universe are permitted by tetrahedron* local asymmetrical alterability without ever altering absolute integrity of symmetry of the whole system. The tetrahedron is the supreme conceptual synergy of Universe."

Cite RBF holograph, Ashoka Hotel, New Delhi, Nov*71

Tetrahedron:

Coordinate Symmetry:

(A)

"The tetrahedron in contradistinction to any other Platonic symmetrical solid, can be sliced (like a cheese) parallel to Any one of its faces and retain its original symmetry and identity. It gets Smaller but never loses its coordinate symmetry. The tetrahedron can be altered in respect to any one of its four faces asymmetrically. As we press any one face towards its opposite vertex, the tetrahedron gets smaller and smaller.

"So there are three different aspects of size: linear, aerial and volumetric and each one has a different velocity. Now as you move one of the tetrahedron's faces towards its opposite vertex, you get smaller and smaller with these three different velocities operative. But it always remains a tetrahedron so it always has six edges, four vertexes and four faces. So the symmetry is not lost and these fundamental topological aspects, the 60-degree-ness, never changes. As they move in finally, when they become congruent to the opposite vertex, all these velocities come to zero at the same time. But because the 60-degree-ness the six edges, and the four faces and symmetry were never being altered,

RBF to EJA, Blackstone Hotel, Chicago, cow—nr 5Y—rr<r-5«-transcript p.25, 3' Hay'?

1 C1?? EJA1 Blackston« Motel, Chicago, transcript pp. 25-26 Ji Kay*(i

"When an equilateral triangle is divided into four identical smaller triangles it will fold into a tetrahedron.

"When any arbitrary triangle is divided into four congruent triangles by bisecting its edges and joining them with new edges, it will also fold into a tetrahedron-- an irregular tetrahedron bounded by four congruent faces."

(See Illustration #19.)

- Cite SYNERGETICS ILLUSTRATION, caption #19. May'67

"Only the tetrahedron can be altered asymmetrically in respect to one of its faces and still remain completely symmetrical. This seems to be one of the very important properties of the tetrahedron. . . .

"The tetrahedron is a very extraordinary phenomenon in that its symmetry, its size, is not violated by accommodating two completely disparate rates of change. . . it would stay on as a volume. . . a kind of gas . . . moving around the universe, being accredited locally and accommodating all kinds of local transactions.

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The symmetry, the sixness, and the fayoness are all constant," "

- uite LEDGEMOKT LAB LtCTURE, 15 Oct. '64, pp2}-25

COORDINATE SYMMETRY- SEC 623.11

uf "all the . . symmetrical figures I find only the tetrahedron has an integrity of symmetry independent of local alterations. It is possible to receive changes in respect to one part or direction of the universe and not in the direction of the others and still have the symmetry of the whole. A tetrahedron has a strange property of coordinate symmetry that permits alterations locally without hurting the symmetrical coordination of the whole."

1o Jul'62

- Cite -Carbondale ih*aft

- Coordi-na-tion, p. ¥1

cutTM -sre** 613.

"Let me then take a tetrahedron of cheese and I aa going to press in on one of the faces Instead of slicing it. It remains symmetrical all right. But. I aa going to pull out on a second face at the sane rate that I pushed in on the first face; so now it remains the same size. It is still symmetrical but the pushing of the first face made it get a little smaller, but pulling out on the second face made it get larger. By pushing and pulling at the same rate it remains the same size, but its center of gravity has to change because the tetrahedron moves. As a consequence, then, of the teterahedron

moving it receives a couple of Iterations. It receives one positive and one negative alteration, remains symmetrical and the same size, and apparently moves. I have only used up two of the four faces, so I am going to push in on the third face at a rate different from the couple that are already operating, and I am going to pull out on the fourth face at the rate I was pushing in on the third face. I am making another completely different rate of change: one being very fast and the other slow; one very hard and the other quite soft. These completely different rates are coupled, and so it remains symmetrical and the same size, but now it has to change its position to satisfy two — alterations to the center of gravity and so it is moving

in a kind of helix « is one our precessional resultants.”

5sec felS.lj) - Cite OREGON Lecture #6, pp. 208-9. ¹⁰ Jul'62

"Tetrahedron has a very extraordinary capability, then, of remaining symmetrically coordinate and entertaining a pair of completely disparate rates of change in respect to the rest of universe and not changing its site and then it becomes a universal Joint to couple up disparate actions in universe.

I am not at all surprised that we began to find such a property and that nature was using it in the coordination of the organic chemistry or the metals. In fact, when I began to posit for you all the coordinating of nature that is done by the tetrahedron, we find that this is an extraordinary quality and it begins to be quite exciting."

Cite OREGON Lecture *ifb*, p. 209. ¹⁰ Jul'62

"Only the tetrahedron has an integrity of symmetry independent of local alterations. It is possible then to receive changes in respect to one part or direction of the universe and not in the direction of the others and still have the symmetry of the whole. A tetrahedron then has a strange property of coordinate symmetry that permits alteration locally without hurting the symmetrical coordination of the whole."

- Cite* OREGON Lecture #6 - p. 208 , 10 Jul'62

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Tetrahedron:

Coordinate Symmetry;

of "all coordinate symmetry that permits alterations locally without hurting the symmetrical coordination of the whole."

- Cite OREGON Lecture //L - p. 20d , 10 Jul'62

~~- -Cite Gai-boi'tlaic-Draft, Nat.m.ic~~

RBF DEFINITIONb

Tetrahedron: Coordinate Symmetry:

"I am going to have a cheese tetrahedron and 1 slice parallel to one of its faces, and a regular tetrahedron and all the edges slice parallel to one of its other four and going to it is still equal. I can now faces, fHMHMI it is a smaller

tetrahedron but it is still regular and symmetrical. I slice parallel to the third face and it is smaller still but still symmetrical. I slice parallel to the fourth face and what remains is still symmetrical. Then we take any other symmetrical geometry, such as a cube, and I am going to slice parallel to one of its faces, and what is left over is no longer symmetrical. I try it with an octahedron and slice parallel to one of its faces, and what is left over is not symmetrical. In fact, if you try all the other symmetrical geometries, only the tetrahedrons has an integrity of symmetry independent of local alterations. ..."

- Cite OREGON Lecture //6, p, 208 , 10 Jul'62

"The tetrahedron has a very extraordinary capability of remaining symmetrically coordinate and entertaining a pair of completely disparate rates of change in respect to the rest of universe and not changing its size, so it becomes a universal joint to couple up disparate actions in the universe. I am not at all surprised that we find such a property which nature uses in the coordination of the organic chemistry or of the metals demonstrable. {?}"

- Cite 0 EGON Lecture #6 - p. 209 , 10 Jul'62

- Cite Carbondale Draft

Nature¹-Coordination, p« VI»b

See Cheese Tetrahedron

Tetrahedron: The Transmitting Differential Tetrahedron Displacement

Tetrahedron: Dissimilar Rate of Change Accommodation

See Universal Joint: Tetrahedron, 9 Nov*73

Tetrahedron Discovers Itself and the Universe:

See Universe Considers Itself

"The tetrahedron's four faces may be identified as A, B, C, and D. Any two of these four faces can be coupled and can be paired with the other two to provide the dissimilar energy rate-of-exchange accommodation. ...

"... Any one tetrahedron can accommodate 15 different amplitude (A) and, or frequency (F) of interexchanging without altering the tetrahedron's size while, however, always changing the tetrahedron's apparent occurrence local; therefore the number of possible alternative exchanges are three; i.e., AA, AF, FF; therefore 3 x 15 "45 different combinations of interface couplings and message contents can be accommodated by the same apparent unit-size tetrahedron, the only resultants of which are the 15 relocations of the tetrahedrons and the 45 different message accommodations."

- Cite excerpts from new section added by RBF to SYNERGETICS galley at Sec. 623.12, 9 Nov'73

See Information Transaction for Valving Models Tetrahedron: Coordinate Symmetry

See Universal Joint, 10 Jul'62 Hyperbolic Paraboloid: Four-frequency, 14 May'75

Tetrahedral Dynamics: (1)

"... I am averse to the word 'immobilize'. It belongs to the 'static norm' of Newton's 'persistence... in a state of rest'. This is a way of thinking threatened by relativity and annihilated by contemporary physical science. I have attempted a new generalized statement of a 'First Law of Acceleration,' which goes as follows:

All local event systems (Newton's 'bodies') are in relevant continuity of frequency accelerations with a plurality of local and comprehensive patterning consequences, and all other local systems of macro and micro degrees affect all other local systems of Universe in varying degrees of angle and frequency modulation; and the effect of all the local systems of events upon any and all other systems of local events is precessional.

"The word 'immobility' tends to induce a phobia of imprisonment. When we consider the experience of positioning an object by balancing it upon the end of a pole, thrust outwardly toward the sky, the other end of which pole we can balance on our"

- Cite RBF Ltr. to Lewis E. Lltoyd, Dow Chemical economist, Midland, Mich., 4 May*57

Tetra hear Mai Dynamics: (2)

"finger's end as we progressively adjust the pole's bottom position in such a manner as to keep its center of gravity in the position of the apex of a tetrahedron, the three lower vertexes of which we alternately reoccupy by our progression of finger accelerations in directions approximately circumferential to Earth--- the higher the frequency of adjustment acceleration, the smaller the base of the tetrahedron need be to correct for the plurality of processional forces comprehensively operative (as for instance wind motion, Earth rotational moment, etc.) This is then tetrahedral dynamics. When we come to the high frequency of atomic events we witness angular modulation

in regenerative patterns of self interference of positive and negative action and reaction precessionally resultant in local holding patterns wherein we realize the micro limit integrities of the local event dynamics.

"I think your words 'right' and 'left' should be replaced by the nonequal and opposite words 'positive' and 'negative'. The present dilemma of science in respect to 'parity' of right and left image amuses me because I had rejected right and left concepts in energetic-synergetic geometry. Right and left implied a two-dimensional reality, of infinite thinness. I had"

- Cite RBF Ltr. to Lewis E. Lloyd, 4 May'57

Tetrahedral Dynamics: (3)

"long ago discovered that systems had inherent convexity and concavity and required irreversible turbinizing of their omnigearred Universe event relationships. Inasmuch as all systems could be turned inside-out, having inherent insideness and outsideness, I discovered that mirror reversal of the rubber glove from one hand to the other could be accomplished without reversal of the finger-wrist axis. I think your words 'up' and 'down*' are meaningless. Which direction is up? Which is down? Are people in China upside down? Which star should one's head be pointing at to be identified as 'up'? What you mean is what you say in your next phrase, i.e., in and out. Aviators come in for a landing and go out for altitude. In and out refer» to focal centers of systems of local events of Universe only. 'In' is unique to individual systems. One 'out' is common to all systems and is omnidirectional in respect to any one system and Universe, being a plurality of continuities of local dynamical experiences, the direction out of Universe is not integrative as geometrically iden-

tifiable as it is permeative and comprehensive of experience. The outness permeates the nuclear event remoteness. I think what you mean by 'unitary linear vertical supports' refers to my altitudinally exaggerated tetra edge---al dynamic equilibrium."

- Cite RBF Ltr. to Lewis E. Lloyd, 4 May '57

Tetra Edge:

"Nature uses the tetra edge as mensural unity."

- Citation & context at Mensural Unity_f 21 Sep '71

See Constant Volume of A 4 B Quantta Modules Control Line of Nature Control Quantum Cube: Diagonal of Cube Deliberately Nonstraight Line Mensural Unity Photon: Tetrahedron Edge as Unit Radina Prime Vector Radial Line as Tetra Edge Precession of Tetra Edges

(2)

See Synergetics Constant (A)(B) Unit Radius, 17 Jan '74

"...The four unique, symmetrically interdisposed planes of the regular tetrahedron."

- **Citation and context at Vector Equilibrium (1), 1965**

- Cite RBF rewrite of 30 Oct '72 of SYNERGETICS draft Sec 971.03 of Jan '72. Reinserted at 962.04, 17 Nov '72

"There are a minimum of four unique planes nonparallel

to one another. The four planes of the tetrahedron can never be parallel to one another."

- Cite KBF to EJA, Beverly Hotel, 14 Sept. 1971.
4V-0H'I

"With each row greater than the next, three automatically goes into two in a convergent, planarly-arrayed, nonstructurally-stable system and two automatically goes into three in a divergent, planarly-arrayed, nonstructurally-stable system. Tetrahedral expansion or contraction produces a structurally stable systematic model of universal behavior. In tetrahedral growth one goes to three and three goes to six and six goes to 10. Tetrahedral growth from unity is special case angularly directional. Vector equilibrium growth from unity is nuclear: 1 -> 12, 12 -> 42, 42 -> 92, etc

Citem SYNERGETICS, 2nd. Ed., at Sec. 260.52; 13 Nov'75

Huwchv of PuXomiu TotrMitdral Arrqyfl-

"This completes the polyhedral progression of the omni-phase-bond-integrated hierarchies of 1-2-3-4,8--- symmetrically expanded and symmetrically subdivided tetrahedra; from the 1/24th tetrahedron (12 positive and 12 negative A Quanta Modules); through its octavalant 8-lin-1 superficial volume-1; expanded progressively through the quadrivalent tetrahedron; to the quadrivalent octahedron; to the bivalent vector equilibrium; to the univalent, 28-volume, radiant, synaetrical, nucleus-embracing stage; and thence exploded through the volumeless, flatout outfolded, double-bonded (edge-bonded), 120 A Quanta Module-triangular array remotely and symmetrically surrounding the nuclear volumetric group; to final dichotomising into two such flatout half (positive triangular) film and half (negative triangular) void arrays, single-bonded (corner-bonded), icosahedrally shaped, symmetrically nuclear-surrounding systems."

&4)

- Cite bINEKGETICS text at Sec. 905.U, 16 Dec'73

Tetrahedron: Hierarchy of Puleatlnz Taterahedral Arrava;

See Cosmic Hierarchy

TnrehedrQii: Inslde-Mtlng gf Totrodrops:

"Both th* coexisting concave and convex aspects of the icosahedron--- like those of the octahedron, but unlike those of th* unique case of the tetrahedron--- are always visually obvious on the inside and outside of th* only locally dimpled-in, or nested-in, vertex. In both the octahedron and the icosahedron, th* concav*-convex, only inwardly pulsative self-transforming always produces visually asymmetrical transforming; whereas th* tetrahedron's permitted inside-outing pulsatively results only in a visible symmetry, the quasi-asymmetry being invisibly polarised with the remainder of Universe outside th* tetrahedron which- being omniradially outward, is inferentially--- but not visually--- symmetrical; the only asymmetrical consideration of the tetrahedron's inside-outing being that of an initial direction of vertexial exiting. Once exited, the visible remaining symmetrical tetrahedron is in verity the inside-outness of its previously visible aspects."

Eia)

- Cite SIWEHGE'riCS text at Sec. 905.17; 16 Dec'73

Inside-outing of Tetrahedron:

"In either of the two sets of four each as alternatively described, one of the polar states is always visible and the other complementarily invisible. This is a dynamic relationship. Dynamically, all four of each of the two sets of the tetrahedral potential are co-occurently permitted and are required by the omni-action-reaction-resultant synergetics. The seeming significance of the separately considered asymmetries are cancelled by the omnidirectional symmetry."

- Cite SYNERGETICS} text at Sec. 905.3, 16 Dec'73

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0

"Wheels the tetrahedron has four symmetrically interarrayed poles in which the polar opposites are four vertexes vs. four faces; and whereas the polar axes of all other symmetrical structural systems consist of vertex vs. vertex, or mid-edge vs. mid-edge, or face vs. face; it is seen that only in the case of vertex vs. face--- the four poles of the tetrahedron--- do the four vertexial "points" have polar face vacancies or "space" into which the wavelinear coil spring legs of the tetrahedron will permit those four vertexes to travel. The tetrahedron is the only omnisymmetrical structural system that can be turned inside out."

- Cite RBF galley coorection to SYNERGETICS at Sec. 232.01, 28 Oct'73

Tetrahdrap: Inside-Outline of Tetrahedron:

"...Not until we turn a tetrahedron inside-out do we have microcosmic awareness. Not until we swallow th

otherness do we have microcosmic volumetric awareness. We become the outside. At first we were just the inside,"

- Citation and context at System Awareness. 20 Feb'73

Inside-outing Of, "The tetrahedron extended through its base is pmapingly or diaphragmatically inside-outable in contradistinction to the vertexially extended tetrahedron,"

- Cite SYNERGETICS draft "Antitetrahedron8 Oct, *71.

Tetrahedron: Inaide-OutIna Tetrahedron:

"Tetrahedron is the minimum compound curve, ergo, a ini bid sphere.

...

"We discover that the additive twoness of the two polar (and a priori awareness) spheres at most economical minimum are two tetrahedra and that the insideness and outsideness complementary tetrahedra altogether represent the two Invisible complementary twoness that balances the visible twoness of the polar pair."

- Cite RBF manuscript on Beverly Hotel paper, 19 June 1971

"The octahedron is infoldable, or innestible— hemi-hedrally.

"The icosahedron dimples locally."

- Cite RBF holographs and sketches on "Annihilation"

Somerset Club, Boston, 22 April 1971

Txi.ot - sec 4X9,0IA

- Cite NASA Speech, p. 56,

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Jun'66



κBF J&FIMTIOhS

Tetrahdron: Inside-Outing of Tetrahedron;

"The tetrahedron is the only system that may be turned inside out--
to be antitetrahedron,"

1963.

in "The Scientific endeavor, 5 Sept. 1965

~ Cite RBF rarginalis page, 12 dated

-see

"Now it is also possible for me to push in on the face of the tetrahedron and so it gets smaller. I am pushing the face towards its opposite face and it gets smaller. When it is getting smaller, what do I mean? I mean its edges are getting shorter, the areas of its surfaces are decreasing, but they decrease at a very much higher rate than that at which the lines become shorter. The lines are shortening at the rate of the first power and the areas are shortening at the rate of the second power. The volume

is getting smaller at the third power rate— a very much higher velocity, so you have three rates of change in the phenomenon called size. Symmetry is still there. There is nothing to do with symmetry and nothing to do with the fact that it has four vertexes, nothing to do with its six edges, nothing to do with its 60-degree angles, 60-degreeness, fourness of vertex, fourness of face, sixness of edge and symmetry are all constants and they are in no way altered by the change in size. Size is simply three different things: linear, areal and volumetric rates of change.

"Let me then move this face of the tetrahedron. I am pushing the face' towards the opposite vertex. Now it has no size at all. The product of the first power, second power and third \ - Cite Oregon Lecture ., ^l6_t p.209, 10 Jul'62

"power came to zero by pure coincidence so we have zero size, but symmetry, sixness, fourness of vertex, and so forth. Those were constants and were not being altered by the change so they have not disappeared and have nothing to do with the size.

"So the fact is that size allows me now tetrahedron conceptually independent of size. I can move this face beyond congruence with the opposite vertex. And now the tetrahedron turns inside- out, so we can have an inside-out tetrahedron which is conceptual and of no known size."

- Cite Oregon Lecture /?6, p.210, 10 Jul*62

Tetrahedron;

Inside-Outing of Tetrahedron;

(3)

"This is an Interesting model of a tetrahedron which you could make yourself by taking a heavy steel rod triangle, take three to rubber bands, run them from the three vertexes into the center of gravity of the triangle and tie them together. Take ahold of the three rubber bands where they come together at the center of gravity and yank it suddenly like this, and the inertia of the steel triangle will make the rubber bands stretch and the triangle becomes a tetrahedron--- but then they begin to contract and the triangle lifts. You will be able to

take such a triangle hanging in the air by the three stretched rubber bands and you can plunge your hand through the triangle, and pull it back, and you can have the triangle oscillating by pulling your hand back and forth and making a positive and negative tetrahedron. As a tetrahedron becomes positive or negative, pumping its vertex through the opposite face (the case I had before was pumping the opposite faces through the vertexes, and I just wanted to get the idea across that you can do it either way.) This kind of an oscillating pump is typical of some of the atom behaviors and this is what they call one of the prime atom clocks. It is just such an oscillation between a

_____ . positive and negative tetrahedron.”

/ - Cite Oregon Lecture #6, p. 211. 10 Jul*62

Tetrahedron: Inside-out Tetrahedron Begins to Grow:

"Remember that when we took a tetrahedron and moved any of its faces around their opposite vertexes (i.e., contract their center-of-gravity lines--- from di\gters of area of faces to opposite vertexes); that the faces are reduced symmetrically while the angles are (changed ?) . Finally the opposite face coincides with the vertex and the face planes are (co ?) existant with a common convergent point and no volume. If this is moved an inside-out tetrahedron begins to grow. So I see that energetic geometry is one up on the topologists because it understands the dynamic significance of the implicit 2 and the inherent spin."

- Cite Ltr. from RBF to Duncal Stuart, 10 Jan'50

Tetrahedron; of .Tetrahedron; viable k InYlbble

Vertexes:

Because each tetrahedron has both four vertexes and four subtending nonvertex voids, we can identify those four diametrically complementary sets of all minimal cosmic structural systems as the four visible vertex and four nonvisible non*ertexes i.e., the triangularly symmetrical, peripheral voids.

"The tetrahedron thus introduces experientially the cosmic principle of the visible and invisible pairs or couples; with the nonvisible vertex as the inside-out vertex, which nonvertex is a nonconvergence of events; whereas the vertexes are visible event convergences."

L«]

- Cite SYNEHGETICS text at Sec. 905.22, 16 Dec'73

Tetrahedron: Inside-outinz Of:

(1)

See Petal: Tetrahedron as Three-petaled Flower Bud Tepee: Half-spin Tepee Twist Vector Equilibrium: Zerophase

See Acceleration: Angular & Linear, (1)(2) Invisible, 16 Dec *73 Octave Wave Model, 9 Apr*75 System Awareness. 20 Feb*73* Tetrahedron. Jun'66 Twoness, 19o7 Octahedron Model of Doubleness of Unity, (2) Inside-outing, 17 Jun'75

KBF DEFINITIONS

TgtrahfldnMP 'IHJM JairAhcdron'B cg_rwri?

"Energy bounces around in triangles working toward the narrowest vertex, where the impossibility of more than one line going through any one point at any one time imposes a twist vertex exit at the corners of all polyhedra. Therefore, all triangles and tetrahedra 'leak' energy but when doing so between two similar corresponding vertexes-interconnected tetrahedra, the leaks from one become the filling of the other."

- Cite SYNERGETICS text at Sec. 921.15, RBF rewrite, 18 Dec'73

Tetrahedron: The Leak in the Tetrahedron's Corners:

"The leak in the tetrahedron's corners elucidates entropy as occasioned by the only-critical-proximity but nontouching of the tetrahedron's corners-defining lines. We always have the twisting--- the vectorial near-miss--- at the corners of the tetrahedron because not more than one line can go through the same point at the same time.

"The construction lines with which geometrical entities are structured come into the critical structural proximity only, but do not yield to spontaneous mass attraction, having relative Moon-Earth-like gaps between their energy-event-defining entities of realization.

"The tetrahedron has the minimum leak, but it does leak. That is one reason why Universe will never be confined within one tetrahedron or one anything."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 942.12j.l3, 20 Dec'73

Tetrahedron: The Leak in the Tetrahedron's Corners:

"The tetrahedron is defined by the lines connecting the centers of the tetrahedron's four corner spheres. The leak in the tetrahedron's corners is the essence of entropy.

We always have the twisting at the corners of the tetrahedron because not more than one line can go through the same point at the same time. The construction lines with which geometrical entities are structured come into the critical structural proximity only but do not yield to spontaneous mass attraction.

"The tetrahedron has the minimum leak, but it does leak. That is why Universe will never be confined within one tetrahedron."

- Cite SYhnRGbTICS Draft at Secs. 952.10 + 952.11, 28 Feb '72

See Bounce Pattern of Energy

Vertexial Connections

Tetrahedron as ^MicrQayaOT»

"The tetrahedron is the minimum tunable system.

"A point-to-ability is a tuned-in tetra. Each tuned-inability tetra consists of four corners each of which is an infratunable tetrasystem.

"The threeness of the Quarks shows up at the three minimum convergent lines around each vertex of the nfriimum system consisting of only six lines. "

"This is what a corner is all about."

- Cite RBF to EJA, 3200 Idaho, Wash. DC; 12 May*77 Incorporated in SYNERGETICS 2 draft at Secs. 1052.354-*357-

See Prime Dichotomy, (2) Tetrahedron, 24 Sep'73

"The six edges of the tetrahedron consist of two sets of three vectors each corresponding to the three-vector teams of the proton and neutron, respectively, each of which three-vector teams are identified by nuclear physics as

one-half quantum, or

one-half Planck's constant, or one-half spin,

with always and only co-occurring proton and neutron's combined two sets of three-vector teams together constituting one unit of quantum of energy, which in turn is vectorially identifiable as one tetrahedron, which in turn is Identifiable as the minimum structural system of

Universe."

- I (':3, CuwUai-*240.63.
- Citation at Quantum: Event-paired Quanta. 1971

See Cyclic Unity, Jun'66 Unit Radius. 17 Jan'74 Universe, 1o Jun*72
Convex & Concave tetrahedron, Aug*71

"Every tetrahedron, every prime structural system □□ in Universe, has nine separate and unique states of existence: four positive, four negative, plus one schematic unfolded nothingness, unfolded to an infinite planar, nelther-one- nor-the-other, equilibrrious state. These manifest the mmq schematic 'game¹ set-up as that of physics* quantum mechanics. Quantum mechanics provides for four positive and four negative quanta as we go from a central nothingness equilibrium to fi-ijjt one, then two, then three, then four, high- frequency, regenerated, alternate, equi-integrity, tetrahedral quanta. Each of the tetrahedral quanta also have eight invisible counterparts. (See Illus. 1012.14A, 14B and .15.)*

(1013.41)

- Cite SYNERGETICS, 2nd. Ed. RDF rewrite at Sec. 1013.41; 30 Aug*75

See Bow Tie

Indig

Interwave Behavior of Number

Number Syetem

Octantation

Octave Wave

"There is an octave pattern in every system.... Waves are octave and one reason they do not interfere with one another is because of the zero....

"If I make an X configuration with one ball in the center common to both triangles of the X_t the ball at the intersection common to both represents the zero, or the place where the waves can pass through each other.... And now we have a model to explain why they do not interfere."

. Citation 1 context at Synchronisation. Oct'71

(2)

See Synchronisation, Oct'71*

"We can say that the difference between any conceptual system and total but nonsimultaneously conceptual— and of course nonsimultaneously sensorial— scenario Universe is always one tetrahedron of whatever size may be necessary to account for the balance of all the finite quanta thus far accounted in scenario Universe, outside the conceptual system considered.*

- Citation and context at Tetrahedron, 13 Nov'69

The difference between the finite physical Universe of energy with which physics deals and the total Universe which also includes all metaphysical phenomena--- which we used to call infinity--- is just one tetrahedron."

- Citation k context at Comprehensive Universe (1), Jun'66

Tetrahedron: One Tetrahedron:

"Entropy is not random; it is always one negative tetrahedron.

- Citation at Entropy f 1960

RBF DEFINITIONS

Tetrahedron: One Tetrahedron:

"Substituting the word tetrahedron for the number two completes my long attempt to convert all the residual heretofore unidentifiable integers of topology into geometrical conceptability

- *r*. I in
 - Citation at Unity as Two. 1960
- See Angular Topology: Principle Of

Expanding Physical Universe vs. Contracting Metaphysical Universe

Minus Two
Thinkable System Takeout

Black Holes 4 Synergetics, 1 Mar*77

See Brouwer's Theorem, 1960

Calculus, i960

Comprehensive Universe (1)*

De-finite, Oct'66

Descartes. 19 Jun'71» 31 May*71

Entropy, i960*

Generalization: Degrees Of, Jun'66

Infinity 4 Finitude, Jun'66

Metaphysical 4 Physical, Jun'67; Jun'66*

Tetrahedron, 13 Nov'69*

Tetrahedron: Leak in the Corners, 20 Dec'73

Unity as Two, 1960*

Universe, 2 Jun'74

Someth!ngness ³³ ' 1 ° Nov' 74

Spherical Interstices, 30 Dec'73

Six - Five - One, 8 Jan'74

Omnihalo, Nov'?1

Finite 4 De-finite, Nov'71

Structural Quanta, 9 Nov'73

"The only polar symmetry of a tetrahedron is between the midpoints of the opposite edges. These midpoints are 90 degrees to one another. Starting with any one of the polar edges the lines converge toward the terminals of the opposite edges.

The four faces of a tetrahedron are in polar opposition in such a manner that as one of the pair of faces converges the other pair of faces diverges. Here is the balance of Universe between radiation and gravity."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 260.53; 13 Nov'75

Tetrahedron: Polarization of Tetrahedron:

"There is a polarization of tetrahedra, but only by taking a pair of vertices, a pair of poles which do not intersect one another.

"There is a fourfold symmetry aspect of the tetrahedron to be viewed as precessionally polarized symmetry."

- Cite RBT SYNERGETICS Draft, "Antitetrahedron," 7 Oct. *71, p. 2, and Insert.

'ific. <,2)

Tetrahedron: Polarization of Tetrahedron:

"There is a dynamic symmetry in the relationship between the mid-action points of the opposing pair of polar

vertices of the tetrahedron. . . The red dot represents the positive pole of the mid-action point, i.e., action center. . . The green dot represents the negative pole of the tetrahedron at mid-action point, i.e. at the center of negative energy of the dynamical equilibrium of the tetrahedron."

- Adapted from RBF re-write of SYNLRGbTICb Illustration <?2
7 Oct. 1971. " "

Tetrahedron: Polarity of Tetrahedron:

"Although the tetrahedron is not polarised in terms of vertexes it exhibits polarity in terms of convergence and divergence."

- Cite draft version of ITEM "0", p.34, 2B 1955 (Possibly attributable to students Gefcner + Bartlett)

Tetrahedron as Prime Nonnucleated Structural System;

See Nucleus, 2 Nov'73

See VE as Prime Nucleated System

Tetrahedron as Primitively central to Life-

"Only the tetrahedron can accommodate the otherness which is the aberration, otherness being essential to * awareness and awareness being the minimum statement of the experience life. The tetrahedron as the accommodation of the otherness aberration is primitively central to the experience life."

- Cite SYNERGETICS 2 draft at Sec. 10Q27; 3 Mar'77

See Minimum Awareness Model Minimum Four Awareness Aspects of Life Self & Otherness: Four Minimal Aspects Fourth Quantum

"The regular tetrahedron may be divided volumetrically into four identical Quarter-Tetrahedra, with all their respective apexes at the center of volume of the regular unit tetrahedron. (See Ilius. 913.01.) The Quarter-Tetrahedra are Irregular equiangle- triangle-based pyramids formed upon each of the four triangular bases of the original unit tetrahedra with their four interior apexes congruent at the regular tetrahedron's volumetric center, and they each have a volume of one quarter of the volume of the regular tetrahedron of volume-1."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 911.02, 19 Dec'73

Tetrahedron: Quarter Tetrahedra:

See Basic Nestable Configurations, 29 May*72

- Citation at Structure. 1963

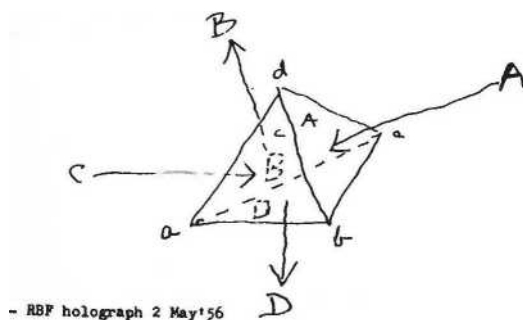
Tetrahedron: The Transmitting Differential Tetrahedron Displacement:

□If A force sends facet A toward vertex a at some rate, X, as that with which force D withdraws facet D away from vertex d, while concurrently a force C sends facet C toward vertex c at a rate entirely independent of rate X, while a force B withdraws facet B away from vertex b at the same rate, I, as that of force C, then the tetrahedron a,b,c,d will remain the same size and will seem superficially to travel in a line of direction which coincides with the intersection of two planes: one through a,c perpendicular to d,b, and one through d,b perpendicular to a,c.

"(I discovered this differential displacement coupling unlike forces in November 1955 while in Minn. Minn. - RBF)"

- Cite RBF holograph 2 May'56

Tetrahedron: The Transmitting Differential Tetrahedron Displacement;



Tetrahedron: The Transmitting Differential Tetrahedron Displacement:

See Tetrahedron: Coordinate Symmetry

y* n*FTWTT*fKS Tetrahedron: Three Triangles into Tetrahedron: $2 + 1 - 4$:

See Synergy. 1954-1959

See Takeout Tetrahedron: One Tetrahedron

See Conceptuality k Nonconceptuality, 2 Jun'74 Disparity, 1960 Halo Concept, Nov'71

TfttrahOdrQft Two Tetrehedra:

(1)

See Cube: Diagonal Of Cube: Two Tetrahedra aa Cube

Igtraiyijroni Ina Tatrahsdra--

(2)

See Bow Ties: Genesis Of. 12 Sep'71 Synergetics, 17 Feb'7* Thinkable System Takeout. 22 Feb'72 Finite Minus De-finite, Nov'71 Local Definability, Nov'71 Domain of a Line, 7 Nov'73 Fourfold Twoness, 10 Nov'74

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Tetrahedron: Two Triangles into Tetrahedron: $1+1-1$:

See Triangle, Feb'72; 20 Jun'66

TEXT CITATIONS

Tetrahedron: Two Triangles Into Tetrahedron: $1 - H \square A$:

Mexico 63, pp. 23, 32, 10 Oct'63

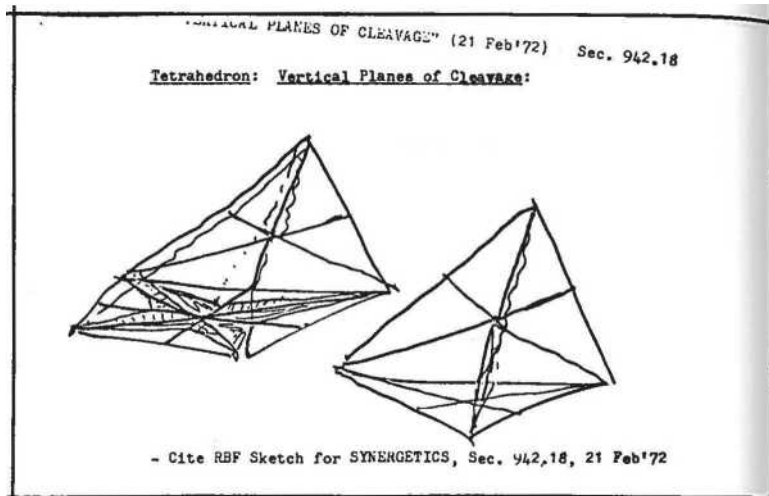
Doxiadis Ltrs, U or O, pp. 312, 313, 20 Jun'66

NASA Speech, pp, 52-55, Jun'66

Ledgmont Lab, pp, 17-18, 15 Oct'64

Oregon Lecture //I, p.34, 1 Jul'62

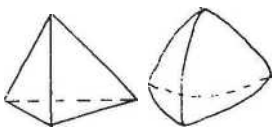
Oregon Lecture #4, p. 142, 6 Jul'62



Tetrahedron; Vertical Planes of Cleavage:

Tetrahedron: Visible or Invisible Chordal Area:

"The tetrahedron's edges may be 'straight,* i.e., chordal 'invisible' arcing (small segments of arcs of large radius), or 'visible' arcs {larger segments of arcs of smaller radius).



- Cite INDUSTRIAL LOGISTICS AND DESIGN STRATEGY, p.1. See Figure 4, thereof.1952

Tetrahedron: Visible or Invisible Chordal Arcs:

See Linear & Curvilinear

Tetrahedron.&a Volumetric Quantum:

See System Totality, 7 Mar'73

- Cite PENNA. TRIANGLE, p. 10, Dec '52

Tetrahedron; Zeronhaaa:

See Point, Nov'52

**See Allepace-ftiling with Tetrahedra Allapace-filling with Octahedron
± Tetrahedron Angular Name of the Tetrahedron Antitetrahedron Axis
of Spin: Tetrahedron**

Basic Evenet

Cheese Tetrahedron

Cone

Convex & Concave Tetrahedron

Dihedral Angles of Tetra Domain of Tetrahedron

Empty Set Tetrahedron Exchange Agent of Universe

Empty Tetrahedron

Four Stars

Fourth Dimension: Hegular Tetrahedron as Fourth

Dimension Model

Interconnection of any Four Points in Universe See Ideal Tetrahedron

**Inside-outing Tetrahedron Invisible Tetrahedron Irrelevancy Tetrahe-
dron Interconnection of any Two Lines in Universe Linear Tetrahedron**

Metaphysical k Physical Tetrahedral Quanta

Minimum Polyhedron

Minimum Omnitriangulated Differentiator of
Universe

Minimum Something

Minimum Set • Crystal • Tetra

Minimum Syetemt Minimum Structural System

Minimum Tetrahedron

Mite: Minimum Tetrahedron

Negative Tetrahedron

Norm: Tetrahedron as Norm Number: Tetrahedral Number

Observer & Otherness: Tetrahedral Relationship Between

See Omnitetrahedral

Prime Number Consequences of Spin-halving of Tetrahedron

Physical Tetrahedron vs. Conceptual Tetrahedron Point - Eight Tetrahedra

Pyramid

Quantum: Event-paired Quanta

Regular Tetrahedron

Six-ridge Tetrahedral Globe Social Problems: Tetrahedral Coordination Of Spherical Convex-arc-edge Tetrahedra

Spherical Tetrahedron

Star Tetrahedron

System Constants

Syte: Symmetrical Tetrahedron

Subtetrahedra

See Tetrahelix

Tetrascroll

Tetrasystem

Tetratuning

Tetra-void

Thinkable System Takeout

Truncated Tetrahedra

Universe Differentiator

Vector Equilibrium: Zero Tetrahedron

Zero Tetrahedron Zerovolume Terahedron

See Aiiigpace Filling, 10 Jul*62* Association & Disassociation, 9 Nov¹73

Balls Coming Together, (2)

Central Angles & Surface Angles, Aug '71 Children as Only Pure Scientists, (A) Concentric Hierarchy Limits, 30 Dec¹73 Cosmic Hierarchy, 23 Jan'77 Conceptuality as Polyhedral. 22 F_eb'72 Cosmic Limit Point, 3 Nov'73 Couplings, 10 Dec'73*

Embracement, 7 Oct'71 Energy Event, 1967

Fourth Dimension, 1965*

Generalization & Special Case, 23 Jan'77 Geometry of Thinking, 16 Dec'73 Gravity, Ch)

See Holding Patterns of Energy, Apr'72 Human Beings &. Complex Universe, 14)1?) Irrelevancies; Dismissal Of, 12 Jul*o2 Isotropic Vector Matrix, 13 Nov*69*

Jet Tilting, 29 Jan*75

Kite, 28 Jan'75

Knot, 7 Nov¹73

Lever, 10 Feb'73

Limit Point, 9 Jun'72

Me Ball, 21 Jan'75

Microsystems, 22 Mar*76* Minimum Set, 18 Nov*72 Metaphysical, 22 Jun*77 Neuron, 15 May* 72 Nucleus, 22 Jan*75*

Number; Cosmically Absolute, 5 Mar'73*

See Pauling, Linus, 1965*
 Physics:| Difference Between Physics & Chemistry,
 Physics as Internal Affairs of the Atom,
 31 May'71
 Plane, '18 Mar'69
 Point! Outbound Point, 1948
 Powering! Sixth Powering, 25 Aug*71*
 Push-pull 18 Feb'66
 Push-pull Members, 28 Oct'72
 Quantum. Jun¹66
 Quanta uoss by Congruence, (1)
 Redundancy: Reduction Of 22 Apr*71
 Rigidity, Aug'73
 Scheme of Reference, 24 Sep'73*
 Semisymmetry, 15 Oct*72
 Sphere, 25 reb'74; 31 May*71*
 Spherical Triangle, 23 Jan'75
 See Sphinx, 28 Sep'73
 Star Events, Oct'65*; I960*
 Strut, 1950s
 Structure, 25 Feb'69*
 Structural System, Nov'71
 Synergy, Nov'71
 System Enclosure, (1)(2)*
 System & Structure, 16 Aug'70
 System Totality, 7 Mar'73*

**Tensegrity: Stability Requires Six Struts, 1950 Topology; Synergetics
 & Eulerean, 28 Oct*72 Triangle, Nov'71**

Unity: Principle Of, 28 Feb'71
 Unity as Two, I960*

Vector Equilibrium: Zero Tetrahedron, (3)*

Walking, 31 May*71

See Tntrnhftrnn* Ch > «««> T>bri»Wrm.

Tetrahedron as Conceptual Model Tetrahedral Coordination of Nature
Tetrahedron: Coordinate Symmetry Tetrahedron Discovers Itself
and Universe Tetrahedron: Dissimilar Rate of Change Accommo-
dation Tetrahedral Dynamics Tetra Edge Tetrahedron: Four Unique
Planes Tetrahedron: Hierarchy of Pulsating Arrays Tetrahedron:
Inside-outing Of Tetrahedron: Inside-out Tetrahedron Begins to
Grow Tetrahedron: Inside-outing Of: Visible & Invisible Vertexes

Tetrahedron: Leak in the Corners Tetrahedral Minimum Tetrahedron
as Minimum Structural System Tetrahedral Octave Phase Model
Tetrahedron: One Tetrahedron

See Tetrahedron: Polarization Of Tetrahedron: Quarter-tetrahedra
Tetrahedron: Regular Tetrahedron Tetrahedral Transforations
Tetrahedron: The Transmitting Differential Tetrahedron Displace-
ment Tetrahedron: Three Triangles: 2+1-4 Tetrahedral Tuck in
Universe Tetrahedron: Twenty-fourth Tetrahedron Tetrahedron:
Two Tetrahedra Tetrahedron: Two-Tetrahedra -intoxfinhe. Tetra-
hedron: Two Triangles: 1 + 1 • 4 Tetrahedron; Visible or Invisible
Chordal Area Tetrahedron as Volumetric Quantum Tetrahedron:
Zerophase Tetrahedron: Vertical Planes of Cleavage Tetrahedron of
Interferences Tetrahedral Growth Tetrahedron as Prime Nonnucle-
ated Structural System

Tetrahedron: Tetrahedral:

(3C)

See Tetrahedron: Nine Schematic Aspects Tetrahedron as Primitively
Central to Life Tetrahedron as Microsystem

Tetrahedroning:

"TETRAHEDRONING - 3rd powering - volume."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE May'6?

Tetrahedroning:

The "four frequency tetrahedron has a volume of t^4 . This equals four to the third power. So we may say 'tetrahedroning' instead of 'cubing'¹ and we had better do so because that is what nature is doing."

- Cite Dartmouth Bra P x ft W r m j x - f . n J t o x t a i a h i l M y , p . V j 1 ?

- Cite NASA SPEECH, p. 78, Jun '66

KBF DEFINITIONS

Tetrahedroning:

"When we compare the two frequency edged cube and the two frequency edged vector equilibrium, we find the volume of the two frequency cube equals eight--- or two to the third pr, 2; whereas the volume of the two frequency vector equilibrium equals twenty tetrahedra close-packed omnidirectionally around one Wi common central point; yet, only eight cubes could be symmetrically clustered omnidirectionally around that point."

- Cite NASA SPELChT'o. 1 |'` i'ii , P|l T |fl fl I

Jun *66\

Tetrahedroning: "You have the tetrahedron as one, octahedron is four and cube is three. A cube as three is not what people have been thinking. They have been thinking that a cube was one. But I am using unity where a tetrahedron is one, and then a cube takes three times as much space. If I am trying to appraise all space with cubes I am

going to have to use up three times as much space to get congruence with my arithmetic, so I find that the cube is not an economical kind of measure, A tetrahedron is by far the most economical measure I can use to subdivide all space."

(1)

- Cite Oregon Lecture ffb, p. 216. 10 Jul '62

TetraEdronInK! (²>

"Here is one tetrahedron (A), Here I have three tetrahedra and one octahedron (B). This is the plateau of an equilateral triangle. It is a truncated tetrahedron. If I take the sum of the volumes here, three tetrahedra plus four for the octahedron, the volume is seven.

"I am now going to make the next level of equilateral triangles (C): we add a row of three tetrahedra and we add two octahedra between them. We must also add an upside-down tetrahedron to go in the middle between the octahedra. The accounting is now six tetrahedra and each tetra has a volume of one: three octahedra and each octa has a volume of four ($3 \times 4 = 12$).

So $6+12=18$, plus one inverted tetrahedron - 19, which is the volume of this group. It has a truncated top which is a 2-module triangle.

"Here is the next bigger triangle (D) with a row of four additional tetrahedra, three additional octahedra, and two additional upside-down tetrahedra to go between the two new octahedra. The accounting of this aggregation is 10 tetrahedra"

- Cite Oregon Lecture //6, p.217, 10 Jul'62

"with points up (10); plus six octahedra ($6 \times 4 = 24$); plus three upside-down tetrahedra (3). So $10 + 24 + 3 = 37$, which is the volume of this group.

"We are then going to superimpose the first tetrahedron and the truncated sections in sequence. We add (A) and (B) with a combined value of 8, to (C) 19 for a combined value of 27.

We can do this because B8s module of two sits on a module-of-two base. Combining the whole stack with a base module of three, we can sit it on the base module of three of the plateau (D). resulting in a large tetrahedron whose edge module is four all the way through. The Volume of A-B-C was 27 and the D group was 37 for a combined volume of 64.

"So we discover that eight is the third power of module two; 27 is the third power of the module-three pyramid; and 64 is the volume of the module four. In other words, 8, 27, and 64 are simply the third powers of 2, 3, and 4. Therefore, instead of saying 'cubing,' we say tetrahedroning."

- Cite Oregon Lecture #6, pp.217-218, 10 Jul*62

"If we are tetrahedroning, we discover that a cube has the volume of three. If you were doing your accounting in cubes you were simply wasting two-thirds of your space. Remembering that the physicist discovered that nature was always most economical, we see that nature would not traffic in doing things with cubes if she could do it with tetrahedra. And she has.

This is not unrelated to what Linus Pauling found for the inorganic chemistry and to what Van't Hoff found for the organic chemistry. We suddenly find that all structuring by nature is done tetrahedronally. it comes out in these beautiful even numbers and why when we were trying to explain things in the XYZ coordinate system we were always coming out with transcendental irrationals."

Cite OREGON ecture #6, p. 21a , 10 Jul *62

"Because the tetrahedron uses only one-third as much basic energy quanta as do cubes to account for all energy transformations . . . tetrahedrons are three times more economical than cubes. In structural systems the tetrahedron uniquely articulates the prime number 1, and is therefore logically to be identified as the most economic quantation unit in universal energy accounting."

- Cite MARKS p. 48 , 1960

Tetrahelix;

"Goldy next shows the bears how the three face-bonded tetrahedra-arc in its initial, neutral, nontransmitting state becomes spirally extended, positively or negatively, to attain its information-transmitting state, only with the addition of one more face-bonded tetrahedron.

"She then shows that with every 20 tetrahedra the tetrahelix completes approximately one 360° helical revolution (352° 40' exactly), which tetrahelix is the mathematical model which is employed by the DNA-RNA helix discovered by virological scientists (Watson-Crick-Wilkins) to be always transmitting the specific information controlling the design of all biological species, with that 7° 20' of angle (less than 360°) being twist-sprung to introduce the unsipping force necessary to offspring (or give birth to) any given species of off-molded offspring from the parent.

"Goldy shows how the extended tetrahelix's skin can be stripped off and laid out flat as a three-row, omnitriangulated, wavelinear ribbon, Goldy then identifies the positively or negatively asymmetrical tetrahelix patterning with"

- Cite GOLDYLOCKS, p.11, 2? May'75

Tetrahelix:

with

"lightning when/the cloauro of an electron circuit from Earth to cloud,
tha high-voltage atmospheric charges are transmitted to Earth,"

- Cite GOLDSLOCKS, p.11, 27 May'75

Tgvrahbllx:

"The tetrahelix: O-C-T-A. It could be that the O-C-T-A are the closest
packing of different else balls. It could be that the Mites or the Sytes
are the tetrahedra of the filling b^{ecause} they are both positive-negative
and allspace-

- Cite MF to BJA, 3200 Idaho, 10 Sep'74 rM?LPBn.>TY- 733.0? \

Tetrahelix:

"The tetrahelix is a helical array of triple bonded tetrahedra."

(See Illustration ff 21.)

-Cite SYNERGETIC ILLUSTRATIONS. Caption #21

196?

TrrrtAHcux- sec. q43.oil

Tetrahelix;

"We have a column of tetrahedra and these are straight edge tetrahe-
dra for the edges when connected fora a hyperbolic parabola helixes
/sic/. This column of tetrahedra spirals around or makes a helix and
it takes just ten tetrahedra to one cycle of the helix."

- Cite OREGON Lecture #6_t p. 199 , 10 Jul'62

T£Wa»x- sec.

Tetrahelix:

"Here are three such columns of tetrahedra which cycle around each other ten tetrahedra. This is a very interesting kind of number: ten to cycle. When Dr. Watson and Crick made their famous model of the DNA, the deoxyribonucleic acid, they made a chemists' reconstruction from the information they were receiving but not as a microscopic photograph at all. It wasn't a photograph through a camera, but simply a typical chemist's reconstruction of the data they were receiving of the associating and disassociating and they found a helix was developing. They found there were 36 degrees to each increment of the helix and the 36 degrees broke into ten increments in every cycle and the increments were the same as our tetrahedra we give here. Now there has been no identification of this tetrahedral column with the Watson-Crick model, but the number is extremely interesting. Then we find that these columns of tetrahedra--- there has been an identification made by some of the molecular biologists when I gave them this tetrahelix column and they have found that it is of the structure used by some of the muscle fibers of man, the fundamental muscle fibers in nature, but it could also have some identification with the DNA. We don't know whether it does; we don't know whether it doesn't. . . .ⁿ

Terrence

53 43.01 HQ.¹

Cite OREGON Lecture j?6> p. 199 , 10 Jul '62

"Exploring the multifurcations of spontaneously regenerative reangulations and triangulations, we introduce upon a continuous ribbon a 60-degree-patterned, progressively alternating, angular bounce-off inward from first one side and then the other side of the ribbon, which produces a wave pattern whose length is the interval along any one side between successive bounce-offs which, being at 60 degrees in this case, produces a series of equiangular triangles along the strip. As seen from one side, the equiangular triangles

are alternately oriented as peak away, then base away, then peak away again, etc. This is the patterning of the only equilbrlous, never realised, angular field state, in contradistinction to its sine-curve wave, periodic realisations of progressively accumulative, disequilibriumous aberrations, whose peaks and valleys may also be patterned between the same length wave intervals along the sides of the ribbon as that of the equilbrlous periodicity."

- Cite RBF rewrite of SYNERGETICS galley at Sec.930.11, 19 Dec»73
- See Omnidirectional Typewriter

Pattern Strip Aggregate Wrapabilities "Come and Go" Triangulation Pattern Strip

Tetrahelix Gap Closer:

See Invisible Quantum as Tetrahelix Gap Closer

See "Come-and-go" Triangulation Pattern Strip Pattern-strip Aggregate Wrapabilities Unzipping Angle Viral Steerability: Tetrahelix DNA: RNA

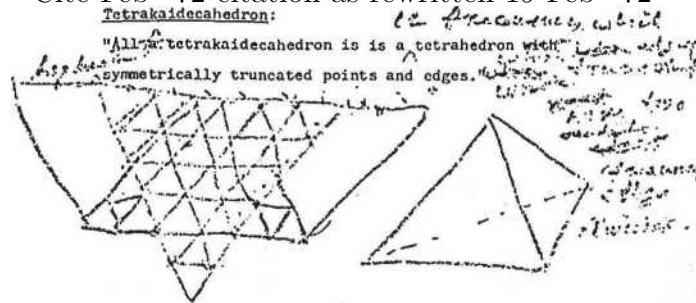
(2)

See Octahedron as Annihilation Model, 8 Mar*75» 3° Dec*73 Petal: Tetrahedron as Three-petaled Flower Hud, 11 Feb'73 Octahedron as Conservation & Annihilation Model, (4) Wage, (1) Tensegrity Masts: Pentagonal Polarity, 27 Dec'76

- Cite RBF to EJA, 3200 Idaho, Wash. DC., 25 Feb »72
- Citation and context at Vector Eoullibrium. 19 Feb'72

"A tetrakaidecahedron is a 12-frequency tetrahedron which has been symmetrically truncated Z*at its_7 points and edges; which edges, when truncated, have two-frequency edge divisions."

- Cite Feb *72 citation as rewritten 19 Feb *72

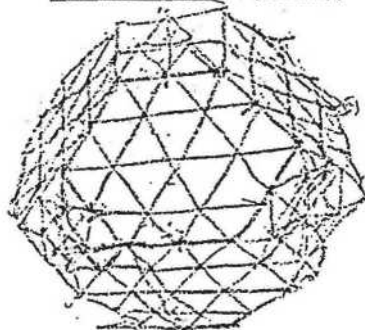


. - Cite RBF to EJA and BO'R, 3200 Idaho, DC, 16 Feb '72

- tti Feb»72

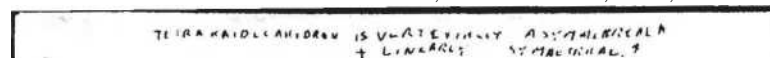
RBF DEFINITIONS

Tetrakaidecahedron: (Obverse).



KBF DuFlhltlOKS

- Cite RUF to EJA and BO»R, 3200 Idaho, DC, 18 Feb »72



Clt. RBF tape, Blackstone Hotel, Chicago. 31 May 1971, pt. 38 - 39.

way of the asymmetry of life. The rector equilibrium is always asymmetrical The t<£rakaidecahedron is always 14-sided. The point has its part of invisibility as well as visibility. If you have the domain of a point it would be a cube, but its 14-nees is in the eight corners and six faces. The edges come in only as 12 +2, Domains of points are omnidirectional, that's all. They are-all-space-filling. They could seemingly be spheres but that does not fill all space, that's the trouble. They could be the centers of cubes as a model: that could be the domains of points. A domain is a system but not a structure. A cube is a system, but not a structure, until it is omnitrianfulated,"

-ft ft A KAilJH AWJOv i\$ (/ -A' XI 1/7 4r*jr/?t XL

-y L I (Vf 5 Y r'lAt: rfil * L-. *

way of the asymmetry of life. The vector equilibrium pUfAu. F *gl i/lit rtftin-t-f*
St4«tTA«i Jr

is always asymmetrical The trakaidecahedron is always 14-sided. The point has its part of invisibility as well as visibility. If you have the domain of a point it would be a cube, but its 14-nees is in the eight corners and six faces. The edges come in only as 12 +2. Domains of points are omnidirectional, that's all. They are-all-space-filling. They could seemingly be spheres but that does not fill all space, that's the trouble. They could be the centers of cubes as a model: that could be the domains of points. A domain is a system but not a structure. A cube is a system, but not a structure, until it is omnitriang^ulated."

See Bubbles

Kelvin Fourteen

Vector Equilibrium

See AllBpace Filling: Self_Tpacking, 19 Apr'66 Domain of a Point, 31 May*71

Mite: Positive & Negative Functions, (2) Stable Unstable Structure®, 7 Jun'72 Mites & Quarks as Basic Notes, (1) T Module, 21 Jun*77

Tetramenaion;

See Multidimensionality, (2)

T*t_u, FA unroll :

"I have given... the word tetraaoroll... to.the tetrahedral rollup of the Goldilocks story."

- Cite RBP Ur. to EJA_f 2fl May'75

Tetrascroll: (1)

"Because a bear's foot is itself a triangle, Goldy makes a pattern of Big Sky Bear's footprints as he walks or runs eastwardly along the beach. Goldy uses the successive triangles as the frames for the succession of illustrations of her conversation with the bears. She says the ribbon is like a scenario film strip with the successive triangular pictures overlapping instead of being vertically separated. •Tou may notice? says Wee Bear, 'that the starry pattern of the phair Cassiopeia left for me looks like the first three triangular frames of that scenario film strip.' 'Tes,' Goldy replies, 'and I see that if I print these triangular frames of the scenario strip of overlapping conceptual events on a heavy paper ribbon, that the strin can be spooled onto a tetrahedron.

"This will make a tetrahedron book that can be progressively unrolled from a tetrahedron at one end and rerolled to form another tetrahedron at the other end of the strip with the progressively exposed strip in between telling the picture story— the scenario— of nonsimultaneous Universe with both" the four-dimensional tetrahedral othernesses of tomorrow and"

- Cite GOLDILOCKS, pp. B2,BJ, 27 May'75

IQ

Tetrascroll? (2)

"yesterday identifiable but inscrutable. Because the tetrahdra are serving as four-dimensional scrolls, we will call our first such book the tetrascroll."

- Cite GOODYLOCKS, p. B3, 27 May»75

See Pattern Strip Wrapability Qoldylocke liuaAcrfill:

See Children as Only Pure Scientists, (A)

T_{atr}»»Y«t»n:

See Tetrahedron ae Mlcrosyeten, 12 May'77

Tetratuning;

"One thought, which is one system, which is one tetrahedron, can interrelate any four event points or subsystems in a continuous Universe. Because of inherent nonsimultaneity, thinking is tetrahedral. The (system-thought) tetrahedron can and always does include four identities:

1) the thinking individual;

2) the present otherness;

3) the past otherness;

4) the future otherness

- Cite GOLDILOCKS, p.A5, 30 May'75

See Modules: A Quanta Module 4 Basic Triangle, 20 Dec'73

Tetrahedralism* (D)

See Cube: Volume-3 Cube Sphere: Volume-5 Sphere Vector Equilibrium: Potential & Primitive Tetrahedra

Six - Five - One

Tetrahedron:

(2)

See Vector Equilibrium Involvement Domain. 12 Dec'75

Powering: Fourth & Eighth Powering, 11 Dec'75;

25 Jan'76

Nuclear Cube, 11 Dec'75; 23 Feb'76

Quanta Loss by Congruence, (2)

Potential vs. Primitive, 12 May'77

Spherical Interstices, 9 Jul'76

Tetra:

See Tetrahedron

Tetrahedron Tetra, Octa & Icosahedron Tetrahedroning Tetrahelix

Tetrahedron Tetrahedron Tetrahedron Tetrahedron

Tetrahedron Tetrahedron Tetrahedron Tetrahedron

Textbooks:

See Yesterday's Textbook

Texture:

See Awareness, 10 Feb*73

^TiUftt»r= Thaatargoer

(1)

Sea Accidental Theatergoer Fire in a Theater Celestial Theater

Theater; Theatergoer:

(2)

See Vector Equilibrium, 11 Dec'75

rtBF DEFINITluNS

THEONE: Watergate;

(1) I

"Half a truth, half a truth, half a truth backward into the Watergate
Snuck the Nixnumbers.

Bug the whole Watergate,

Smear up their candidate;

Falsify, defecate, into the Watergate snuck the Nixnumbers.

"Forward the White House ^Drigade! Was there a man dismayed?

Not though the whole staff knew iheune had blundered. Their*s not
to question why, ltheir's but to do and lie. Into the Watergate snuck
the Nixnumbers.

"Dollars to right of them, Dollars to left of them**

- Cite HUF holograph, 3200 Idaho, Wash. DC, 13 Hay>73

KBF DiFllllTluWS

Theune: Watergate:

(2)

□'Millions behind them Corrupted and plundered.

into the Watergate into their sorry fate into the world news Plunged
the Nixnumbers."

- Cite KBF holograph, J200 Idaho, Wash DC, 13 *tay»73

Theoretical:

"A vector is a partial generalization being either metaphysically theoretical or physically realized, and in either sense an abstraction of a special case. . .

- Citation and context at Vector. 26 May*72

Theoretical Myopias;

See Professors, Jun*66

KBF DJiFNITlUhb

Theory:

"You must not just have a theoretical idea, but you must reduce it to practice. That is my strategy."

- if n t r Q Tl I Awihf fiffifg duly-txgf..

- Citation & context at Trim Tab. 22 Jul¹71

THEORY

HUOEI: TlnorttlcUi

See Axioms

Coimuni cat ions Theory Educational Theories Game Theory

General Systems Theory Individual: Theory Of Laws

Navy: Theory Of The Number Theory Potential

Synergetics Principles Variables: Theory Of

Th wry; .ThwiUcal!

(2)

See Realization. 26 May'72 Trim Tap. 22 Jul'71* Vector, z6 May'72*
Unit Man, 9 Jul'62

See Here Here k There

(1)

See Weather, Feb'73

Thermal;

"Gibbs* phase rule differentiated the physical

Universe into liquid, crystalline, and gaseous phases which are not so
much visual as thermal, which is tactile, and which are always char-
acterised by unique thermal or sonic frequency differentiations, in re-
spect to their coddition within their respective states as well as be-
tween those states."

1°)

- Cite SYNERGETICS draft at Sec. 1054.EJ, 6 Mar*73

Thermal Limit: **Thermal Limits:**

See Temperature of the Human Body, {A) Water, 7 Nov'75

Thermal Henaaurabilitv:

See Vector Equilibrium, (2)

See Thermal,

Tactile,

6 Mar* 73

22 Feb'77

(Sec. 1054.10}

Bisralonlt;:

See Circuitry: Thermionic 4 Political Analogy

See Entropy

Random Element: Law of Increase Of The

See Expanding Universe, Spring'66

Intellect: Equation Of, (A)

See Visible Thermodynamics vs. Invisible Electrodynamics

See Colloidal Chemistry, 1938

**Energetic-synergetic Geometry, Jul*59 Synergetic Hierarchy, (1)
Communications Hierarchy, (1)**

Theta:

(6):

"I am using the sign of theta because it has the fundamental twoness, a top and a bottom. So I have the plus two."

- Citation and context at Axis of Soin (4), 11 Mar'69

IhlfK: Thickneaa:

See Localised Thickening of Points No Thickness

See Parity: Left Hand: Right Hand, 4 May'57

Ihlnmepp:

"... The new world of Universe citiienahip, and its natural emancipation from slavery chained to ponderous thinznesa."

- Citation and context at Property. 29 Jun'72

Things;

"Things are always special-case temporary realisations of a specifically detailed dimension and behavior complex of generalized laws applied to a local inventory of physical resources."

For citation and context see Vacuum. 17/19 Feb '72

Things:

"Physics having found no things.

There are no nouns."

- n I | > in An Dll c | II LL | ITTT

- Citation at Nounq_r 1\$ Sep¹71

Things.

. « There are no * things' —

Only transitionally transformative verbing.

~~-r.n-~~

- Citation & context at Verbing_f Oct¹66

IblM Word?

See Package, 1 Feb*75

See Anything

Entity

Nothing: Nothingness No Thing: No Thing-in-itself Particle

Process vs. Thing

Property

Shape of Things Something: Sotnethlngness Touchable Thing Non-thing

Matter

No Building Blocks

Minimum System

It

See Atom, Oct'70

Children's Pictures of the Sun & the Moon, (1)(2)

Cosmic, 3 Oct'72

Environment, 25 May'72

Epigenetic Landscape, Jun'69
 Event, 26 Jan'72; 23 Jan'77
 Generalization k Special Case, 23 Jan'77
 Iceland, 7 Oct*75
 Knot, 9 Jul'62
 Meaningless, Oct'66
 Monological, 7 Nov'73
 Nouns, 15 Sep'71*
 Pattern Integrity, (A)
 Physical, circa 1970
 Property, 29 Jun'?2*
 Pure Principle, 6 Jun'62
 Solids, 25 Apr'71
 Structure Sequence. (1)
 Transcendental, 6 Jul'62
 Intertransformability Systems, 28 Apr'77
 See Vacuum, 19 Feb'72*
 Verb: I Seem to Be a Verb, 1970
 Verbing, Oct'66*
 Human Beings & Complex Universe, (2)(6)
 Thinkable Eytv:
ID
 See Conceivable Entity
 Pilnla.bl.s.-£ntA.tx:
(2)
 See System, 26 May'72
 ThlnKahliltY:

- Citation 4 context at Conceptuality & Nonconcapt-ual Itv, 6 Nov'73

Thinkability;

"Human thoughts are always conceptually and definitively confined to system considerability and comprehension. The whole Universe may not be conceptually considered by thought because thinkability is limited to contiguous and contemporary integrity of conformation of consideration, and Universe consists of a vast inventory of nonsynchronous and noncoexisting irreversibly transforming dissimilar events."

- Cite SYNERGETICS draft at Sec. 400.07, RBF rewrite 26 May»72

HBf DhFINITIUNb

HHMI Thinkability:

"... The conceptual is just a fantastically limited part of the total, not just in the electromagnetic spectrum range, but in thinkability itself."

- For citation and context see Black Hole 12) f 27 Jan*72

Thinkability:

"Anything that comes back into itself is a closed system. And all systems, in fact thinkability, does that. What we call thinking is trying to find out how it does return upon itself: What is the outline of that man? What is going on? What is on the other side of the Moon? I have to get all the sides in order to understand it."

- Citation and context at Spherical Triangle Sequence (b) > 1 May'71

Thinkability?

"Thinkability is always partial."

- Tape transcript #6. Side A, p.23; RBF to Barry Farrell;

Bear Island, 16 Aug'70

TMnXaVHlw

"Universe is simultaneously untunable and only progressively .tunable."

- Citation 4. context at Tunability: Intra Ultra. 1954

"What we call thinkable is always outside-out. What we call space is just exactly as real, but it is inside-out."

- Citation & context at Parity. 1 May*71

Thinkability V8. Space:

See Space vs. Conceptuality

Thltablllty »a, Space:

(2)

See Space, 20 Oct*72

Parity, 1 Kay¹71

ThlnKablo Sot?

"A thought is a thinkable set differentiated out of the scenario: the first subdivision of Universe."

- Citation *k* context at Thinking, 1 Feb'75

Thlntoblfi ^sft:

ID

See Considerable Set: Considered Set

First Subdivision of Universe

.Thlnkablo Set-

(2)

See Thinking, 1 Feb'75* Universe, 16 Jun'72

ThlnK«bXft sygtwi TMWOTV

- Cite RBF rewrite of SYNERGETICS galley at Sec. 501.11.

6. Nov'73

"Now I came a little while ago to discovering that

any thinkable set that I'm considering is a set in which the sums of the angles around all these vertexes is always 720 degrees less than the numbers of the vertexes times 360. 720: that's the sum of the angles of one tetrahedron. So I find the difference between this global thinkable set and 60 degrees, which would seemingly go to infinity, wouldn't it?-- be a plane-- if there are }60 degrees around every point it really goes into a plane, then. So the difference between— we'll see what it looks

to you and me, feels like— infinity, or a plane. Take a piece of paper. I have to take out some angle to make it come back on itself. I find the amount of angle. If you strip off the skin of an animal, of a q-codile, or a giraffe, all in one piece. In order to be able to lay it out flat you have to keep cutting sinuses to keep it going out flat. You'll find that the number of the angles will always be 720 degrees. When you put it back together again you take out the 720 degrees-- close them up. So I find that the difference between what seems to be infinity of a plane and a local conceptual set is one tetrahedron.

"Now in our experience we have something we call size. But I"

- Cite Tel Aviv Address, p.11, 16 Jun'72 **"point out to you that an angle is an angle independent of the length of its edges, I can take three angles and get a triangle. A triangle is a triangle quite independent of size. In other words, there's conceptuality independent of size. Therefore when I say tetrahedron the tetrahedron could be any size to accommodate what we're talking about— the rest of Universe and what I am considering.**

"So I have something very interesting here. Because, again Einstein, talking about the physical Universe and the physical Universe has all these nonsimultaneous and only partially overlapping events. I point out that the individual events themselves are finite. So I then saw that we could say that Universe, both physical and metaphysical, all of our experiences, are each finite. Every one begins and ends. That's one of the most important kind of characteristics we can observe from all of our physical experimentation. All energy quanta, individual packages, an individual package being finite then, an aggregate of finites is finite. So we have a Universe,

"Now what man used to call infinite, I call finite but"

- Cite Tel Aviv Address, p.11, 16 Jun'72

"nonunitarily conceptual. What, he used to call finite I call de-finite, definable, and conceptual--- and Universe, which is finite, but nonconceptual--- turns out to be one tetrahedron. Now There's also a concave and convex tetrahedron, so it turns out to be two. There's an inward and an outward one, okay?"

- Cite Tel Aviv Address, p.11, 16 Jun'72

"The difference between nonconceptual nonsimultaneous Universe and Thinkability is always two tetrahedra as (i-acro) to complete the convex localness outside the system--- and one tetrahedron as (f-icro) to complete the concave localness inside of the system, to add up to finite but nonconceptual Universe. Thus the thinkable system take-out from Universe has a left out outside tetrahedron and a left out inside tetrahedron."

- Cite KBF to EJA. J200 Idaho, DC, 22 Feb '72 re MiTY- SEC JTW. IJJ
See Angular Sinus Takeout

Irrelevancies: Dismissal of Irrelevancies Metaphysical &, Physical
Tetrahedron: One Tetrahedron

See Conceptuality, 17 Oct'72
Fourfold Twonees, 10 Nov*74

"What is really important, however, about you or me is the thinkable you or the thinkable me, the abstract metaphysical you or me, what we have done with these images, the relatedness we have found, what communications we have made with one another. We begin to realize that the dimensions of the thinkable you are phenomenal: when you hear Mozart on the radio, that is, \square the metaphysical--- only intellectually identifiable--- eternal Mozart who will always be there to any who hear his music.

When we say 'atom' or think 'atom' we are intellect-to-intellect with livingly thinkable Democritus, who first conceived and named the invisible phenomenon 'atom.' Were exclusively tactile Democritus to be sitting next to you, surely you would not recognize him nor accredit him as you do the only-thinkable Democritus and what he thought about the atom.

"You say to me: 'I see you sitting there.' And all you see is a little of my pink face and hands and my shoes and my clothing, and you can't see me, which is entirely the thinking, abstract, metaphysical me. It becomes shocking to think that we recognize one another only as the touchable, nonthinking biological organism and its clothed ensemble."

- Cite RBF insert to SYNERGETICS galley at Sec. 801.23, 22 Nov'73

"Reconsidered in these significant identification terms, there is quite a different significance in what we term 'dead' as a strictly tactile 'thing,' in contrast to the exclusively 'thinking' you or me. We can put the touchable things in the ground, but we can't put the thinking and thinkable you in the ground. The fact that I see you only as the touchable you keeps shocking me. The baby's spontaneous touching becomes the dominant sense measure, wherefore we insist on measuring the inches or the feet. We talk this way even though these are not the right increments. My exclusively tactile seeing inadequacy becomes a kind of warning, despite my only theoretical knowledge of the error of seeing you only as the touchable you. I keep spontaneously seeing the tactile living you. The tactile is very unreliable; it has little meaning. Though you knew they are gentle, sweet children, when they put on Halloween monster masks they 'look' like monsters. It was precisely in this manner that human beings came to err in identifying life only with the touchable physical, which is exactly what life isn't."

- Cite RBF insert to SYNERGETICS galley at Sec. 801.24, 22 Nov'73

Thinkable Ton:

"I began to realise the dimensions of the thinkable you are phenomenal when I hear the radio and hear Mozart. In

these kinds of dimensions there is quite a different relationship to what we call dead, which is strictly a tactile thing, I put the touchable thing in the ground but I can't put the thinkable you in the ground. I find this all very extraordinary and the fact then that I see you as the touchable you keeps shocking me. . . This baby thing of touching became all the dominant measure and we insist on doing things in inches and feet. « . The tactile is a very unreliable thing. It has very, very little meaning.'*

- Cite Oregon Lecture #3, pp. 99-100. 5 Jul'62

"What is really important about you or me is the thinkable you and me. what we have done with these images, the relatedness we have found, what communications we have made to one another."

- Cite Oregon Lecture #3, p. 99. 5 Jul'62

"Any and all conceptuality and any and all thinkaboutability is inherently systemic (see Secs. 905.01 and 905.02). Systemic conceptuality and thinkaboutability is always consequent only to consideration. Consideration means bringing stars together so that each star may be then considered integrally as unity or as infrasystem complex of smaller systems."

(81044.04)

-Cite RBF marginalia incorporated in SYNERGETICS, 2nd. ed. at Sec. 1044.04, 8 Feb'76

Think-aboutable:

See **Thirty Minimum Aspects of a System,(A)**

TEXT CITATIONS

Think-aboutable 8 a:

Goldylocks, p.E2, 27 May'75

See Considerable: Considerable Set: Considered Set

See Two Kinds of *Twoness*, (C)

Thinking:

"With awareness and consciousness you already are thinking: but the point is that you didn't start out with the notion of doing some thinking; it wasn't your fault that you started to be conscious of something."

- Citation & context at Silence, 30 Sep'76

Thinking:

"You're not thinking if you know what You're ging to be thinking about. If you know where you're going to come out when you start to cerebrate, then that's not thinking; that's merely brain-sorting.

"This is why when I am writing in the margins of typescript redrafts the whole process of thought-catching is so sensitive that I do not know he* far this intuitive following of unfolding thought is going to lead. I do not know whether I need more space. I cannot interrupt to turn over on the back of the page or go over on to a new sheet. The thinking is not linear but it has to be expressed in a linear manner; it is a matter of recording an unexpected omnidirectional involvement in a linear writing □□□□I or graphing pattern."

- Cite RBF rewrite of 9 Sep'75 entry; as of 10 Sep*75

Thinking:

"Tour thinking is never valid if you know what you're going to be thinking about. If you know where you're going to com® out when you start to think, then that's not thinking; that's merely brain-sorting.

"This is why when I am writing in the margins of a draft the whole process is so sensitive that I cannot interrupt it to turn over on the back of the page or go over on to a new sheet. The thinking is not linear but it has to be expressed in a linear manner; it is a matter of recording a curvilinear process onto the flat."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 9 Sep'75

Thinking:

(I)

"Euler: (visual : topology) $\longrightarrow V + F - L + 2$

Gibbs: (physical states : phase rule) $\longrightarrow F + C - C + 2$

"In Universe, the more complex is not predicted by the lesser* We solve problems by dismissing irrelevancies.

"What one word is most appropriate for the experience we call life? Awareness. In the concept of self-and-otherness. the otherness may be integral or it may be separated out, Self- awareness is integral otherness. Awareness of otherness is also awareness of nothingness. The otherness is in a background of nothingness because the otherness is differentiated out.

two points + one nothingness `` 1 line + 2

"Self-experience. What is my conscious input when I say I am thinking? Well, I become spontaneously preoccupied. We have a mechanism to retrieve: answers are slowly retrievable.

"If we can't find the right word we circumlocute a description."

- Cifj World Game Workshop, Rainey Auditorium, U. Penn.,

"Every word has its own lag. Human beings do not live at perfection, they do not live at zero--- we are always aberrating. Momentarily irrelevant experiences are dismissed omnidirectionally both macro and micro. The dismissal is inevitably polyhedral as the resolution is the minimum considerable event. This is the minimum limit case where there is nobody to mark your paper.

"Necklace —triangle structure stable pattern.

Nature always behaves with minimum effort: tetrahedron. If we deal with minimum limits we do not need any physicist to tell us that this is so. 720° no continuums ---->only energy packages.

"Chords emerge concavely to a vertex. Omnitriangulation.

Tetra. Quantum. Total Universe in scientific terms. The live show of the big dipper--- one star showing light that left when Columbus discovered America; another star light that left when there was the Trojan War--- a scenario.

"What is thinkable is urd.taiU.y conceptual. The insideness and put-sideness of the tetrahedron is Plus Two...."

- Cite RBF at Worl Game Workshop, U. Penn, 23 Jun'75

Thinking:

"Physics has not assumed conceptual modelability. When you deal with limits you don* t need anyone to mark your paper. You can find your own limits when you go from the whole to the particular."

- Cite RBFto World Ggme Workshop, Rainey Auditorium, U. Penn.

Thinking:

"Rather than describe thinking I just say what I am conscious of what I do when I say I am thinking, A great deal goes on subconsciously. A thought is a thinkable set diff erentiated out of the scenario; the first subdivision of Universe."

- Cite RBF at videotaping session, Phlladelphi, Pa., 1 Feb'75

Thinking:

"I find with great democracies and great bureacracies that the one thing they can't do is think."

"Thinking is a function of an individual and not of groups. An abstract corporation can't think; an individual with it can but the corporation can't think. And a great state can't think. So there's been no really thinking challenge to the statement that there's not enough to go around."

- Cite RBF to Harvard law School Forum, 10 Dec'73

Thinking:

"Thinking is a nonsimultaneously recallable aggregate of inherently finite experiences and finite experience furniture-- such as photons of light."

~~- enrwmlrlii nr nYMKiir.itTTCs garay.w~~

- Citation & context at Nonsimultaneity, 7 Nov*73

Thinking:

Add: forgotten questions; different rates of feedback; person's names: random questionings; the challenging set you would like to understand; our friend intuition."

- Cite SYNERGETICS text at Sec. 509.31; floating insert of Apr'71; galley rewrite, 6 Nov'73

Thinking:

"In 1927 I said, 'I'm deeply concerned with thought--- the fact that man has the capability to think and remember, a capability it is very clear that animals don't have, I was very aware of yoga. Very aware of Indian cults.

Thinkers. People who spend all their time in meditation, thinking... But to be able to sit and think you also ought to have some fuel coming in, otherwise you can think for only about thirty days and then you'll fall over.

"So somebody had to be producing something. So people who were sitting around thinking usually belonged to some religious sect and they had some peasants out there. They'd say: 'We'll do the thinking for you and you raise the vegetables.' That's what happened to most of the churches, most of the cults. I'm very interested in how you grow the food that people who are going to do the thinking eat, and I began to say--- these people talked with great pride of their mystical capabilities, getting through to greater presence and greater ecstasies--- I said: 'What moves me is that we were given the ability to think. What also moves me very much is that we were also given limited Capabilities. We don't have any manifestation of being able to get on without the rest of the Universe. So "

- Cite Rasa Gustaitis, WHODLY ROUND (HK&W, NY), p.157, Feb'73

"that I cannot get on without food or air, I cannot get on without the balance going on between vegetation and mammals— it is perfectly clear to me I could not. I could not get on without anything in Universe that is in Universe. It's a very complex and beautiful piece of design there, and the fact that I wake up and go to sleep, that people are born and die, that we get our information in packages and we articulate in packages— no continuum at all about it— so, the fact that I'm given the capability to think is very extraordinary. And to remember. And to be able to formulate. To take advantage of earlier experience. To have a mind and be able to think of alternate ways of carrying on which other species don't have. •

"So I said, 'I think what IBM going to do is to accept the wisdom and brilliance of the design of the Universe itself which is a priori to me, in which design it is apparently clearly designed that I would have limitation... And all these people who sit, then, trying to use the thinking thing to break through limits of thinking that are not permitted--- and waste their thinking capability trying to think about ways not allowed"

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY), p.157, Feb'73

Thinking:

"But it's a new universe," I put in. "There are simply other dimensions."

"I'm simply telling you that I'd rather not have any traffic with disconnects," he cuts in impatiently. I wanted to ask how he knew what was 'permitted'¹ to man, as he and Adam, for instance would both have different vips on the matter. But Fuller is laying it out. He's not open to my questioning now.

"I'm very aware of Hindu thinking," he continues. "I'm also very aware of the fact that many things I have been able to discover in my own thought, Hindu thinkers have come to me and said: 'You apparently are having the same thoughts. How did you get them?' And I said, 'I thought it myself.'"

- Cite Rasa Gustaitis, WHOLLY ROUND (HR&W, NY}, p. 158 Feb'73
ThlnKApu

"Effective thinking is systematic because intellectual comprehension occurs only when the inter patterning of experience events' star foci interrelationships return upon themselves."

- **Citation 4. context at Closed System. 26 May*72**
KBF UfcFIiUT luNS

Thinking:

"I'm only thinking when I'm thinking about something."

- Cite RDF at Corcoran Gallery Address, Washington DC, 23 Feb '72

Thinking:

"I start thinking with a No-Size conceptual model of a whole system."

- Citation and context at Vacuum. 17/19 Feb '72

Thinking:

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 7 Oct. »71.

RBF DEFINITIONS

Thinking::

"• • • Closest packing begins with * two balls cooing together rather than omnidirectionally. Two balls coming together is where thought begins. • • it is a wedding thing. . . and it isvegr beautiful thing the way the two balls reoccur at each wave outwardly."

- Citation at Omnidirectional, 19 Jun'7¹

Thinking:

"The individual has an enormous advantage over any great private or public bureacracy because the Individual can simply start to think. And there are no space or time or resource limits to thinking. You can think outside of your state and outside of your passport. You can think in terms of the Universe. Then, if you are interested in what your thought discloses to you in the way of principles which seem to be operative in our Universe which do not seem to be properly heeded by man, then you can undertake to learn how to employ those principles, and reduce them into some kihd of rearrangement of the physical environment that will induce evolutionarily positive and universally considerate behaviors of humans." ` Cits Donver Ku!,<,™s Address, ²

Thinking;

''.That we call thinking is putting aside irrelevancies-- to dismiss the irrelevancies in order to contemplate the set of consideration. *!*

”There are lags in the rate of recallability.

Kames don't have meaning. Therefore it is harder for our mental retrieval system to remember them.

` ` Irrelevancies are of two kinds: those too infrequent and those too frequent (high Frequency)

Cite RBF to ciJA

Beverly Hotel, New York 12 i-arch 1971

Thinking:

"There are sort of octaves in our thinking. We think octavely."

Citation and context at Relative Asynmetry Sequence (1), Jun'69

Thinking:

"Thinking is the disciplined deferment of irrelevancies.

- Cite Peter PEARCE, Inventory of Concepts, June 1967

Thinking: (A)

"Thinking is a very special kind of conscious self-disciplining of the awarenesses emerging from the subconscious, that is the spontaneous--- originally programmed--- brain processes' handling of its myriad experience data in respect to its brain-integrated digest of its moment-to-moment new experiences and the progressive strategic choices of action or nonactions taken in respect to them.

"When I 'think,' I observe by careful reconsideration of the experience that I don't suddenly move or inject a bright light into an empty-milk-bottle type of brain chamber--- as the expression 'He had a bright idea,' implies.

"I discover that what I call thinking is my concerned preoccupation with a special set of separate experiences between which I have not as yet found the connections and interrelationships. So I find that what goes on is what we all know as feedback, the word which Norbert Wiener gave us as he carefully reconsidered his own brain's behavior.

"We have all experienced saying, 'What's our mutual friend's"

- Cite NASA Speech, p.38, Jun'66

Thinking: (B)

"name? 'I/e both know it well!¹ And tomorrow you recall it about the same time that I recall it. The process was subconscious. Our feedbacks have lags. They are not instantaneous. But we find that the time lags of our feedbacks vary greatly.

"We ask ourselves questions all day long--- sometimes very minor questions--- and our feedback, unbeknownst to our consciousness, goes right off searching our subconsciously stored, specialcase experience® files for the answers. So when you lie down and want to go to sleep you are often bothered by many thoughts. These are simply feedbacks to questions you asked earlier and have forgotten that you asked.

"The thinking self-discipline is accomplished by keeping all the feedback messengers in the waiting room while you discover and consider the interrelationships of one particular set of experiences."

- Cite NASA speech, p.39, Jun'66

Thinking:

"We see that what we do when we think is to momentarily dismiss all the irrelevant thoughts as we would part the grass to right and left in order to find the path. So thinking is high frequency interception and very temporary diversion to a local holding pattern outside our consideration of all the irrelevant inbound feedback--- just as inbound airplanes are 'stacked up' in the sky near airports by the ground control when too many come in at about the same time. Having isolated

a finite set of experiences--- spontaneously grouped for comprehensive consideration-- by dismissing the □ irrelevancies, we may proceed to comprehend the isolated/system by applying the theory of 'bits,* which breaks up finite wholes into finite parts."

- Cite NASA Speech, pp 39,40, Jun*66

Thinking;

"Thinking is a momentary dismissal of irrelevant: ies.

. . . There is a twilight zone of tantalisingly almost relevant. There are two such twilight sones--- the macro and the micro--- tantalisingly almost relevant. Between them there is always a set of extraordinarily lucid items of relevant."

-Cite SUMMARY VISION 65, P. 138, Oct'65

Thinking:

found it convenient to pay attention to

what I was saying . . . that in due course you find you are getting good results and you are thinking that there are other human beings that are interested in what you are thinking and the thought doesn't belong to you

- Cite OREGON Lecture #8 - p. 290. 12 Jul»62

Thinking:

"We then said, What is thinking? We found that thought did relate to subdivision of the whole, to our reviewing if possible or seeking for relationships in some relatively small constellation of approximately simultaneous, or some of the same magnitudes and same kind of frequency experiences."

- Cite Oregon Lecture #8, p. 277. 12 Jul*62

RBF DiFIhITluKS

Thinking; (a)

"If we can't think about the whole universe at one time then what is thinking? We said that thinking was treating with some subdivision of universe. There is apparently a thinking set because we think. Our thoughts are then increments of the total experience, our retreatments, reconsiderations of the local increments in the total experience and what we are interested in from time to time is the interconnectedness of these local increments which we can only think about one experience at a time. We apparently can think about two fairly contiguous things and that is how we are trying to find the relationships.

That is the way we find our way. It is extremely interesting to find that this is the way we are designed. We apparently are not designed to think about the totality. And yet we can treat with it and we can collect something like the dictionary which has all the words developed by all men in attempting to communicate all their experiences. We can look at all that collection and we can carry the dictionary around, but we can't read all the words at once. We are continually reminded of the fact that we are able to deal with increments, and • then we get big patterns, and we are

- Cite Oregon Lecture #3, p.83, 5 Jul'62

Thinking: (b)

"Continually sweeping and reviewing interrelatednesses. Y/e discover our way by overlapping interrelated

nesses."

- Cite Oregon Lecture #3, p.83, 5 Jul'62

"What do we do when we think? The scientific inquiry into the thought processes is spoken of as epistemology, so we are now making an epistemological inquiry. Thinking is a subsequential phenomenon. It is an interesting preoccupation. It is an inherently

spontaneously self-interesting preoccupation. You won't go on with it unless you want to and if it isn't prolonged it really isn't thinking. . . . One of the characteristics of thinking is a continuity relatedness, r/hen I stand up and think out loud with you, you will not * stay in the room with me long if I don't have a continuity relatedness. Thinking is then dealing with a set of experiences that might be called recollected experiences.

I recollect and then discover some generalized patterns that are inherent in special cases."

- Cite OREGON Lecture 2 - p, 59> 2 Jul'62

RBF D&FINITIUNS

fIMMB Thinking:

"So we have come to structure and we have come to pattern. Pattern has emerged first from our preoccupation with getting rid of the irrelevances and out of it® hae emerged a mbimum constellation, a minimum consideration and it is a four-star affair. It is tetrahedral. It is very amazing to have a geometry just appear out of our just considering what is thought. We have come to some conceptjttlity and this conceptuality is essential to this thinking process. When we say, 'I understand' there is some conceptuality finally developed."

- Citation at Tetrahedron. 2 Jul*62

Thinking:

"Thinking is the consideration of different experiences, inherently separate sets of events, and trying to find out what their relatedness is. Each one is a star....

"But the four stars are the minimum which we can really have for an important thought. If I discover only three stars in a thought, there must be at least a fourth star lurking somewhere in the constellation. In fact, I discover that all the stars that could possibly be related are always subdivisible by four."

- Citation <k context at Star Events. 2 Jul'62

Thinking;

"Now I have discovered that this thinking process is one in which by holding out and getting rid of the irrelevancies we definitely developed for the first time a conceivable geometry. The geometry of the Universe was not conceivable because it was nonsimultaneous. In the first place I found that this is a very important and satisfying kind of discovery and it stopped me from having to know where the ball ends. It is not a ball, but thought begins to develop the first geometry with a dismissal outwardly and a dismissal inwardly which leaves a spherical zone of irrelevancy. The thinking is omnidirectional."

- Cite Oregon Lecture #2, pp. 66-67* 2 Jul'62

Thinking:

"We discover that we divide Universe into an outwardness and inwardness so thinking is the first subdivision of Universe, because Universe we discovered was finite. One of the most important observations about our thought is that the experiences are nonsimultaneous. Therefore nonsimultaneity is a fundamental characteristic and if they are nonsimultaneous you cannot have simultaneous consideration."

- Cite Oregon Lecture #2, p. 65. 2 Jul*62

Thinking:

"Once I had discovered that thinking is not an inserting of an idea, but the putting aside of other ideas, so that the ones already there can hold the image longer, for you to look at, I made a very powerful discovery in so general a strategy of thinking which is, that time and again once I have got a good definition of what it is that I am doing then there are some very surprising results.¹¹

- Cite OREGON Lecture #2 - p. 62_a 2 Jul'62

Thinking;

"Thinking consists of a self-disciplined deferment of conscious consideration of any incoming information traffic other than that which is lucidly relevant to the experience intuited quest for comprehension of the significance of the emergent pattern under immediate priority of consideration.

"Thinking is a putting-aside, rather than a putting-in discipline, e.g. putting aside the tall grasses in order to isolate the trail into informative viewability. Thinking is FM--- frequency modulation--- for it results in tuning out of irrelevancies as a result of definitive resolution of the exclusively tuned-in or accepted feed-back messages' pattern differentiability."

Cite OMNIDIRECTIONAL HALO, pp. 136,137, I960

Thinking:

¹¹ Thinking is frequency modulation--- tuning out finite irrelevancies into two main classes: micro-macro, which leaves residual defined system as lucidly relevant."

- Cite OMNIDIRECTIONAL HALO, p. 141, Caption to Fig. #3
I960

"The conceptual process is never static. Thinking does not consist of the insertion of invented images into an otherwise empty vacuum-tube chamber called brain. Thinking is the self-disciplined process of preoccupied consideration of special-case sets of feedback-answers selected out of the multitude of high frequency alternating transceiver brain traffic. This traffic consists of omnixperienc e'Vprocessed answers to present or past questions, formulatedJeither by the conscious or subconscious coordinating initiative of *

the individual or possibly byxj. generation of group memory."

the JrfidividualVoverlapping

r - sec. sa7tj\

- Cite OMNIDIRECTIONAL HALO, p. 136,

Thinking:

"IhlaKluf i» inherently exclusive. Experience, which cones before thinking, is Inherently inclusive."

- Citation and context at Experience, fob'JO

Thinking;

Rationalization is a time-word to replace thinking, which is an ancient, mystically evolved word tentatively signifying an attempt to force the power of god into one's self."

- Citation and context at Nationalization Seouenea (1)> 19Jfi

Thinking: Agfr gf Thinking AlWfl 'HiwshV

"As Heisenberg shows in his principle of ultimate indeterminism the physical act of measurement always alters the behavior of them measured phenomenon. In the same way . . . the thinking process inherently alters the fundamental patterning of universal thought-about interrelationships."

- Cite UENIDIRECTIOKAL HALO.pp. 139, UO, i960

See Heisenberg-Eliot-Pound Sequence

Pound, Ezra

Thinking: What He Thinke He Thinke

Thinking; Doing My Own Thinking;

Soe Ego, 9 Nov*75

Doing Your Own Thinking:

Thinking:

See

Psychiatry, (1)-(5) Thinking, 12 Jul'62 Ego, 9 Nov'75 Greater Intellect, (1)

See God, Mqy*6\$

See General Systems Theory. 11 Mar*69

Invisible Circuitry, (1)(2) Tension, (1) --- (/*)

rtBF ObFIMITIUNS

Thminx^{OuV}

"If two of us meet ana you take a paper out of your pocket ana start reading a speech, 1 will say, ` Let me have that.

1 can read it myself more effectively.' X am confident that live meetings catalyse swift awareness of the particular experiences of mutual interest regarding which our thoughts are spontaneously formulated. Live meetings often become pivotal in our lives. 1 have learned that it is possible to stand and think out loud from the advantage of our most effective possible preparation which is all recorded and on tap in our brains and monds. Advance thought about our discourse spoils it. There awaiting its anytime employment by our brain-scanning mind is the ever recorded and highlighted inventory of our life-long experiences integrated with all the relevant experiences others have communicated to us. Out of this inventory your live presence catalyzes my freshly reconsidering thoughts relevant to our mutual interests."

- Cite EhVIRUNKtKT AND CHANCE, Ed. tf.R. Ewald, pp 341-342.

Above passage deleted from beginning of OPERATING KANML FOR SPACESHIP EAK'IH. ¹⁹©8

"I think I have finished introducing our exploration. Would any of you now like to ask me any questions? If you don't, then I will keep on thinking out loud. For about 34 years I have been practicing tinking out loud. I haiee found it is a very worthwhile kind of an experience to stand up before your fellow man and to confront yourself with taking inventory of what we do know and how do we organize it, because each time I take the Inventory, I find that the inventory has changed. My knowledge of what we know is changed. And man's knowledge has been changing mx very rapidly. . . So I stand up in taking inventory . . . and find the inventories come out differently each time."

- Cite Oregon Lecture #1, p. 23,24.1 Jul'62

See Intuition: Eye-beamed Thoughts Lecturing

See Average Man, (1)12)

Communicating, (1)(2) Thinking, 2 Jul'62

See Consciousness. Jun'66 Dream. 1968 Identity. 1959; May'70 Imagination 22 Apr'71 Thinking, 2 Jun*71 Thought, 1967 Understanding, Jun'69 Nature, 13 May'73

Thinktionary:

"Goldy says to the three bears, 'If you don't understand any of ay words, you can find then in the dictionary.' Wee Bear replies, 'Out here we use cosmic thought communication We don't have to find words in spacial language diction-aries. We use a cosmic thinktionary. All

your dictionaries express the universal concepts of our thinktionary, but Only in special, ethnic language, sound words. The concepts, such as mountain or star or nuance are the same experience- engendered concepts in all languages. We understand you perfectly, Goldy.'

"Concepts are always synergetic systems. Systems are minimum-maximum sets of thinkable, conceptual omniinternelevant recollections, intertunably differentiated only by time out of nonsimultaneous, unitarily nonconceptual sdenario Universe."

- Cite GOLDYLOCKS, p.C2, 27 May'75

RBF DEFINITIONS

Thinks:

****A11** ths thinks of Univorso ssay bo o priori* • • • Thia relatee to my deacrlptlon of the ultra-ultra-high frequency tranacelver functioning of the eyea, 11 deacrlbad In Svnergetlca and elaewhere."

Cite RBF rewrite of 10 Sep¹75 citation; 3200 Idaho.

Waah, DC: 11 Aug¹76

See Antithinking

City as Center of Abstract Intercourse

Comprehensive Thinking

Conceptuality

Conceptuality t Thinkability

Considerable

Considerable Set

Considered Set

Dead Animal

Epistemology

Geometry of Thinking

Irrelevancies: Dismissal Of

Limits of Thinking

Man-thinkable

Meaning

Mind

Nonthinking

Precessional Thinking

Relevant: Lucidly Relevant Set

See Thought

Spherical Thinking Prime Thinkability Imaginability Self-communicate

How Do You Think?

Demonstrable vs. Thinkable

Unemployment as Freedom to Think Fuller, R.B: The Thinking Me
Sleeping & Thinking

See Animate & Inanimate Sequence, (2) A Priori Mystery, 24 Feb'72
Black Hole, (2)* Child Sequence, (1)(2) Closed System, 26 May*72*
Conception, 1y60 Experience, Feb*50* Fuller, R.B: Modus Operandi,
Feb*72 God, May'65 Individual Economic Initiative, Dec*72 Octave,
Jun'6y Omnidirectional 1y Jun'71* Parity, 1 Kay*71□ Reading, (1) Re-
alization Sequence, (1J* Relative Asymmetry Sequence, (1)* Spher-
ical Triangle Sequence, (b)* Star Events, 2 Jul'62* Systems &. Non-
systems, 26 May'72 Fuller, R.B: Crisis of 1927, May'75

See Tunability: Intra 1 Ultra, 1954* Tetrahedron, 2 Jul*62* Vacuum,
17 Feb*72* Var, 1 Nov'42 Conceptuality Nonconceptuality, 6 Nov'73*
Nonsimultaneity, 7 Nov'73* Starting with Divergence, 19 Feb'76 Nu-
clear Pattern of Growth 4 Decay. 8 Dec'75 Silence, 30 Sep'76* Me, 18
Dec'76 Synergetics, 12 May'77

See Thinkability

Thinkability vs. Space

Thinkable System Takeout

Thinkable You

Thinkable You & Me

Think-aboutedness

Thinking: Act of Thinking Alters Thought

Thinking: Analogy of Sphere layers Thinking: God Is Part of the Process Thinking Out Loud

Thinking: What He Thinks He Thinks

Thinktionary

Thinking: Doing My Own Thinking Thinkaboutability

Thinks

Third ^DXasnoloQ-

See Three-dimensional

Third Parent :

See Television: Third Parent

Zhird-,P£H£r Rate of Variation

"Granted that there is then in respect to any two points In Universe a tetrahedron that can be given any symetrical or asymmetrical tetrahedral shape, any of whose volumes will remain uniform or will vary uniformly at a third-power rate in respect to any alteration of the distance between the two initial control points on the axial control line; the. any four points in Universe, provided one is not in the plane of the other three, can be interconnected by varying the angular orientation of the control-line axis and the distance between the two central control points."

- Cite SYNERGETICS text at Sec. 961.30, 16 Nov*72

Third World:

See Selfishness, 20 Sep*76

See Berry Picking, (A)

Longing: Fear & Longing, 16 Oct*69

Photosyntheais, (2)

Helpless: H_umand Born Helpless, 15 May*75 Mistake, 9 Nov'75

TtUrfrw:

"Thirteen is the lowest MHO possible number connected with a structurally stable triangulated nucleus."

- Cite SYNERGETICS draft at Sec. 1011.10, Sep'71

Thirteen;

"Thirteen is the lowest number connected with an omnidirectional nucleus."

- Cite RBF to EJA, Fairfield, Conn., Choi Wolf

See Closeet Packing of Spheres, 29 May*72

Prine Number, 16 Oct*71

"Considering just that which is thinkable or any convergence of events that is think-aboutable, if you are dealing with what you would call substance then you must be dealing with insideness and outslideness. The insideness and outsideness divides the macrocosmic and the microcosmic. Two points do not have insideness. Three points do not have insideness. One point defines a point. Two points define a line. Three points define a plane. Four points define volume: an insideness and outsideness.

"So we come to a system that consists of a number of irreducible aspects. The four points have six lines connecting them and there are four triangular windows and 12 angles. This gives you a total of four points plus six edges plus four windows, that makes 14; plus 12 angles, makes 26; plus a concave and a convex, which is 28; and there is also the outsideness and the insideness, for a total of 30. I find that there are 30 irreducible aspects of anything. If you come to anything it has a 30-foldedness. This is quite exciting.

'Now I have said that there is only one word that I can find that gives me an operational definition of what we call life--- what I am experiencing---and it is 'awareness.' And I've said"

- Cite RBF i Hugh Kenner, Phila., PA, tape transcript, p.6;

8 Jun'75

"No otherness no awareness. But a physicist has told me that there are philosophers who will not go along with me on that proposition of self and otherness because you can also be aware of yourself. So then I say you can be aware of yourself as a system. You have your insideness and your outsideness and there is your otherness right there. Any one aspect of the minimum system aspects may be observing the others. There is always otherness because the system (which includes the self as system) is a complex of JO-fold irreducible aspects.

"You can be either a system looking at another system or you can be a system looking at yourself. But that is otherness. Unity is plural and at minimum 30. Isn't that nice? I used to talk about unity as plural and at minimum two, but if you want to separate out, then there is really an inherent 30.

"That is really so incontrovertible. This is how the mind starts... Those are the edges of an icosahedron. They are aspects. So I see that is the otherness, the other system. The electron is the icosahedron, that 30-otherness lurking around there that refuses to compound with the otherness. You cannot add the Icosa to the VE; you can add it to itself and it comes back and makes an octahedron again."

- Cite RBF to Hugh Kenner, Phila. PA, transcript p.6; B Jun'75

Thirty Minimum Topological Characteristics: (1 j

^{tt}A system divides all the Universe into six parts: all the Universe outside the system--- the macrocosm: all the Universe inside the system--- the microcosm; and the four star-events ABCD which do the dividing.

"The separation of insideness and outsideness begins only with completion of the interrelationship lines of the four separate entity-producing events. The four star events ABCD have six separate, unique, and most economical interrelationship lines. AB, AC, AD, BC, BD, CD. These six lines and their four interconnected star-corners inadvertently produce four triangular facets of the minimum polyhedron, which four facets completely enclose the system to exclude the macrocosm and include the microcosm.

"A system consists at minimum of four nonsimultaneous but co-occurring, because overlapping, yet dissimilar, beginning and enduring star-entity events of six interrelationship lines and four nonadjacent window-facets, plus 12 unique, intercovariant vertex angles-- 26 conceptual, topological components of a system, to which must be added the multiplicative, ultraviolet ' "

- Cite GOLDILOCKS Ms. pp.A,A2, 9 Jun*75

Thirty Minimum Topological Characteristics: (2)

"macrocosmic outsideness and infra visible, microcosmic insideness, as well as the inseparably co-occurring inside concavity and outside convexity of all systems: for a total component inventor of 30 items."

"Three thousand years ago the Greek geometeus named this minimum system the tetrahedron. Tetra = four; hedron = sides. A system cannot have less than four triangular polygon 'faces' (or dices or windows) nor less than three triangular polygon 'faces' surround each of the system's four event-corners. The triangle is the minimum polygon face. You cannot have a polygon of less than three edges. You cannot have a location-fix-point that is less than one fix-point. You cannot have an event-tracing line that is less than a line. You cannot have an angle that is less than a minimum angle. And you cannot have a system of less than 30 uniquely differentiable and geometrically describable characteristics."

- CiteGOLDYLOCKS Ms., p.A2, 9 Jun'75

See Children as Only Pure Scientists, (A)

Thorn:

- Citation and context at Ecology Sequence (G), 5 Jun'73

See Ecology Sequence (G)* Redundancy: Reduction Of. 22 Apr'71
Communication Hierarchy, (1)

Thought:

"Thought - relevant set - insidenss & outsideness • four stare tetrahedron." *

- Cite RBF videotaping session Philadelphia, Pa., 20 Jan*75

Thought:

"Systems are inherently polyhedrOal.

Systems of thought

Divide the Universe

Into the conceptual and the nonconceptual. Conceptual systems always consist Of a constant relative abundance Of the lines, crossings and areas In which $C \approx A - L + 2$."

- Cite INTUITION, P.47 May '72

Thought:

"Thought is systemic. Cerebration and intellection are

Initiated by differential discernment of relevance from nonrelevance in respect to intuitively focused-upon complex of events which also intuitively suggest inherent and potentially significant system inter-relatedness,"

- Cite SYNERGETICS, Sec. 400.06, RBF rewrite of 25/2 May '72

Thought:

"Two balls coming together is where thought begins..."

- Citation context at Two Balls Coming Together. 19 Jun '71

thought i

"It is a consequence of the phenomenon time and a consequence of the phenomena we call afterimage, or thinking, or reconsideration, which has Inherent lags of recallability of the various special-case experiences. So the very consequence of awareness is to impose the phenomenon time upon an eternal Universe. It is awareness itself which is in all the asymmetries really and the pulsations are all consequences of Just thought itself. •• of the ability of Universe to consider itself, to look upon itself."

SEC* |

| 631. *j*

- Cite RBF tape transcript, Blackstone Hotel, Chicago, p.47, ql May '71

Thought:

"I do not invent my thoughts."

- Citation and context at Order. 1971

Thought:

"...Most important of all we can't see the abstract weightless
thoughts in the minds of other men."

Citation and context at World Game. 4 Mar*69

Thought:

L£

"Thought itself simply alters that *£ch you think about."

- Citation and context at Heiaenberg-Eliot-Pound Sequence. 1967

Thought:

"...The thought doesn't belong to you."

• Citation and context at Thinking. 12 Jul'62

Thought:

**"...The persistence of the familiar in our own environmental close-up--
thought, which causes the dynamic interpenetrations to appear as a
static, rather than as a period!c-continuity environment reality."**

- Citation & context at Periodic Reality, (1), May*49
(• 261.01)

Thought k Energy:

' 'Thought roust be somehow comprehensive to energy."

- Cite RBF quoted by Reyner Banham, New Statesman. p.190;

15 Aug'59

**See Consciousness as Synchronisation of Time k Energy Energetic In-
formation**

Biaiuht - Helavant Sat:

See Thought, 20 Jan'75

"Thought has shape independent of size."

- Cite HBF marginalis, 21 Dec. »71 at SjfNERGETICS Draft

'Discoveries of Synergetics" later Sec. 251.21.

Thought Has Shape:

See Epistenography

See Chaos of Thought

Conceptions

Eye-beamed Thoughte

Deeelfed Thought

Geodesically Structured Thoughts

Geometry of Thinking

Integrity of Thought

Isotropic-vector-matrix Fields of Thoughts

Message: Message Contents

Meaning

Objective: Making Thought Objective

Semantics

Thinking

Weightlessness of Thought

Thought - Relevant Set

Thinkable Set

Adventure Story of Thought

Thinks

See Conceptuality, 17 Oct'72

Energy Event. 1960

Heisenberg-Eliot-Pound Sequence, 1967*

Metaphysical Environment, 13 Nov'69 Metaphysical synergy, Jan'72

Minus Two. Aug*73 Order, 1971*

Thinking, 12 Jul'62*

World Game. 4 Mar'69*

Two Balls Coming Together, 19 Jun*71*

Universe, 1955

Periodic Reality, (1)□

Visibility & Invisibility of Systems, (1)

Tetratuning, 30 May'75

In, Out II Around, Nov'71

Mutual Survival Principles, (3) Equilibrium & Disequilibrium, 20
Feb'77 Human Beings, 22 Jun'77

See Thought & Action

Thought & Energy Thought `` Relevant Set Thought Has Shape

Thread:

"In the tensegrities . . . you don't have any strings or ultimately smallest solid thread."

- Cite SYNERGETICS draft at Sec. 761.03, 31 Oct'72

See String

Tie

Three:

- Citation at Triangle. 17 Feb'73

Threeneaa:

"Threeness constitutes a planar relatedness, which is inherently triangular. Three triangular planes alone cannot differentiate, distinguish, or constitute a system

- Citation & context at System. 27 May'72

Three:

The cube is the basic three. . . "

- n-i t-n---_s Draft

- Cite NASA Speech, p.63, Jun'66

Three Axes - Three-way Grid:

"Three axes • three-way grid = three vectors for every vertex.

- Cite SYNERGETICS text at Sec. 1120.10

Three Automobiles:

See Probability Model of Three Cars on a Highway

Social Highway Experience: Three Autos

"There are only three topological axes of crystallography. They are:

Spin of diametrically opposite vertices I

Spin of diametrically /

opposite mid-edges - Three topological

3 types of axes

Spin of diametrically opposite centers of face areas!

- Cite SYNERGETICS text at Sec. 1041.01; RBF galley rewrite, 27 Dec'73

- Citation and context at Dimensionality. I (1), 28 Oct*73

HBF DEFINITIONS

Citation in context at Starting with Divergence. 19 Feb'76

Three-Dimensional:

"In book /Synergetics/ I must eliminate the words three- dimensionalism as meaningful, and always use omnidirectional' observation of multi-dimensional characteristics, with angle and frequency of cyclic reA-ence as the only requirements."

Citation and Corxt at Siie (2), circa 1970

Thrae-dlmonalonal Unit:

See Perpendicularity, 17 Nov'72

See Fourth-dimensional Synergetics Mathematics, 14 Dec*76 Fourth Dimension: VE as Fourth-dimension Model, 22 Jun'77

Six Motion Freedoms & Degrees of Freedom, (A)(B)

See Cube

Powering: Third Powering Powering: Three k Four Dimensions

nirw-dlatnflQnfl:

See Cartography: Conventional Projections, (1)(2) Fourth Dimension, Mar'72 Parallelism. 11 Jul`62 Vector Equilibrium, 19 Nov'74 Convergent vs. Parallel Perception. 13 Nov*75 Starting with Divergence, 19 Feb'70*

Thraa? Mumbor Tunc tian of Thro*? in fi Four-axi*! gyaxja;

"In the four-dimensional coordinate topology of synergetics the number three associates most economically, (i.e., most close packingly) in five equeleconomlcal ways:

- (a) omnidivergentlv and entropically only with six:
- (b) omniconvergently and syntropically only with one
- (c) frequency divergent only with four;

(d) frequency convergent only with two; and

(e) inside-outingly, pulsatively only with five;

but three never associates perpendicularly or in parallel with another three."

- Cite SYNERGETICS 2 draft at Sec. 962.OB; 24 Jan'76

Ihraf.-jphABfl Vectora-

See Geometry of Vectors, 27 Jan'75

Three-petaled Flower Bud:

See Petal

See Prime Structural Systems

Tensegrity: Basic Tensegrity Structures: Three fc Only

See Happening Patterns

Minimum System: Minimum Structural System Proton & Neutron

Quanta: Paired-event Quanta

Tripartite

Z Cobras

Action-reaction-resultant

Basic Event

Open Triangular Spirals

Z Cobras

Three-vektor Teana: Threefold Vectoring;

(2)

See Structure, 25 Dec'68

**Triangle, (a) Quantum Mechanics: Minimum Geometrical fourness,
14)**

Thrtc-W Grftftt Circling: Three-way Grid?

"The nonpolar points are not fixable or structurally stabilized until occurring at the crossings of a three-way- great-circled-triangular-spherical-surface-grid, generated symmetrically in respect to the polar axis of the system.

- CITE RBF rewrite of SYNERGETICS at Sec. 527.24, (galleys), 7 Nov* 73

"Gravitation is omni-embracing. In the barrel hoops gravity operates only in single and parallelly separate planes. Omnitriangulated geodesic spheres consisting exclusively of three-way interacting great circles are realizations of gravitational field patterns. Events are forced to bounce in spherically contained circles because they seek the largest possible interior circumference patterns. All great circles cross each other twice. Three or more noncongruent great circles are automatically inter-self-triangulating in their repetitive searching for the 'most comfortable' interactions which always resolve their three-way-great-circle patterning into regular spherical icosahedra. octahedra. or tetrahedra. The gravitational field will ultimately be disclosed as ultra high-frequency tensegrity geodesic spheres. Nothing else."

- Cite SYNERGETICS draft at Sec. 1009.®, 8 Mar'73

"The nonpolar point is not fixable or structurally stabilized until it is three-way great circled."

- Citation at Nonpolar Points, 29 Nov'72

"A social experience of three cars: they make a triangle changing from scalene to equilateral to scalene. The triangles are where the cars don't hit. (These are simply the windows.) But you can't draw less than four triangles. The complementarity of the three triangles makes the spherical tetrahedron--- which makes the three-way grid...

"Such dynamically defined Earth triangulation is not a static grid because the lines do not go through the same point at the same time; lines--- which are always action trajectories--- never do. All we have is patterning integrity of critical proximities. There is always a non-violated intervening boundary condition. This is all that nature ever has.*

- Citationa nd context at PiWfrllltY Qi Thrtt Cftfg CD a Highway (3), 26 Sep'73

Three-.. 'ay Great Circling; Three-Jay Grid:

' 'But you can't draw less than four triangles. The comle- mentarity of the three triangles make the spherical tetrahedron--- which makes the three-way grid. The little windows are 15' --- or 15 miles on the Earth's surface. It is really not a grid because the lines don't really go through the same point at the same time. All we have is critical proximities. There is always a boundary layer condition. This is all that nature has ever done. The probability and the degrees of freedom--- which leads to the tensegrity sphere; which leads to the pneumatic bag; which is the same kind of reality as the theee automobiles. It all avergaes out to be 60 degrees. That is probability because you are in 1 closed system. Probability is not lin-ar nor planar, but it is following the laws of spnericity or whole systems. It ties up with the three-way grid and with the constant relative abundance of points, areas, and lines, as disclosed by synergetics."

- Cite KBF to LJA, 3200 Idaho, DC, 17 Feb '72

"The discovery of the mathematically regular three-way great circle spherical coordinate cartographic grid of an infinite frequency series of progressive modular subdivisions, with the spherical radii which are perpendicular to the enclosing spherical field remaining vertical

to the corresponding planar surface points of cartographic projection; and the commensurate identification of this same great circle triangulation capability with the icosahedron and vector equilibrium , as well as with the octahedron and the tetrahedron."

- Cite SYNERGETICS, Sec. 251.20, April '72, incorporating Rbf rewriting of same at Kennedy Airport, NY 1 Apr »72.

"The synergetics discovery of the identification of the surface points of the system with second powering accommodates quantum mechanics' discrete energy packaging of photons and elucidates Einstein's equation, $E = Mc^2$, where the omnidirectional velocity of radiation to the second power--- c^2 --- identifies the rate of the rational order growth of the discrete energy quantation. This also explains synergetics' discovery of the point-fate external growth of systems. It also elucidates and identifies the second power factoring of Newson's gravitational law."

‘ ”in SYNERGETICS *al See!* ,2 *^{“hin} «^{ton}. D-C- Incorporated
infinite frequency series of progressive modular subdivisions and the commensurate
identification of its triangulation
with the icosahedron.”

- Cite RBF to EJA, 21 Dec. *71. Washington DC, incorporated in SYNERGETICS, at Sec. 251.20.

"The mathematical regularity identifies the second power of the linear dimensions of the system with the number of non-polar crossings of the comprehensive three-way great circle gridding, in contradistinction to the previous mathematical identification of second powering exclusively with surface areas."

- Cite RBF to EJA, 21 Dec. '71, Washington DC, incorporated in SYNERGETICS draft at Sec. 251.24.

Three-Way Great Circling:

'I found to my amazement mathematicians making statements that you could not make three-way grids of great circles. . . , And so I did find that nature is using three-way triangulation. This gave me then the realization that. . . You can take a flat piece of paper and it has no structural strength whatsoever--- it will crumple. But if I make it into a cylinder, a simple curvature, I now can use it as a column. . . that is where all the lines are parallel to each other like a barrel!, but I saw that if I could make a three-way interaction of great circles, it would give me extraordinary stability. And that is really what compound curvature is."

- Cite RBF in Hans Meyer Interview, Dome Book Two, p. 90. Dec'70 rcHSEgKirr
-sex. tsra.

"While great circles are the shortest distances around spheres, a single great circle band around a sphere will readily slide off. Because there are an infinity of great circles through any two points on a sphere 180° apart, two great-circle bands--- automatically self-polarizing--- on a sphere can also rotate equatorially and approach congruency thereafter to act as one meridian and therefore slide off. Not until we have three-great circle bands as in a spherical octahedron providing omnitriangulation, do we have the great circles acting structurally to interstabilize their respective positions by closing finitely to provide triangulatrly fixed points less than 180° apart. Between the latter the single great circles--- or shortest distances between two points not 180° apart--- are thereafter spontaneously sought by the 'spherical barrel' bandings."

- Cite Ltr. to Shoji Sadao, 15 Feb. '66., p. 3

Three-Way Great Circling: Three-Way Grid: Spontaneity: 'The greater the further subtriangulation of the sphere, the greater the spontaneity and facility of the mutual positional interstabilization. This spontaneity is brought about by the shortest-distance-seeking of the less than 180° arcs of great circles and the latter's respective tension bands."

- Cite KBF Ltr. to Shoji Sadao, 15 Feb* *66., p. 3.

- *sec. 'LS6~Z£*

"It is probable that this three-way grid of great circles had retrained undiscovered--- alike by mathematicians and explorers of the machine tool's potentials--- because the great circle connectors do not have common axes (poles.) That is to say, they are not a 'family of great circles,' but a randomly occurring, split-into-pairs set, whose properties are first discoverable only by intuitively initiated empirical exploration."

- Cite Noah's Ark, 1950. p.1.

"The three-way great circle grids result from uniform boundary scale subdivision of the edges of the equiside- and-angle triangles, and the great-circle joining of the respective points of uniform subdivision of the edges of the triangles in such a manner that (reading from any of the primary vertexes along the respective diverging edges from the primary vertex} the connecting great circle lines should always connect the subdivision points between one unit of interval with two units of interval of the respectively diverging edges.

- Cite Noah's Ark, 1950, p. 1.

Three-way Great Circling: Threc-WST ^Grld=

(1)

See Arounding

Cork: Triangular Corks in Spherical Barrels Curvature: Compound Curvature

Geodesic

Grid

Octet Truss in Yale Art Gallery

Probability Model of Three Cars on a Highway Spherical Barrel

Tensegrity Geodesic Grid: Three-way Grid Three Axes - Three-way Grid Transformational Projection Two-way Rectilinear Grid Spherical Grid

Omnirational Control Matrix

Dymaxion Airocean World Map Spherical Triangular Lattice

See Fourth Dimension, 29 Nov*72 General Case, 16 Feb*73 Geodesic Dome, 12 Mar'74 Geometry of Vectors, 15 Jun'74 Gravity, (1) Nonpolar Points, 29 Nov'72* Normal to Universe, 10 Sep'74 Octet Truss.'59 Powering: second Powering, 21 Dec*71 Probability, 17 F_eb'72; 18 F_eb'72; (1)(2) Rhombic Dodecahedron, 30 Nov'72 Spherical Octahedron. Aug'72 Sphericity of Whole Systems, 26 Sep'73 Dymaxion Airocean World Map,(5)

"If we take the demographic center of population of humanity which is situated somewhere between Iran and Kashmir, and lay out a clock-shaped, circular, atimuthal map of the world with that Iran-Kasmir locus as its center, the north pole at twelve o'clock and the south pole at six o'clock, we will discover that starting with Japan at three o'clock there is a coastal and island-studded maritime world including all the South Sea islands, and the coastal people of China and Indochina all the way south to and including Burma, within whose fanlike sweep we find all the bamboo basketry to be woven in a triangle-and-hexagon grid of three-way weaving, whereas all the rest of the world is found to be doing its weaving in a two-way crisscross grid.

"...In all the great temples and other edifices of Greece, Egypt, Mesopotamia, and Rome... the foundation lines inadvertently follow the curvature of the planet Earth. This is because... they thought of the world as a flat surface. They therefore assumed that all perpendiculars to the Earth are parallel to one another and therefore assumed that the lines of their hanging plumb bobs were parallel to one another."

- Cite RBF Foreword to "Great Architecture of the World," 13 Mar'75
Ihr.ee-WAY, weaving YS. Two-way Crisscross: (2)

"If we Jump the Atlantic westward to the Mayan world of Central America,, we will find that the foundation lines of their buildings are true horizontal surveyors' lines of sight. They do not follow the curvature of the Earth, which is so clearly to be seen when sighting with one's eye the horizontal step lines of the... Parthenon. If we go westward again across the Pacific... we find the foundations of the early temples in Thailand and Cambodia are curved ever so slightly upwards from their midpoints toward their ends. They follow the curvature of a ship's keel. They are similar to the Japanese shinto torii mounted atop two red columns.... They are the keel of a ship mounted as a beam atop the end columns. The latter are the same world's water people who use the three-way weave basketry.

"When we come to Crete's old palace at Knossos we find the sign of the king carved into the stone walls of his chambers. The king's sign is a hexagon consisting of six equilateral triangles surrounding a central point. .Whereas in the household area of the palace the distaff symbol is carved into the walls; it is a square-enclosed cross. The water king's symbol"

- Cite RBF Foreword to "Great Architecture of the World," 13 Mar'75

"is that of the three-way oriental weaving while the distaff and peoples' area has the two-way weaving symbol. The great power of Crete was the power of the sailor. As with Venice, Crete had no need for fortifications because they had become so omnipowerful as to control all the seas around them."

Cite RBF Foreword, "Great Architecture of the World," 13 Jfar'75

Three-way, tearing?

See Basketry Interweaving

See Constant Relative Abundance

Cube: Volume-3 Cube

Eternal Pattern Integrity: Three & Five Interrelationehipe: Threenese, Fourness & Sixnese Number: Cosmically Absolute Numbere

Probability Model of Three Cars on a Highway

Three-and-only

Tripartite

Triple

Vector: Threenese of the Vector

Trigom (Trimetric}

Topology: Synergetics k Eulerian, (1) Triangle 17 Feb'73»

Tetrahedron:

9 Nov'73

Dissimilar Rate of Change Accommodation!

See A Priori Environment, May*72

Axis of Spin, (4)

Shape Awareness, 20 F_eb*73

System, 26 Dec*74 ; 27 May'72*

Universal Joint: Tetrahedron, 9 Nov `73

General Systems Theory, (1)

Module: A Quanta Module: Introduction Of

22 Feb*77

- Cite K8F Nehru Speech as rewritten for SYNERGETICS "Introduction," draft p.13, 25 Sep«72

I Itafatald of MXr

DNA "is th[®] arsa where the chemistry could be called crystallography* It could be called metals or it could be called animate. You could call it animate or inanimate. It is the complete threshold of the two. Because it is the threshold people to who like to be prosaic and like to make man feel so small can say everything is just going to turn out to be inanimate chemistry and you are all the consequence of probabilities and you might as well jump in the river. This area, then, of the threshold is where DNA is found and the controls of the patterning of life are down to four compounds of chemistry which somehow or other develop a code and out of this dode these four letters are all the designs that occur."

- Cite Oregon Lecture #4, p.135, 6 Jul'62

Threshold of ^Llfg;

See Animate & Inanimate

DNA-RNA

Twenty Questions

Threagltt af ^LI£A-

(2)

See Pattern Integrity, (1)-(5)

Threshold?

**See Critical Proximity Threshold Threshold of Life Vector Equilibrium
Threshold Twilight Zone**

TtirHK-tlirsw:

See Spear, sui«er*71

Thymine:

See DHA-RHA

Ticker-tape Instructions:

See Chronosone, 19 Dec*71

Tlc-tac-toe:

(1)

See Rectilinear Grid Syaterne

Tjc-tac-toe:

(2)

See General Systems Theory, 8 Nov'7J

Tidal: "Since tension and compression always and only coexist with first one at high tide and the other at low tide, and then vice versa, the necklace tubes are rigid with compression at visible high tide and tension at invisible low tide; and each of the tension-connectors has compression at invisible low tide and tension at visible high tide; ergo, each triangle has both a positive and negative triangle congruently coexistent and ech visible triangle is two triangles: one visible and one invisible."

- Citation & context at Necklace, (C), y Nov'73

Tidal:

"Because of the tidal fluctuations of syntropy-entropy

Local environments are forever altering themselves."

- 1971

- Citation at Syntroov & Entropy_t May*72

Tidal:

"Entropy's behavior nay be modernized to state

That every separately experienceable

And generalizably conceivable system in Universe

Is continually exporting energies
While also always importing energies

At a concurrently accelerating and decelerating Variety of local system rates, Which also means

That all systems are continually transforming Internally as well as externally,

And because the periodicity of importing and exporting Are both non-simultaneous and unequal, All the systems are tidally pulsative At a variety of frequencies."

BRAIN fc MIND,

- Cite p.86 May '72

Tidal:

"By two visibly different experiments, One with rope and one with steel rods--- I have demonstrated experimentally That tension and compression Always and only coexist.

"One can be at high tide of visibility, And the other coincidentally At low-tide visibility.

These always and only coexisting variables,*' (Where one is at high tide

While the other is at low tide), Are typical complementaries Which are not mirror-images Of one another but must always Complexedly balance one another in physical equations. Both demonstrate ninety-degree inadvertent resultants. This behavior is known as the Poisson Effect."

- Cite BRAIN & KIND, pp.129-130 May '72

Tidal:

"Strutted trusses are high-tide aspects of edges . . . solids are high-tide aspects. . . .Spheres are high- tide aspects of vectors. . In your closest packing you have the spheres which are Just the high-tide aspects ... because the lines are now hidden between the points of tangency. It is very easy to be greatly misled when you see two spheres in tangency. There is only one line between the two. This is where you see that unity is two because the line breaks itself into radii of the two spheres."

- Cite Rbf tape Blackstone Hotel,
Chicago, 31 May 1971, p. 37
I2. V HivEKX eL t > F S37."

Tidal:

"Spheres are high tide aspects of vertexes. Solids are high tide aspects of faces. Spheres in closest packing are high tide aspects of vertexes."

- Cite RBF to EJA, Blackstone Hotel Chicago, 31 May 1971.
'll *FRE EK*** - *sec*

Tidal:

pEB£±S±QD- Of

"Tension and compression always operate at

right angles to one another and we simply have one at high tide and one at low tide of aspects of conceptuality.

- Cite nEBftttMltt'r-l.ah l.pcitnire;-pT-5Q-t 15 "Oft *64
- Citation 4 context at Tension 4 Compression. 15 Oct¹64

Co*fttFSSieM - SEC *Cm.01* \

'finite'*

Tidal:

"The question was: Could we get vastly strong, long members that had no section at all? I saw that was exactly what nature had done in her gravitational cohering relationship of the Earth and the Moon with a 320,000 mile tension 'member* of zero diameter. Twice daily we may witness this Noon-Earth tension as it gravitationally lifts Moonward billions of tons of the watery ocean film of Earth in what we call tides, 'Tides' means 'tension.' (As we tie a string we make a tension connection.) I saw that, in the tides and in gravity, nature had accomplished a truly invisible, formless, structural, tensional coherence. The question was: Could man begin to approximate the magnificent efficiencies and economies of these macro-micro tensional integrities of nature? And I discovered it was possible for man to do so."

- Cite Mexico '63, p. 30. ,0 Oct'63

Tidal;

"Tension and compression are in respect to one another like tides--- one is at high tide while the other is at low tide--- or you might say low tide of visible apprehendability. They are strictly functions in regard to one another."

- •Oitu ORIjtkJM VuTCuio

- Citation & context at Function. 9 Jul*62

RBF DEFINITIONS

Tidal;

"Tension and compression are inseparable and coordinate functions of structural systems, but one may be at high tide aspect, i.e., most prominent phase, while the other is at low tide, or least prominent aspect or phase, e.g., a visibly tensioned rope is compressively contracted in almost invisible increment of its girth dimensions everywhere along its length. This low-tide aspect of compression occurs

in planes perpendicular to its compressed axis. Columns which are visibly loaded only by weights applied to their respective top ends, are easily seen to also have their vertical axis in compression, but invisibly the horizontal girths of these columns are also in tension as the result of a cigar-shaped swelling pattern of forces acting in the column at right angle to its loaded axis, which tends invisibly to transform toward the shape of a squash or a banana. As a result of the visible, or high- tide. vertical compressioning aspect of such axial loading of the column's system, this swelling force imperceptibly stretches, or tenses, the column's girth as a low-tide reciprocal function of the overall structural integrity reciprocity.

* Cite TENSEGRITY, Art News Annual, p. 119, Dec'61
Tidal;

'All components of Universe are in continually accommodative, associative-disassociative motion reciprocity, and all the moving components of Universe continuously affect all the other moving components--- in varying degrees, ranging between high and low tide reciprocities of critically intense to critically negligible."

- Cite Tensegrity, Art News Annual, p. 119. Dec'61 **"In the high and low tide cooperative precessional functionings of tension vs. compression I saw that there are times when each are at half tide, or equally prominent in their system relationships,"**

- Cite TENSEGRITY, Art News Annual, p. 120. Dec'61

See Energy Income

See Precession (b); (II)

Tides:

"Tides are omnidirectionally convergent and divergent

... pulsations. Tides come IN and tides go OUT. They come in to specific foci . . . they go out omnidirectionally.

- Cite RBF toEJA, Beverly Hotel_t New fork, 19 June 1971.

See Balancing of Highs k Lows Boltzmann Sequence Highs k Lows:
Exchange Of High Tide Aspects Importings k Exportings Motion Reci-
procity Pulsation Push-pull Syntropy k Entropy Wheel Wind Sucking
Sequence

See Coherence, 10 Oct'63

Function. 9 Jul*62*

Motion (2)

Precession (1)

Solids, 31 May'?1

Tension & Compression, 15 Oct'64

Truss, 31 May` 71

Orbital Feedbacks, 10 Sep'74

Intuition, 1 Feb'75

Naga, (3)

Gravity, 11 Feb'76

Orbital Feedback Circuitry Critical Path, 9 Sen*74

Tie:

""Tides' means 'tension. A;

we tie a string we mak

tension connection."

- Cite Mexico '63, p. 30.

T|e Rpd_a: Iron StarB:

See Civil War, (1)

Tie; Tying:

See Mountain-pass Tie-downs

Tiger:

See Skinning: Tiger's Skin

Tjghtneag:

See Fit: Pressured or Tensed Fit Rigidity Self-tightening

See Projective Transfor nation

Transformational Projection

See Puile of Washington Crossing the Delaware, (1) (2)

Tipable:

See Mass, 29 Dec'5S

Time;

"Asymmetry is a consequence of the phenomenon time and time a consequence of the phenomenon we call afterimage, or *double take,' or reconsideration, with inherent lags of recallability rates in respect to various types of special-case experiences.

" Infrequently used names take longer to recall than do familiar actions. So the very consequence of only 'dawning' and evolving (never instantaneous) awareness is to impose the phenomenon time upon an otherwise timeless, ergo eternal Universe. Awareness itself is in all these asymmetries, and the pulsations are all the consequences of just thought itself: the ability of Universe to consider itself, and to reconsider itself."

Time t

- differentiations of time are observed directionally;
- directions introduce vectors (lines);
- two time lines demonstrate the observer and the observed.

- Citation and context at Geometry of Thinking_T 16 Dec'73

Time;

- Citation and context at Now. 7 Nov'73

Time:

"Because the Physical is time, the relative endurances of all special-case physical experiences are proportional to the synchronous periodicity of associability of the complex principles involved."

- Citation & context at Metaphysical Experience. 13 Mar'73

Time:

"Gibbs brings in time. Time is tactile. Time is frequency. Our pulses measure its passing."

- Cits SYNERGETICS draft At Sec. 1054.54, 6 Mar'73

Time: j

"We had time all along. We just did not know how to bring it in. The Babylonians tried to do it with their degrees, minutes, and seconds. The metric system left time as an exponent. Time was not a unique dimension. It was a quality of observation, of obvious existence.

"Synergetics is the first to introduce the time dimension integrally as the frequency of the systems, which are metaphysically independent of time and size but, when physically realized, have both time and size which are identified in synergetics as the frequency of the system: the modular subdividing of the primitive, metaphysical, timeless system.

"You cannot have time without growthability which implicitly has a nucleus from which to grow. We would not have discovered the frequency, or time, dimensions had we not explored the expansiveness-contractiveness and radiational gravitational behavior of nuclei in pure metaphysical sizeless and timeless principle.

- "It follows that the isotropiu vector matrix field discoveryn
 - Cite SYNERGETICS Draft At Secs. 1054.71-74, 6 Far'73

Time:

"represents the frame of reference through which all the interpulsating transformations of time realizations transit, but which will never be directly witnessible in the eternally instant static state.

"Synergetics is an integration of the frequency of Gibbs with the timelessness of Euler. . . The thermal, acoustical, sensorial characteristics. . . are expressible only as frequency."

- Cite SYNERGETICS draft At Secs. 1054.74-75, 6 Far'73

Time;

"In time-vectorable Universe the maximal range of radiant- regenerative reachability in time is determined by the omnidirectional velocity of all radiation: c , i.e.

{1a6,000)^z."

- Cite SYNERGETICS draft at Sec. 426,03, 30 Nov'72

Time

"While empty set numbers may be theorized as multipliable by themselves, so long as there is time to do so, all experimental demonstrability of science is inher/tly time limited. Time is the only dimension. It is expressable as frequency,"

Sec. 960.03

- Citation and context at Powering. 16 Nov*72
 "Edges can be any length permitted by time."
 - Citation and context at Equiangularity, 25 Sep*72

RBF DEFINITIONS

Time:

"The speed of light, at the limit case, becomes the time. The speed of radiation is the limit case, but it is the initial limit. It always comes back to itself."

- Citation at Radiation: Speed Of. 22 Jun'72

Time:

"...Seconds to the second power. It is a time thing

- Citation and context at Cube: Diagonal of Cube As Wave Propagation Model. 22 Jun¹72

Time:

•'It is inherent in the mathematics of the degrees of freedom which demand the invention of time due to the varying rates of recall of observation of the behavior of the vectors.'

- Citation and context at Twelve Universal Degrees of Freedom.

29"Ray'72

Time;

"... Vectors, being the product of physical energy constituents, are 'real,' having velocity multiplied by mass operating in a specific direction; velocity being a product of time and size modules; and mass being a volume-weight relationship. On impact, mass at velocity transforms into heat and work. These energy factors can be translated not only into work, but into heat, or into time as well."

- Cite SYNERGETICS, Sec. 410.05, 27/2 May*72

IXaa:

"There really is an annihilation into eternity with no time and dimensioning--- these are only in our temporal relativity. Time is within our lags and our gestation rates and in the frequencies, of the electromagnetic spectrum. But every time we have annihilation into eternity, it is not lost in principle; it is only lost in the relative inaccuracy which we must have to differentiate and to have awareness."

"Time gives specific site and symmetry due to inherent lags: the lags of realization!"

- Citation and context at Eternity (1), 23 May'72

Time:

"In the equanimity model the physical and the metaphysical share the same design. The whole of physical Universe experience is a consequence of our not seeing instantly, which introduces time. As a result of the recall lags the physical is always imperfect."

- Cite SYNERGETICS draft at Sec, 443.04, 26/3 May»72

Time;

"Time, relativity and consciousness

Are always and only coexistent functions

Of an a priori Universe. • . "

- Citation and context at Second, p. 12, May '72

Time:

"It. takes time to go back from there to over here.

So you invent time. The conceptuality of different degrees of apartness is fundamental to a plurality of degrees of freedom, which induces the realization of time.^{1*}

- For citation and context see Timeless. 1 Apr *72

Time :

"Time is in our dimensioning because our geometry is vectorial. Every vector « mass x velocity, and time is a function of velocity. The Euclid XYZ-coordinate geometry does not have time. Synergetics inherently has time; it deals with anything that exists."

RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. *71*

Time:

"Minimal consciousness evokes a nonsimultaneous sequence, ergo time. Time is not the fourth dimension and should not be so "identified. Time is only a relative observation, a set of local sequences of experiences after image formulation lag of the brain. Time is not a function of space."

- Citation & context at Physical Tetrahedron ya. Conceptual Tetrahedron. Dec'71

RBF DFIKITIUNS

Time:

- Citation at Dimension. Tl Oct'71

arverf ordPn;imr.rn-T L . 1

Time:

"Gibbs accommodates the omnidirectional system complementations of the other senses: thermal, tactile, aural, and olfactory--- not just associatively, but radiationally. Gibbs brings in time. Time is tactile. Our pulses measure its passing,"

- Cite Synergetics draft, ften-HjA., August 1971.

Time:

"The a priori otherness of comparative awareness inherently requires time. Early humanity's concept of the minimum increment of time was the second, because time and awareness begin with the second experience after the other."

- Cite RBF marginalia on Synergetics draft, Sec.-223.JI- 19 Jun *71 ~SYw< cents
PKiwcn- 4**—

Time:

"Because we have relatively so little time. both on today's schedule
and in the crisis of continued human occupancy of planet Earth. « . "

- Cite Museums Keynote address Denver, p. 7. 2 Jun'71

Time:

"It is a consequence of the phenomenon time and a consequence of
the phenomena we call after-image or thinking, or reconsideration,
which has inherent lags of recallability of the various special case ex-
periences. So the very consequence of awareness is to Impose the
phenomenon time upon an eternal Universe,**

- Citation 4 context at Thought, 31 May'71

Time:

"Generalized principles are often called constants by the semantics
of scientific specialization whose viewpoint is myopically inadequate.
Constancy is a time concept.

Time is relative and cyclically terminal. Time is energetic, physical---
is ever finitely evolving, which is the opposite of 'constant'."

- Cite Dreyfuss Preface. "Decease of Meaning" 28 April 1971. p. 5

RBF DEFINITIONS

Time:

"Lags are intervals--- nothing. Insfcaneity would eliminate other-
ness, time, and self-and-other- awareness. Instantaneity and eter-
nality are both timeless: they are both the same. Eternity contains
time; time does not contain eternity, the relationship is irreversible.
The contained time of eternity provides eternal awareness."

~~ManglrrHa_T-Suinrrff>t^MgTu'y->B<r~~

- Citation 7 context at Eternal & Temporal. 25 Apr'71

Time :

"Because every action has both a reaction and a resultant every now must have a past and a dawning future."

- ttCoxicaptualtju- Time" — RHF

marglnalls-added at Somerset Club, Boston, 25 April *71

- Citation at Now, 25 Apr*71

Time:

"Time is experience. Time can be expressed only in relative magnitude ratios of relevant experiences. Time can be defined only in the terms of relative frequency of occurrence of relative angular changes of the observer's environment, the relative frequency of the occurrence rate being referenced to any constantly recycling behavior of any chosen sub-systeaa of universe. All experiential realizations are cocnceptually definable in degrees of angulation change and in relative frequency of occurrence rates in respect to the observer's optionally chosen axis of conceptuality and of his specifically identified time-recycling rate."

- Cite SYNERGETICS Draft - with new RBF marginalia added at Somerset Club. Boston, 25 April 1971 (Synergetics Sec. 529.01 J

Time:

"Contemporary science as yet assumes that all local systems in physical universe are instantly and simultaneously affectinrone another in widely ranging degrees of influence, '

"All the time phenomena of the physicists are expressed in linear data coordinates, but all cyclic actions are spirals because there are no straight lines and also because lines cannot 'go through' or 'return into' themselves. There can be no experientially demonstrable circles is continuous lines 'returning into' themselves. Lines cannot return into themselves. Because there are no planes, a wave is a spiral."

- Cite SYNERGETICS Draft - "Conceptuality:Time" with RBF marginalia added at Somerset Club, Boston, 25 April '71

Time:

"The word locally means locally in time and space.

By spacew we mean site— a function of time."

- Citation at Local. 22 A.pr'71

22 April 1971

Time:

"What we call length is always measured in time

- mt

~~Town Hall, New York~~
~~12 March 1971~~

- Citation at Length_f 12 Mar*71

Time

"All the time phenomena of physicists are linear."

"All actions are spirals because they cannot go through themselves and because there is time. The remote aspect of a spiral is a wave because there are no planes."

- Cite RBF to EJA

Beverly Hotel, New York B Karch *71

Time:

"Minimal consciousness

Evokes a non-simultaneous sequence,

Ergo, Time."

- RBF toEJA, Sarasota, Florida 7 February 1971

Tint - See- 511.«U

Time:

"The future ia not something linear. So we seem to be talking about a greater range of known cycling. . • .

We're talking a complete 'now.' It really Is a subjective 'now*and and objective 'now* and so forth, btt it really ia all 'now.'"

- Cite WATTS TAPE, p. 39,19 Oct'70

THTTTF-SFC 519.101

Time:

"Tentative is a time word which, with freqJrfcy of redefining gets more and more exact. (cf. HeisAiberg.)

"Time element is the ability to phiase properly. The thing being defined does not change."

Cite: Statements by RBF to EJA in 1970.

Time:

"... How long the edges are can be determined only in the terms of the repetitive multiples of some given pattern experience. The given experience module has a fundamental time consideration. All experience of size refers to the duration of the of the pattern-describing events. And the observer's time sense refers to any of his own after-image consideration of one of his integral recycling organs."

"A basic time cycle is a circle or a loop back."

- Citation and context at Size (1), circa 1970

Time;

'•Lines are finitely developed events.

And their durations

Are always relative

To some cyclic experience in Time."

- Citation and context at Radiation; Speed* Of (D), 28 Jan'69

Time :

"Size and time are synonymous.**

- Cite GENERALIZED PRINCIPLES, p. 6 - 23 Jan. '69.

Time:

"It is one of those strange facts of experience that when we try to think into the future, our thoughts jump backward. It may well be that nature has some fundamental law by which opening up what we call the future also automatically opens up the past in equal degree* Time is not linear, but probably consists of omnidirectional wave propagations."

- Cite GCJDESSES, Sat. Review, 2 Far 68

TIME - *Sec.*

Time:

"Experimentally demonstrable cyclic regularities, such as frequencies of the occurrence of radiation emissions of various atomic istopes, become the fundamental time increment references of relative size measurements of elemental phenomena."

- Cite NASA Speech, p. 99, Jun*66

Tine - -lee , SZTozi

Time:

"Distance is measured in time. Time increments are calculated in respect to a variety of cyclic regularities manifest in our environmental experiences,"

Cite NASA Speech, p. 99, Jun'66

TIHC - sec. 514. ol)

Time :

"Time can be expressed only as 'relativity*' in the terms of relative frequency of reoccurrence of any constantly recycling behavior of any chosen sub-system of universe."

- Cite NASA Speech, p. 49, Jun'66

TIME-sec. 51*1.oi|

Time:

"The M majority of academic people are still thinking in terms of Newtonian (classical) science's 'instant universe.' While light's speed of 700 million miles an hour is very fast in relation to automobiles it is very slow in relation to the 'no time at all*' of society's '{obsolete) instant universe thinking.

"It was part of the classical scientists' concept of instant universe that universe is a system in which all parts affect one another simultaneously, in varying degrees."

- Cite NASA Speech, Dp. 25,26 Jun'66

-riwr- set.

Time:

"The measuring act always involves time increments of our totally available time of life and may be conceived of only in respect to local events in nonsimultaneous Universe, there being no overall 'largest'¹ size to be referred to...

"Einstein was able to show that every individual's every time-employed yardstick of time, i.e., the cyclic increment of imaginary reference, is always unique and different from others, a difference that amplifies greatly as we enter into astronomical 'observing' by individual instruments whose progressively designed reductions of tolerated error is also always unique and only calculatable relative to each experience."

- Cite NASA Speech, p.102, Jun'66

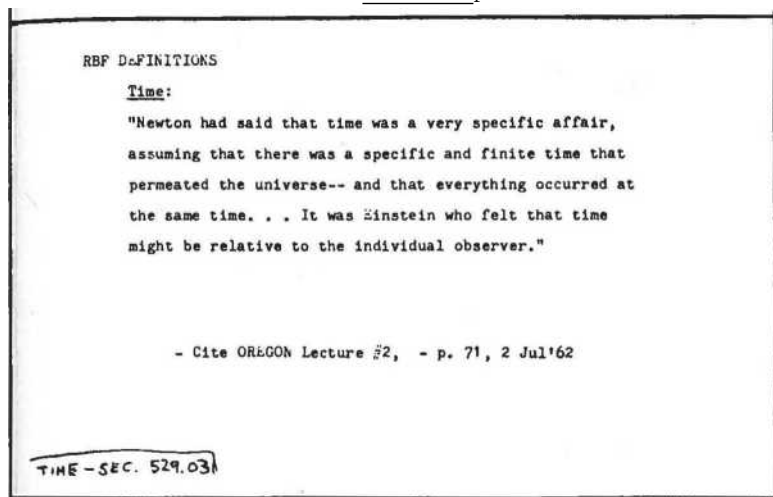
KBF DEFINITIONS

Time:

"Velocity is the complementarity of time and space. Time and space are simply functions of velocity.

Velocity is really the reality. You can examine the time or the space increment, but they are never independent of one another. They are unified as velocity."

- Citation and context at Velocity, 12 Jul • 62



Time:

"A wide range of time investment magnitudes must be assigned VA to the respective considerations of the multitude of different constellar, experience-pattern comprehensions."

- Cite OMNIDIRECTIONAL HALO, p. 132, 1960

Time:

'The emergence of the time concept as something more specific than the vague thing which a clock ticks away, a concept in which time is as essential a component or unit of the physical world as is oxygen, came with the advent of the cipher, the enabling instrument of time's calculatability.' '

- Cite NSNE CHAINS TO THE MOON, p.143, 1938

'One more scientific factor entered the scene during the zero hour of the Mediterranean philosophers* streamlining. That was the concept of time as a segregated philosophic entity. ,Ve have already seen what an important factor time is in Einstein's formula, where rate of energy combines time, as pure abstract, with space, as pure matter. TIME entered the picture through poetry, Many, if not most, of the important scientific events that have occurred have appeared first in fun and play, as for instance the suspension bridge which appeared first as a Chinese tight-rope-walker's frame. Funambulist - rope » walker; funis » rope; ambulare = walk. "Fun" -- "rope" --- Will Rogers --- line --- tension --- the 'fun' of life."

- Cite NINE CHAINS TO THE MOON, p.142, A938

Time-angle-size Aspects:

.Comprehensively concerned children can learn how to avoid the miscarriages of mlsconceptioning as induced by too brief reviews of their progressive experiences as observed from too few viewpoint loci. They can learn--as did Einstein of the plurality of different,

instrumentally-measured, time- angle-and-size aspects of the same phenomena as viewed from different given environmental surrounding points by different observers at as close to the 'same' time as possible, taken at 'almost the same time' as well as at distinctly different times. The foregoing is what led Einstein to the discovery of relativity."

- Cite SYNERGETICS 2 draft at Sec. 100.023; 30 Apr'77

Time-angle-size Aspects:

See Axis of Conceptual Observation Orientation Vectorial Orientation

"Comprehensive universe is amorphous and only locally finite as it transformingly differentiates into serially conceptual pattern integrities, some much larger than humanly apprehensible some much smaller than humanly apprehensible, ever occurring in nonsimultaneous sets of human observings, time-cancelling, harmonically integrative synchronisations are supra or sub human sensibility and longevity experienciability whose periodicities are therefore so preponderantly unexpected as to induce human reactions of overwhelming disorder, so that . . . suddenly around comes the comet again for the first known time in humanly recorded experience, periodically closing the gap and periodically pulsing through eternally normal aero."

~~- Cite RDP amplification to CIA as citation re Comet in Oregon Lecture #1, p. 158. Now in SYNERGETICS draft Sec.~~

- Citation at Comet: Around Comes the Comet, etc., 19 Jun'71

Time Center:

"The 20 P is the total Universe momentarily all at one time center."

- Citation and context at Nothingness. 16 Nov'72

"The sense-coordinating brain of each and all humans, like sound or light, has a limit speed of apprehending. There is no instant cerebral cognition. The apprehension lags automatically impose off-center human cognition which occasions the sense of time in a timeless eternity. The sense of time occasions the conception of life and serial experience. The inherently invisible vector equilibrium self-started life and ever regenerates life. Inherent in the lags is our intimate knowledge VBHM only of self,"

- Citation_t context at Vector Equilibrium as StartiriK Point. (2)

Time fc Consciousness:

See Life as Synchronisation of Time &. Consciousness

"Time ie energetic, physical--- la ever finitely evolving, which is the opposite of 'constant'."

- Citation k context at Constants. 28 Apr'71

Time Differentiable;

See Conceptual System, 27 May*75

KBF DEFINITIONS

B^T_{ltne k} Energy;

"The phenomenon of time entering into energy is Just a metaphysical concept. It explains our slowness and our limitations. Temporality is time and the relative asymmetries of Oscillation are realizable only in time--- in the time required for pulsative frequency cycling. Synergetics correlates verities of time and eternity."

(Later context at Vector Equilibrium; Field of Energy (C))

- Cite RBF dictation for SYNERGETICS, Beverly Hotel. New York.

2e Feb. '71. See Sec. 205.5 of Oct. '71.)

Time & Energy;

"Finally man has accumulated
sufficient knowledge of certain proportions of time and energy and of
their respective
special relationship behavior
to selectively segregate
and reassemble those constituents for himself."

- Cite MACHINE TOOLS, p.41, Dec'40

Time Yg. Energy:

'When the Almighty happened to bemuse his wisdom with playing
shoot-the-works, he opened with one hand the hot valve of absolute
energy and with the other the cold valve of absolute time,"

- Cite NO MORE SECONDHAND GOD, "Machine Tools," p.37; Dec'40
Tlac va. Energy:

See Friction, 9 Apr'40

Eternity vs Energy, 2 May*78

Tlm-anarar £<;gimlet

o-

"I work on metabolics. the distribution of eneijy processes* We have
internal metabolics and we have etrnally regenerative Universe; we
have big and little, different kinds of creatures in energy magnitudes.
So what we are really studying in economics are these energy ex-
changes and times and cessation rates.

"So there really is a logical accounting system. It was very logical to have agriculture paced to the annual system when you could only last 30 days without food or you were going to starve; and so the fiscal year was an annual year. But when we get into an industrial system it's quite different; but they proceeded to try to encompass the whole industrial pattern into a completely inappropriate agricultural pattern.

"The point is that from the very beginning I've been working on time-energy economics. Time-energy economics is called cosmic accounting. It views the total system in interaction with the celestial system, 'Where is our energy income? Where is our energy? What is our inventory? What is the planetary inventory? The biosphere inventory? There is a point at which there is just so much and you're not going to get any more."

- Cite Tape #3, pp.16-17; RBF to W. Wolf, Phila., PA, 15 Jun'74

See Cosmic Accounting

"Geodesic lines are the most economical (meaning least time-energy involvement) relationship between any two events

- Citation & context at Geodesic Line. 9 Sep'74

See Consciousness as Synchronization of Time & Energy Time-energy Economics Time-energy Involvement Time vs. Energy Energetic Information

Tins * gtwn: <2)

See Geodesic, undated: 24 Sep'73

Mind (3)

Self-now, 193®

Short Cuts, 9 May'57

Space 20 Oct'72 ; Jun'66

Time, 27 May'72

Time Vector, 24 Sep'73

Friction, 9 Apr'40

Energy Involvement of 92 Elements

Time Equanimity!

"Synergetics inherently has time equanimity! it deals with anything that exists always in 1 x 1 time coordination.

(Context at Titae-sise. 20 Dec*73)

- Cite SYNERGETICS draft at Sec. 962.43, 17 Nov»72

Time 4 Fourth Dimension:

Time Is Not the Fourth Dimension

RBF DEFINITIONS

Time is Not the Fourth Dimension;

"Time is in our dimensioning because our geometry is vectorial. Every vector \square mass x velocity and time is a function of velocity. . . Time and heat and longevity and weight are inherent in every dimension. Ergo, time is no more the fourth dimension than it is the first, second, or third dimensions. No time: No dimension. . . It was the failure of the exclusive three-dimensionality of the XYZ interperpendicular coordination that gave rise to the concept that the fourth dimension must be a mysterious state which might be spoken of casually as a 'time dimension,' because the XYZ coordinates in themselves, as heretofore adopted by man, has seeming validity only in its linear and spatial characteristics independent of time and physical reality."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. *?1. (Partially cited at Vector Equilibrium. 21 Dec'71

Time is Not the Fourth Dimension:

Synergetics : Sec. 962.40

Sec. 966.00

Time is Not the Fourth Dimension:

See Time, 1970; Dec'71

Vector Equilibrium, 21 Dec*71*

Six Motion Freedoms & Degrees of Freedom, (X)(B)

TEXT CITATIONS

Tidfi • If There Is Time:

961.45

1106.30

(t)

Tins; if There is Time:

See Line: If it Exists

No Absolute Time

Time: If There is Time:

See Modules: A & B Quanta Modules, 20 Dec'73 Time, 16 Nov'72

(2)

Tim? incrementftlpln-

"Time incrementation is special case information."

- Citation & context at Energy & Information, 27 Dec'74

Time Increment:

See Heartbeat, 13 Mar'73

Packaged 1969

Time & Size, Nov*71

Time at an Invention:

See Individual Universes, (2)

Timeless, 1 Apr*72

Twelve Universal Degrees of Freedom, 29 May'72

Sea Mediation: Speed Of, (B)

See Special Case

See Generalized Principle (A)

Time, 16 Nov*72

-UM-IP PDLY Hay:

"Time is only now. Time and else are always special case asymmetric episodes of now whose systemic aberrations are referenced to the cosmic hierarchy of primitive and symmetrical geometries through which they pulsate actively and passively but at which they never stop. The rest of Scenario Universe is shapeless: antuned-in."

- Citation k context at Scenario Universe_f 19 Jul*76

Time Perspective:

See Intellectual Perspective, 20 Dec'74

Time Entered the Picture through Poetry:

See Time, (p.142) 1938

Time Quality:

At the end of a piece of rope we make a metaphysical disconnect and a new set of observations are inaugurated each consisting of finite quanta integral ingredients such as the time quality of all finite-energy quanta.

- Citation at Metaphysical Disconnect. 19 Jun*71

Has: Samu-aung Tlaa Out of the Svatea:

See Geometry of Vectors, Aug*71

Time-size:

"Time is size and size Is time. Time 1b the only dimension. In synergetics time-size Is expressible as frequency.

"Recalling our discovery that angles, tetrahedra, and topological characteristics are system constants Independent of size, the limit of experimentally demonstrable powering involves a constant vector equilibrium and an isotropic vector matrix whose omni symmetrically interparaileled planes and electable omniuniform frequency reoccurrences accommodate In time-sizing everywhere and anywhere regenerative gg_J "1111

JBBESSSSKESSal (symmetrically indestruct, tetrahedral, four-dimeanlonal, zerophase, i.e., the vector equilibrium) rebirths of a constant, unit-angle, structural system of convergent gravitation and divergent radiation resonatability, whose developed frequencies are the specific, special-case, time-size dimensionings."

- Cite RBF rewrite of SYNERGETICS galley at Secs. 960.03 and 960.04, 20 Dec'73

Time-ai»e:

"No time: No dimension. Time is dimension.

"Time is in synergetic dimensioning because our geometry is vectorial. Every vector - mass x velocity, and time is a function of velocity. The velocity can be inward, outward, or around and the arounding will always be chordal and exactly equated with the inwardness and outwardness time expendabilities.

"The Euclidian-derived XYZ coordinate geometry cannot express time equi-ecobomically around, but only time in and time out. Synergetics inherently has time equanimity: it deals with anything that exists always in 1 x 1 time coordination."

- Cite SYNERGETICS text at Secs. 962.41 t 962.41, per RBF rewrite of 20 Dec'73


Time-Sjze:

"Special case always has frequency and size-time.

- Citation a> Special Casa, 17 Feb'73

Time-Slie:

- Cite SYNERGETICS draft at Sec.-W»3 2 Nov'72

 Time-Sizing:

"Multiplying wavelength by frequency equals the speed of light. We have two experimentally demonstrable radiational variables. We have to do whatever we do against time. Whatever we may be, each we has only so much commonly experienciabale time in scenario Urd-verse within which to articulate thus and so. Therefore the vector equilibrium's radiant or gravitational "realizations" are always inherently geared or tuned-in with the fundamental time-sizing of 186,000mps., which unique time-size-length increments of available time can be divided into any desirable frequency. One second is a desirable, commonly experienciabale, increment to use and within each unit of it we can reach 35186,000 miles in any nonfrequency-interfered-with direction."

- Cite SYNERGETICS draft at Sec. 426JU, 30 Nov'72

"Time and Dimension: Synergetic geometry embraces all the qualities of experience, all aspects of being. Measurements of width, breadth, and height are awkward, inadequate descriptions that are only parts of the picture. Without weight, you do not exist physically; nor do you

exist without a specific temperature. You can convert the velocity-times- mass into heat. Vectors are not abstractions, they are resolutions. Time and heat and length and weight are inherent in every dimension. Ergo time is no more the fourth dimension than it is the first, second or third dimension."

- Cite SYNERGETICS text at Sec. 962.40, as rewritten by RBF,
30 Oct'72 '

Time & Size:

"Distance is measured in time. Time increments are calculated in respect to a variety of cyclic regularities manifest in our environmental experiences. Experimentally demonstrable cyclic regularities, such as the frequencies of the reoccurrence of radiation emissions of various atomic isotopes, becomes the fundamental time-increment references of relative size measurement of elemental phenomena,**

- Cite SYNEKGETICS text at Sec. 529.02; Nov*71

We may think independently of else in respect to tetrahedra, which consist of 12 separate angles. Triangles and tetrahedra and all varieties of polyhedra are thinkable independently of size. The cyclic-module measurement of the time of experiencing or generating the length of the edge of any triangulated special-case system can represent the basic 'standard' of relative size-comparisioning to other object experiences. Each cyclic 'sizing' increment is one unit of frequency and each cyclic increment inherently constitutes one unit of experienced physical energy."

- Cite SYNERGETICS text at Sec. 515.11, draft of Jul*71

Time-size Cyclic Modules:

See In, Out k Around, Nov'71

i.

$T_{IMfl-alio} L_{lnlta} =$

See Time, 16 Nov'72 Time-size, 2 Nov*72

TIPO-BIIO:

See Conceptuality Independent of Time ft Site Tunability Time-angle-
size Aspects Relative Volumetric Frequency 4 Interval

See Frequency, 15 Oct*72 Generalization. 17 Feb'73 Special Case,
1? Feb'73* Tetrahedron as Conceptual Model, 28 Jan'73 Topology:
Synergetics k Eulerean, 16 Nov'74 Six Motion Freedoms k Degrees of
Freedom, (A)(B) Sphere, 8 Aug¹77

TJJW Swthlmucw =

See Space Nothingness & Time Somethingness

Time **k** Space:

- Cite SYNERGETICS text at Sec. 526.02; Nov¹71

MMB Tift* & Space:

- 'Time is only a relative observation—

A set of local sequence of experiences--- Not a function of space.

We can discuss time

As if there were no time."

- Cite kBF to EJA Sarasota, Florida 7 February 1971

TIHF- Sec 515J,6(>|

Una A

' ` Velocity is the complementarity of time and space. Time and space
are simply functions of velocity. Velocity is really the reality. You can
examine the time or the space increment but they are never Independent
of one another. They are unified as velocity."

- Citation & context at Velocity, 12 Jul*62

HBFB DEFINITIONS

Time & Space:

"...Rate being the inseparable relationship of time and space."

- Citation & context at Conscious World, 1938

Time & Space:

"We have time Relationships but not static space relationships."

- Citation & context at Space, May*71

Time-Space:

(i)

See Life-time-space phenomena

Space Nothingness & Time Somethingness Zero-time-space Size

Vector: One-second Vector Length

Time & Space: Time-space:

(2)

See Conscious World, 1938*

Frequency, 16 Feb'73

Irreversibility: Principle Of, Apr'71

Limit Case: Closest-packed Symmetry, 17 Feb*73

Nucleus - Nine - Nothing, 18 Feb'73

Rate, 1938 (pp.62-63; p.97)

Space, May'71*

Velocity, 12 Jul'62*

Halo, 1938

Time, Dec'71

Cite Time Center. 16 Nov'72 as rewritten by RBF 26 Nov'72

Time ofc Timeless:

See Apprehension Lags, 11 Sep'75

Physical Tetrahedron vs. Conceptual Tetrahedron, Dec*71

RBP DEFINITIONS

Tjpe Vfigygr:

"The only difference between experience and nonexperience is time. The time factor is always radial, outwardly, inwardly, and chordally around; always accounted only in most economical to self-experience, energy-time relationship (i.e., geodesic) units. The vector is time-energy incrementation, embracing both velocity and relative mass, as well as the observer's angulation of observation---strictly determined in relation to the observer's head-to-toe axis and time, relative, for instance, to heartbeat and diurnal cyclic experience frequencies."

- **Cite SYNERGETICS draft at Sec. 540.08, 24 Sep'73**

Tlm«-v«ctorabla Unlvarae:

See Time, 30 Nov*72

See Tentative, 1970

Thinking, 193d Occur, 30 May*75

Has:

(»*)

Available Time Clock: Timekeeping Cold Valve of Absolute Time Conceptuality Independent of Sise & Time Contained Time Cosmic Time Distance Doppler Effect Energy-time Relationships Eternal Instantaneity Eternal Slowdown Conceptual Genesis Eternity Experience: Cell-time-man-experienced Events Future Intellect Seconds Life-in-time Life as Synchronisation of Time & Consciousness Independence of Sise & Time

See Natural Time Increment Nonsimultaneous Now No Time Perception
Realization Lag Relativity Scenario Second Spending Timeless
Temporality Transient Vitalistics Pretime

Unwinding Time Geometry of Vectors Syntropy & Time Subtime

Eternal i Temporal No Absolute Time

22 Jun'72*

Critical Proximity, 15 Feb'73

Cyclic Unity, Jun*66

Dimension, 16 Nov'72: 11 Oct'71*

Dimensional Growth, 20 Dec*73

Equiangularity, 25 Sep*72*

Eternity (1)*

Generalized Boat, May'72

Geometry of Thinking, 16 Dec'73*

Isotropic Vector Matrix, 6 Mar'73

Length, 12 Mar'71*

Local, 22 Apr*71*

Metaphysical Experience, 13 Mar'73*

Metaphysical Disconnect, 19 Jun*71*

Nothingness, 16 Nov'72*

Now, 7 Nov'73*; 25 Apr'71*

See Physical Is Always the Imperfect, 14 Feb'72 Powering, 16 Nov'72 Radiation:
Speed Of, (D)*; 22 Jun'72* Resultant, 22 Jul*71 Second, May'72* Self-now. 1938
System, 1954 Size (1)» Tetrahedron: Coordinate Symmetry, Nov*71 Twelve Universal
Degrees of Freedom, 29 May¹72* Thought, 31 May'71* Universe, May'72 Velocity, 12
Jul'62* Geometry of Vectore, 27 Jan'75 Modelability, 12 May*75 Physical Tetrahedron
vs. Conceptual Tetrahedron,
Dec»71*

Modules: A & B Quanta Modules, 20 Dec'73 Frequency & Wave, 19
Dec*74

Quantum Mechanics: Minimum Geometrical Poorness, (1)

See Timable

Time Cancellation

Time Center

Time or Timeless Center

Time & Energy

Time Is Not the Fourth Dimension

Time as an Invention

Time Equanimity

Time lag

Time-limited

Time Quality

Time-size

Time-size Limits

Time-somethingness

Time-space

Time: Separating Time Out of the System

Time Vector

Time Word

Time vs. Constant

Time Entered the Picture through Poetry

**See Time Perspective Time t Consciousness Time Differentiable Time
& Cognition**

Tlrae-angle-size Aspects

Timeless;

- Citation & context at Time. 27 Dec'73

Timeless:

' 'The timeless and the changeless are intercomplementary aspects of ideal synergetics.

"There is conceptual insideness and outsideness, yet timeless and sizeless. Like the corp of God as mind. There are conceptual integrities which are inherently differentiable, ergo, inherently realizable as something we call life.

The ideal eternal conceptuality which we are discovering in synergetics is so true as to become real because part of the conceptuality is the lags which bring in the six degrees of freedom. It takes time to go back from there to over here. So you invent time. The conceptuality of different degrees of apartness is fundamental to a plurality of degrees of freedom, which induces the real-ization of time."

- Cite RBF to EJA, Kennedy Airport, N.Y. 1 Apr in response to query re difference between

'72, • timeless' and
'changeless.'

Timeless:

"We can discuss time as if there were no time. It exists in weightless, metaphysical conceptuality. There is a metaphysic al timeless time. Just as there is a difference between physical tetrahedron and metaphysically conceptual but weightless, substanceless tetrahedron. Instantanelty would eliminate otherness, time, and self-and-other-awareness. Instantanelty and eternity are both timeless: they are the same."

" CiTWrah«dron^{nt}Dac*71 Pl>r,lc>1 Tetrahedron ve..Conceptual

"Euclid's cubic block had been fashioned by him without a time dimemion; therefore it could never exist in the reality of physical time.

"It exists in weightless metaphysical conceptuality.

There is a metaphysical timeless time--- Just as there is a difference between physical tetrahedron and metaphysical tetrahedron,"

(RBF rewrite of Timeless. 1946)

- Cite RBF to Eja, 3200 Idaho, Wash DC, Nov'?1

Timeless:

. . . Only the dividers are used You start with two events--- any distance apart: Only one module with no subdivisions. Ergo, timeless. Ergo Eternal. Ergo, no frequency. Playing the game in a timeless manner. You have to have division of the line to have frequency, ergo to have time."

- C1UJ- HKF~I. ?Y~F npvm'J y HiiU 1., -NrW T<
- Citation t context at Bow Ties: Genesis Of 12 Sep»7t

Tjjeles;

Instead of omnidirectional, say timeless.

- Cite RBF to EJA, Beverly Hotel, New York, 19 June'71

HB DEFINITIONS

Tjmeles:

"For ¹ eternal,¹ use tmeleaa."

- Cite RBF to EJA, Beverly Hotel, New York, 19 June 1971.

Timeless:

"The vector equilibrium is absolutely dead center of

Universe and will never be seen by man in any physical experience--- yet it is the frame of reference. And it is not in rotation and it is sizeless and timeless.*

- Citation at Vector Equilibrium, 1 May'71
- XiXe trpft_ti>aMsprtpt RRF nfiiF* rHFbrmdale

Timeless:

"Instantaneity and eternal are both timeless: they are the same,**

- Citation and context at Lifg, 1J Mar*71

Timeless:

"Tension is shown experientially to be nondimensional, omnipresent, finitely accountable, continuous, comprehensive, ergo timeless. ergo eternal."

- •Cjxa BLBF~~ftTKRRfiKT ICh draJXy—Tension arig~~CaapPassiou,*
retluiu

oe-flrmn~lBrtni e #f, py, 1H Tftr~JuU624

- Citation at Timeless, 9 Jul'62

Timeless:

"Euclid's cubic block had been fashioned by him without a time dimension; therefore it could never exist in the reality of physical time."

- Cite RBF to EJA, Wichita, Kansas, 1946

Tiaeleaaneaa:

"Instanaaneity would eliminate otherneaa, time, and self-and-other-awareness. Inatantaneity and eternal are both tiaeleas: they are the sane."

- Cite 8B? to EJ4 , „ _ .

Beverly Hotel, New York 13 March 1971

See Changeless

Eternal

Eternal Universe

Etrnal & Temporal

Independence of Size & Time No-time: No Time at All Prime

Subfrequency Time or Timelees Center Subtime

Sea Bow Ties: Genesis Of. 12 Sep'71*

Geometry of Vector#. Aug'71

Inatant Universe, (5)

Life, 13 Mar•71*

Prime, 18 Dec*74

Rubber Glove. 23 May'72

Statistics, 1938

Time, 27 Dec*73*

Time & Space, 7 Feb*71

Vector Equilibrium, 1 May'72; 1 May*71*

Physical Tetrahedron vs. Conceptual Tetrahedron, Dec'71*

Nuclear Cube, 11 Dec'75; 23 Feb'76

Cosmic Hierarchy, 23 Jan'77

Generalisation i Special Casern, 23 Jan'77 Six Motion Freedoms & Degrees of Freedom, (B) Eternal i. Temporal, 4 Sep`77

Tin; Tin Cans:

See Metals: Recirculation Of, (a)

Building Business, (2)

Human Unsettlement, (1)

Tissue Celia:

(1)

See Cartilage va. Bone Flesh: Animal Flesh Life Cells

$Tl_{Ba}u_{fl} C_B H_B$:

See Synergy: Degrees Of, (4)

HUft:

Sea Named Untitled

See Star Events, Mar'71

Zaepail in n_q w_{aY} Predicts Humans t

See Synergy of Synergiee, Hay*72

See Coming k Going

Sac Locomotion: Radius of Ilan's Locomotions, {1}

Together;

See Coming Apart & Holding Together

Toilet:

"In the kitchen-bathing dome... they had a toilet which converted human waste into high-grade fertiliser. The heat necessary for this odorless process was provided alternat- ingly by electricity from the windmill hookup or by heat from the solar panel water-heating device. The toilet system produced fertiliser as a rich, dry, manured, loamlike substance which needed to be taken out of the system only once a year."

__ Citation &. context at Now House. (4); 20 Sep*76

Toilet;

"And I'm also carrying a number of other developments, for instance, a waterless toilet, just a packaging machine. Nothing has been really bringing about more contamination for human beings than the splash- ing of toilets and wet plumbing. And this is very valuable chemistry. We are using 50 volumes of water to get rid of one volume of human waste. Just think of it. And it isn't waste at all! And we take all that beautiful rain coming down the mountainside, and take 50 volumes of water just to carry off that waste and mix it up with the other water! . . . V/hen we really need it separated as very valuable chemistry, both fertilizerwise and as actual energy content--- high methane."

- Cite RBF at DSI Press Conference, NYC, p. 13, 28 Jun'72

^TQllet? Mffld to KQ to the ^TQllet-

See Life & Death, (2)

Toilet Papor=

See Excrement: Human Excrement, Dec'70

See Bathroom

Dymaxlon Bathroom

Excrement

Plumbing

of Human Food Waste

Outbound Packaging

See Water, 31 Jan'75

How House, (4)* No Energy Criele, (1)

Tolerance: Measurement Tolerance:

"Mechanics introduced the word tolerance, not the scientists. The measuring df the mechanics, i.e., the engineers, was far more accurate."

- Cite RBF to EJA, Royal Scots Restaurant, N.I. 14 Sept. 1971

"We've discovered that while you can't be exact, you can progressively reduce error, and that's exactly what mechanics and technology are doing. As we went, for instance, from building a man's house, where an eighth of an inch is a close enough tolerance to make the house stand up, to a hundredth or a thousandth of an inch automobile tolerances; and you couldn't fly unless you held the tolerances

finer--- to ten thousandths of an inch. Then in rocketry we're getting into millionths of an inch, which is all that we'll allow for error. The space program has a fantastic record so far of not having lost a single man in space--- coming out of the extraordinary reduction of tolerance of error. I find that what we will tolerate in the way of errors is very important in the hierarchy of events."

- Cite RBF to World Game at NY Studio school, 12 Jun-31 Jul*69 Saturn Film Tape #327, p.1.

See Approximateness

Heisenberg

Indeterminate: Indeterminism

Error

Johansen Guages

Spontaneous Tolerance

Uncertainty Principle Human Tolerance Limits

See Observing vs. Articulating. Mar'72 Wisdom, Jan'72

See Specialization Tollgate Tenure: Academic Tenure

See Specialty, Feb*73

Tomato:

See Spheric, 15 Oct*72

Tomorrow:

"Much of the most exciting and important part about tomorrow is not the technology or the automation at all, but that man is going to come into entirely new relationships with his fellow men. He will retain much more in his everyday relations of what we term the naivety and idealism of the child. This will be completely justified and not exploited or exploitable in any way. I think then that the way to see what tomorrow is going to look like is just to look at our children."

- Citation and context at Population Seauance (g), Feb'6? (Earlier version quoted by Gene Youngblood above first chapter of "Expanded Cinema," p.45,)

See Fourth Dimension: Borrowing from Tomorrow's Clock

Tomorrow:

See Star Events, Mar*71

Tetrascroll, (1)

•'When you bite your tongue, or cut your finger, or get a cinder in your eye, you become acutely aware of those otherwise only subconsciously operating organic parts. When people say 'I feel great,¹ it is because they don't feel anything at all. Life is fully potential and the entirely sublimated human organism coordinates omni-subconsciously."

- Cite SET X, p.5, New Delhi, Aug'72

ZfiDSAfi Biting Tour Tongue:

(1)

See Feeling Good

Tonjrue t Lunt Coordination:

See Babbling, 18 Mar'72

latum: Stick Tour Tonzua Out: Buy Tour Own Toncua:

See How Little I Know, 1 Feb'75 Procreation, 30 Oct*71 Survival Sequence: Love, (3) Human Beings & Complex Universe, (9)

Tools:

"Man has learned how to externalize his own functions

and to leave them behind. . . There are no tools that man has developed that are not extensions of the original integral functions ..."

- Cite COMMITMENT TO HUMANITY, p. 31, May'70

KBF DEFINITIONS

Tools:

"Toolmaking is the externalization in discrete ways aiding the evolutionary process and the regeneration of the species.

"Man is not unique as a toolmaker at all. but he is unique in the degree to which this capacity is extended by virtue of his mind and his ability to understand those generalized principles. And he is the only one to really alter those tools, change those tools, and try to get better tools."

- Cite COMMITMENT TO HUMANITY, p. 32. May'70

Tool:

"That's what I mean by a tool: an orderly alteration of the environment to complement' the integral organic process."

- Citation and context at Bird's Nest as A Tool (1)_t 12 Jun*69

Tools:

Pan "has developed a very large use of what I call the extensions of life, the industrial development of tools that make tools, that make other tools. The spider makes a web and that is a tool. And the bird makes his nest which is a tool. We find that all life carries on some kind of external environment altering operation which when importantly persistent and specific become multifold alterations, one or more of which we identify as tools with which the living species effect much greater and repetitive alterations of other aspects of the environmental processes.

"For example, a man takes part of a tree and shapes it into an axe handle with which he chops down trees in order to concentrate lumber from those trees so densely as to shed him from the rain. But man has developed this tool making capability to far greater degree than the other biological species."

- Citation at Bird's Nest as a Tool. 4-6 May*67

R3F DEFINITIONS

Tools:

"In the great history of technology the materials that can be turned into tools are relatively scarce. Man had to seek them. The number of minds which knew how to deal with them were very few. Their experience was very limited. The tools to work the resources with were very scarce. What we might call the best organizable capabilities of men were very scarce; they have been historically scarce."

- cite OREGU-N UNIVERSITY Lecture #1 , p. U, 1 Jul'62

Craft Tools;

- Cite RBF quoted by William Kuhns in "Post-Industrial Prophets" (Harper- Colophon), p.235. 1971

"I spoke to you earlier about man's developing tools. Just as my own personal strategy I found that I could divide all tools into two main classes--- craft tools and industrial tools. By craft tools I mean those that could be invented? produced, and operated by one man starting nakedly in the wilderness where he could pick up a stick, for example, and use it as a spear. This category includes all kinds of tools for working stone and so forth. All the great artifact heaps that we find around the world are tools that could be and probably were invented by some one man, starting from nothing in the wilderness with no information from anybody and using just his own experience, which taught him that this thing just might work. He tried it and it did work.

"By industrial tools I mean the ones that couldn't be produced by one man. That's a simple enough cleavage. The first industrial tool was the spoken word. You can't invent a word without two people. So, as the Bible says: 'In the beginning was the Word.' I'll say; 'In the beginning of industrialisation was the word.' This is the beginning of relaying information and experiences from one man to another. Because men were able"

- Cite RBF in Franklin Lecture, Auburn, Ala., 1970

Tools: Craft Tools and Industrial Tools: (2)

"to relay information both in terms of overlapping lives and also travel, they began to consolidate all kinds of information. And we get then to the industrial tools that clearly fit my definition; for instance, the steamship 'Queen Mary.' obviously a tool that could not possibly have been produced by one man, or run by one man, or used by one man. The telephone system, a roadway system, great blast furnaces, and so forth— all these industrial tools are very extraordinary things that can accommodate you and me. They are the consequence of all the information from all the history of man about all resources everywhere, and their superiority over the craft tool is very, very great. They involve discovery in the scenery around us: whether in that rock there is something called beryllium and that beryllium can make you a coil spring that won't fatigue or spout; or that there are such things as chrome and nickel, the addition of which to iron produces a steel with a tensile strength of a thousand times that of the tensile strength of iron alone. These are the kinds of things that man found. And because of discovering that you could do more with less and less, a given cross section could have greater and greater tensile strength."

- Cite RBF in Franklin Address, Auburn, Ala, 1970

Tools : Craft Tools ft. Industrial Tools:

"By craft tools I refer to all the tools that can be produced by one man starting nakedly in the wilderness without any information or aid from anybody else. So the stone becomes a tool; the stick becomes a tool.

Then man makes a spear and it is even more effective--- and he keeps modifying. These things the individual can develop out of his own personal experience, and he is prone to do so out of his own personal experience. • • .

"With craft tools you have a very limited man, limited to where his own feet will take him, limited by his unevenly distributed resources. He is very limited in total experience and in time and capability. The industrial is quite the other way: it represents the integrated information of all men and all time."

- Cite COKhU'U.ENT TO HUMANITY, p. 32 , *May*'70

Tools: Craft Toole: & Industrial Tools:

"Our tooled extensions of man breaks down into two very definite classes: I call one class the craft tools and the other I call the Industrial tools. Under craft tools I include all the tools that can be invented by one man starting nakedly in the wilderness, with no advice nor informatimmve accounts of their experiences from anybody else. All the great heaps of artifacts discovered around the world by archaeologists and anthropologists are filled with tools that could be made by one man starting nakedly in the wilderness and developed by him only from his personal experience.

"The industrial tools I define as all the tools that cannot be produced by one man. I'll give you as an example the large ocean steamship such as the Queen Lary. The idea of one man producing it or operating it would be preposterous. . . The first industrial tool was the spoken word. . . The craft tools are related only ti single human beings and their very local and personal experience, their short lives and the particular area of resources into which they happen to be born. The industrial tools relate to our compounding of all experiences of all men anywhere, and all the finite resources of our total Suaceship Earth."

- Cite BEIRUT 67, p. 10, 5 May'67

"All tools are externalizations of originally integral functions of humans. I divide all tools into two main classes, craft tools and industrial tools. The craft tools consist of all the tools that can be invented and produced by one man starting and operating alone naked in the wilderness. I define the industrial tools as all the tools which cannot be produced by one man.

- Cite DOXIADIS, p. 323 , 20 Jun'66

"In relation to the computer-tool-hookups of automation, it is to be noted that all tools are externalisations of originally integral functions of human organisms. But externalised functions such as that of the cupped hand to hold water are capable, when translated into ceramic cups, of holding hotter or more acid liquids than the human hand could. This is to say that the limits of capability of the externalised functioning are extended but are not unique in principle. Whereas the craft tools developed by man operated independently, the industrial tools develop interdependently. The machine lathe requires the blast furnace and vice versa. Individual craft tools are the externalised counterpart of the individual's separate functions, while industrial tools are the organic externalisation of man's integral metabolic regeneration."

- Cite THE PROSPECTS FOR HUMANITY, Sat. Review, 29 Aug'64

See Grafts: Arts & Crafts Language as Industrial Tool Word as Industrial Tool

See Commonwealth, Jun'66

Automobile, Feb*72

Tooling of Domes:

"In regard to the blueprint---what you request is really difficult because, unlike the conventional architectural world, we do not make drawings for contractors to interpret in the field. What we do, is develop the mathematical information and schedule schematic controls for industrial production of dies, jigs, and tools, which latter will in turn produce the final parts. This is to say that the designer designs tools, the mechanics produce the tools, and the tools produce the end-product---tools often produce larger or more tools which later produce the end parts. It is here that the primary misunderstanding of industry, by the older world, occurs,

"In Italy, and elsewhere, we still see the artist, scientist, mechanic embracing all of these functions, turning out a beautiful end-product such as a racing automobile. His product can never be amplified beyond his own personal capacity, either in number of pieces produced nor in exquisiteness of production of the parts. It is when the tools are employed to produce dimensions and effects in the end- product, beyond the sensorial ability of the artist-"

- Cite RBF Ltr. Mr. Brattinga, 24 Jan'58

(1)

- ` mechanic to coordinate, that we have the really important improvement in scientific industrial mass production.

"In producing the parts for my geodesic dome for the Ford Motor Company's Rotunda Building in Detroit, Michigan, the 'Class A' Ford tooling maintained a tolerance in the positioning of the rivet holes, and in the diameter of those holes, of .005 inch. This is an invisible increment to the unaided human eye. Maintaining this tolerance produce a structure whose end-fixity strength was twice what it would have been had the tolerance been slackened, to dimensional variations of .01 inch---which is the limit of human sensorial perceptivity. This is to say that by taking advantage of the tool's capability

to operate at subvisible tolerances, double the strength was attained and therefore the dome weighed one-half as much as would a dome of equal strength, if the dimensioning had been accomplished within the limit of human visibility and hand-indexed coordination.

"It is a corollary of the above that structures produced by the most advanced capabilities of scientific industry no"

- Cite RBF Ltr. to Mr. Brattinga, 24 Jan'58

'longer demonstrate sensorial architectural adherence to Sullivan's axiom: 'form follows function.' Here both the form and the functions are invisible. You can't see the difference between alloys of steel or aluminum that may be twice the strength of other alloys of the same metals. If the function is to be strong, that function is Invisible---which is to say it has no aesthetic form.

"The forms we see in geodesic structures are synergetic, which is to say that they are visible in mathematical principle only, and only as the interaction of a complex of functions. No one industrial function is visible. Any one member, in a geodesic structure, may be at one time operative essentially in tension and at another time essentially in compression.

These are exact opposites and none of these alternating operative behaviors would be visible to an observer of m a geodesic dome as the latter remained poised, apparently serene, in a hurricane. Geodesic domes are then designed as synergetic complexes of events which maintain a superficial ultra-high-frequency integrity of constellar patterning."

- Cite RBF Ltr. to Mr. Brattinga, 24 Jan'58

See Energy Slave

Tool a : Extamallied Tooling Per Capita;

See Artificial, (2)

"The early Greek geometers and their Egyptian and Babylonian predecessors pursued the science of geometry with three basic tools: the dividers, the straightedge, and the scribe. They established the rule that they could not introduce information into their exploration unless it was acquired empirically by the use of those tools. With the progressive interactive use of these three tools they produced modular areas, angles, and linear spaces.

"The basic flaw in their game was that they failed to identify and define as a tool the surface on which the inscribed.

In absolute reality this surface constituted a fourth tool absolutely essential to their demonstration. The absolute error of this oversight was missed at the time due to the minuscule size of man in relation to his planet Earth. While there were a few who conceived of the Earth as a sphere, they assumed that a local planar condition existed--- which the vast majority of humans assumed to be extended to infinity, with a four-cornered Earth plane surrounded by the plane of water that went to infinity."

- Cite RBF dictation at SYNERGETICS Secs. 821.01+02, Sept'71

"•They assumed the complementary tool to be a plane. Because the plane went to infinity in all planar directions it could not be defined and therefore was spontaneously overlooked as a tool essential to their empirical demonstrating. What they could not define, yet obviously needed, they identified by the ineffable title 'axiomatic,' meaning 'Everybody knows that.' Had they recognized the essentiality of defining the fourth tool upon which they inscribed, and had they recognized that our Earth was spherical; ergo, finite; ergo, definite; they could and probably would have employed completely different strategies than that of their initiation of geometry with the exclusive use of the plane. But to the Eastern Mediterranean world there lay the plane of the Earth at their feet on which to scratch with a scribe,"

- Cite RBF dictation at SYNERGETICS Sec. 821.03, Sept*71
Tgoja Qf GeQMtry:

See Scissors Held in Fixed Openings Scribing Straightedge

Tools Llko Cat-orrable Hands:

See Science as a Tool, Sep*72

TgQla arg Part qI Hunan Br;lnga:

See Industrialisation, (A)

**See Rearrange the Scenery, May*72 Industrialization, 10 Oct'63
Robin Hood Sequence, (2)**

Tools an Part *of* tha Pattern Man:

See Artificial, (1)

Ti>ola of Raorieatatloa:

See Dymaxion Airocean World (I) Museum, 2 Jun*?1

Tool 4 Symbol:

See Symbolism in Buildings, 1 Feb*75

See Artifacts

Berry Picking

Bird's Nest as a Tool

Communications Tool

Externalisation of Man's Own Functions

Hands

Hierarchy of Tools

Mechanics

Mechanical Extensions of Man

Monkey Wrench

Nature's Basic Designing Tools

Monkey Wrench

Pencil
Science as a Tool
Spider's Web as a Tool
Steam as a Tool
./heel
Building as a Tool
Tool / Symbol
Machine Tools
Book - Tool
See Artificial (1)(2)
Doing What Needs to be Done, 22 Jan'73

Heisenberg, Oct'66
Faking the World Work (2)
Navigation, Sep'73
Politics: Accessory After the Pact, 12 Aug'70
Pollution, Feb*73
Probability, Sep'73; 15 Sep'71
Proton & Neutron, 22 Apr*68
Scrap Sorting & Mongering (3)
Words, Jun*50
Options, 13 'lay'77
Ghana Dome: Self-chilling Machine, (1)

See Tools: Craft & Industrial

Tools: Externalised Tooling Per Capita Tools of Geometry Tool Networks

Tools as Part of the Pattern Man

Tools of Reorientation

Tools Like Cut-offable Hands Tools are Part of Hasan Beings Tooling of Domes

See Model of Toothpicks & Semi-dried Peas

"There is a constant topological abundance characterizing all systems in universe in which for every one nonpolar vertex there are always two faces and three (vectorial) lines."

- frlle CAKDOKUTLE DftAff IV,4?

Jun*66

Tgpolojtlcsl Abundancg:

(1)

See Constant Relative Abundance

Vertexes, Faces * Lines

See Domain i Quantum, (1)12)

See Octantation. 14 May'73

Synergetic Accounting Advantages: Hierarchy Of_t (1)

Tetrahedral Octave Phase Model, Oct'71

Omnlrational Control Matrix. 12 May*75

Quanta Loss by Congruence, (2)

Tono-aapectively:

See Generalized Topological Definability, (1)

"Omnitopology deals with... domains of linear interrelationships, ... areal and volumetric domains, angles,frequencies, symmetries, asymmetries, polarisations, structural-pattern integrities, associative interbondabilities, intertransformabilities, and transformative-system limits, simplexes, complexes, nucleations, exportabilities, and omni interaccommodations.*"

- Citation *k* context at Ommitopology. 9 Feb'73

"Vacuum " novent ® invisible.

"Partial vacuum results as the physical atmospheric gases are removed beyond whose zero evacuations the electromagnetic tensing induces reverse flows of physically demonstrable positive energy.

"At the indispensable center of the sphere Universe turns itself inside-out. The invisible, a priori, multiplicative twoness, differentially disclosed in the synergetics' topological system's hierarchy, is manifest of the integrity of the sizeless, timeless nonconceptuality always complementing the conceptual system takeout from nonconceptual scenario Universe's eternal selfregenerating."

- Cite RBF to EJA 4 80'R, 3200 Idaho, 17 Feb'72; rewrite of 19 Feb'72

'OHUIT«rdl4S4'l-- 1013.AT

See Atomic Triangulated Substructuring; Hierarchy Of Central Angles 4c Surface Angles, Synergetic Hierarchies, (B); 19 Apr'66 Epistemological Hierarchy, 22 Jul` 71

See Nucleated Systems: Idealistic Vectorial Geometry Of 15 Feb'72
Quantum Mechanics: Minimum Geometrical Fourness,

See Generalized Topological Definability, (1)

See Interrelationships: Fournasb & Sixness Self i Otherness: Pour Minimal Aspects Seven Axes of Symmetry Seven Minimum Topological Aspects Tetrahedron: Nine Schematic Aspects Fourteen Axes of Truncated Tetrahedron

Thirty Minimum Topological Characteristics Thirty-two Minimum Aspects of Systems

Topological ^sYatMfi:

See Vertex, 1955

Topology:

"Where topology brought a certain amount of generalized conceptuality to mathematics, whose constancy of interrelationships was illuminating, and whose formulas of relative interabundance of vertexes, faces, and edges were reJble, they were not identified operationally with chemistry or physics until synergetics' vectorial geometry and intertransformabilities identified the gaseous, liquid, and solid interbondings and elucidated Willard Gibbs' phase rule in chemistry conceptually."

- Cite RBF rewrite incorpnoated in SYNERGETICS, 2nd. Ed. at Sec. 1007.16; 11 Dec`75

Topology:

"Where topology had the potential of bringing conceptuality to physics and mathematics, many of its practitioners were content to let topology descend to the level of a gamedealing with such Moebius strip nonsense as pretending that strips of paper have no edges."

(Sec. 1007.16)

- Cite RBF to EJA; 3200 Idaho, Wash., DC; 10 Dec'75

Tocology:

"Topology resolves all visual experiences into three irreducible aspects: events* novents, and traceries,

"Not until we have orbital closure of a complex or simplex tracery do we have a defined novent. Events occur wherever single or complex traceries cross back on themselves.

"Topology rationally equates the omniinterrelationships of events, novents, and traceries."

- Cite RBF to EJA, 3200 Idaho, Wash. DC: RBF rewrite of 10 Sep*74

Topology:

"We have topology as a pattern integrity."

- Cite HBF to EJA, J200 Idaho, DC, 17 Feb »?2

Topology;

"It was discovered and developed by the mathematician Euler. He discovered that all patterns can be reduced to three prime conceptual characteristics: to lines: points where two lines cross or the same line crosses itself; and *raas. bound by lines. He found that there is a constant relative abundance of these three fundamentally unique and no further reducible aspects of all patterning

This reads: the number of points plus the number of areas always equals the number of lines plus the number constant two. There are times when one area happens to coincide with others. When the faces of polyhedra coincide illusionarily the congruently hidden faces must be accounted arithmetically in formula"

Operating Manual for SSE Pp. 73»74 ' 1969

Topology;

"Topology provides the synergetic means of ascertaining the values of any system of experiences."

- Citation 4 context at Whole System: Synergetics Principle Of. 1969

- CHO

W

Topology:

"Now this is topological and I would say to you that these are the only aspects of all the system. What I did was to find the minimum characteristics of all patterns in the Universe and to find that there was a constant relative abundance relationship which made it possible to build a formula."

- Cite RBF to Verner Smythe, NYC, Reel 2, 25 Feb*69

Topology:

"A little over a century ago the most Important comprehension of all pattern analysis was introduced into mathematics by the German mathematical-physicist, Albert /sic/ Euler, He named his comprehensive, geometrical, mathematical pattern analysis topology. In topology Euler brought the 'pure* conceptual model-eschewing mathematicians back to fundamental conceptuality and to a generalised geometrical accounting of all inter-transformability and to a comprehensive algebraic quantation system governing the inter-relationships of all the components of any and all systems."

- Cite NASA Speech, p,58, Jun*66

See Conceptuality Independent of Size t Time; 2 Jun*74

` ` Synergetics topology integrates the geometrical angle laws with the conceptual regularities of Euler's point-area-line relative abundance laws, all of which synergetic integration of topology with angular regularities of geometrical transformabilities is conceptually generalizable independent of specialcase, time-space-sixing realizations."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 202.03, 16 Nov'74

Topology; Synergetics & Eulerian: (1)

"I am dealing with the Universe: the difference between conceptual thought and nonunitarily conceptual Universe. You cannot make a model of that, but you can show it as one conceptual system which is tetrahedral... plus a convex and concave teVahedron and that equals Universe,

"Euler opened up about 150 years ago the great new field of mathematics which is topology. He discovered that all visual experiences could be treated as conceptual. (But he did not explain it in those words.)....

"Topology is Euler's saying that all visual experience can be resolved into three fundamental and irreducible aspects: vertexes, faces and lines. (or, as we say in synergetics: crossings, openings, and trajectories.) We have something we call a line, but it doesn't have to be a straight line; it is a tracery. But to trace its course you get a fix, which is not to be confused in any way with a nodal crossing. You have a plurality of these traces and you get areas. When any tracteries come back upon themselves, then we get the areae."

- Cite tape transcript, pp. 25-26; RBF to B. Brooks, 2 Jun '74

Topology: Synergetics vs Eulerian: (2)

"The areas, the traces, and the crossings are never to be confused with one another: all visual experiences are resolved into these three.

"You just look at any picture and you have to say: What is that part? That's an area, or it's a line, or it's a crossing. The coincidences are a little more, because they are loci. To account for the whole picture you can elect to call it an area... mark it A... a line, which is an L; and V is for a vertex, a convergence. You mark every one of them, many times. And the number of vertexes plus the number of areas will always equal the number of lines plus the number one.

"But I saw that you cannot have a plane except as a facet.

Because I am experiential I must say that a line is a consequence of energy, an event... a tracery, anyway. So it must be some kind of polyhedron. If you are dealing with a polyhedron, it is separate from Universe having an inside and an outside--- a picture in a frame, or whatever it is. The number of vertices or crossings is always equal to the number of lines plus two.

Or you can put a hole through it: if you do that, you find that $V + F - L$

- Cite tape transcript, pp. 26-27; RBF to B. Brooks, 2 Jun'74

Topology: Synergetics vs Eulerian: (3)

"Now somebody did not realize that in putting the hole through it you had removed the poles, the axis. Two points must always be involved in every system.

"Another very powerful mathematician was Brouwer. In his theorem, if we have a number of points and we continually mix them up we find that after all the stirring one of them didn't move relative to the others. Each one is always in the center of the total movement, each of those points.

"But the mathematicians oversimplified the plane. In synergetics the plane has to be the surface of a system that is obverse and inverse. Therefore, there must also be another point on the other side that does not move. Every system has two points that do not move. The system always has a neutral axis. Every object has a neutral axis, two points that serve as the poles of the system. Synergetics extracts those two points for its topological inventorying.

"Every system has two vertexes which must be a sign, a function, of being an axis of the system. Synergetics has the axis in reality what physics has as the spin and quanta in theory."

- Cite tape transcript, pp.27ff; RBF to B. Brooks, 2 Jun*74

Is DSLQitft Synergetics Topology vs Eulerian Topology:

"Synergetics topology integrates laws of angle and volume regularities with Euler's point, area, and line abundance laws."

(For RBF rewrite of above see same caption, 16 Nov'74)

- Citation at Synergetics, 28 Oct'73

At/GVLAR TOPOLOGY-SET • X6T.,I>3 \

I2£fil2gx: Smergtlc Topolorv? k Eularlun Topology:

"Ab in sfiny instances of synergetic behavior, . . • different!a ations are sometimes subtle. For instance, there is a subtle difference between Eulerian topology, which is polyhedrally superficial, and synergetic topology, which is nuclear and identifies spheres with vertexes, solids with faces, and struts with edges. The subtlety lies in the topological differentiation of the relative abundance offcheee three fundamental aspects whereby people do not look at the four closest-paeked spheres forming a tetrahedron in the same way that they look at a seemingly solid stone tetrahedron, and quite differently again from their observation of the six strut edges of a tetrahedron, particularly when they do not accredit Earth with providing three of the struts invisibly cohering the base ends of the camera tripod."

- Cite SYNERGETICS draft at Sec. 722.02, 28 Oct'72

See Euler vs. Synergetics

TpPfflogY: Synergetic & Eulerian: (2)

See Omnitopology, 18 Jun'71; Apr'72; 9 Feb'73; 17 Feb'73

Seven Minimum Topological Aspects, 12 Feb'76; 8 Feb'76

Push-pull Members, 28 Oct'72

Quantum Mechanics: Minimum Geometrical Poorness, (2)-(4)

See Ahgular Topology

Gibbs¹ Phase Rule

Integers of Topology

Omnitopology

Permeative Topology

Piaget: Jean: Child's Spontaneous Geometry

Triangular Topology Integrity

Vectorial Topology

Generalised Topological Definability

Vertexial Topology

Thirty Minimum Topological Characteristics

Minimum Topological Characteristics

Seven Minimum Topological Aspects

Synergetics Topology

Deceptiveness of Topology

See Conceptual Systems, May*72

Schematic of the Principles, 10 Sep*74

Synergetics, J2 undated: 10 Jan*50; 28 Oct*63*; 15 Nov

Two (1)(2) *74

Whole Systems: Principle Of, 1969*

Neutral Axis, 1 Jan*75

Projective Transformation Model, (I)

Synergy, 1954

Comprehensibility of Systems, 26 May*72

Somethingness & Nothingness, 7 Oct*75

Icosahedron: Subtriangulation, (2)

Windows of Nothingness. (1)

Microsystems, 22 Mar*76

See Topological Abundance Topological Accounting Topo-aspectively
Topological Aspects: Inventory Of Topological Hierarchy Topo-
inderabundantly Topological Systems Topology □ Conceptuality
Topology: Synergetics k Eulerian Topological Minima

Topsoil: TopsoilinH:

See Earth, 24 Apr*6?

Manifest: Four, 1973

Stardust, May*65

See Absolute Velocity

Eternity as Highest Speed

Intellect: Speed Of

Norn of Einstein as Absolute Speed

Terminal Speed

Limit Speed

See Absolute Velocity, JO Oct*73 Self-regenerative, 2 Jun'71 Veloc-
ity, 1970

Wow: The Last Wow, (B)(C) Rate, 1938

Tgattop:

See Coring Torus

See Radiation: Speed Of (D)

Tori!:

See Three-way Weaving vs. Two-way Crisscross, 13 Mar*75

See Environmental Events Hierarchy

Fountain Pattern

laasaffa;

(2)

See Dome: Rationale For (III)

Toronto:

- Cite RBF to EJA, J200 Idaho, Wash., DC, 8 Apr»75

Torque:

- Cite Ifcl, p. 21?, PREVIEW OF BUILDING, 1 Apr»49

HBF DEFINITIONS

Torque at Center of Convergence:

"We also have learned that a plurality of lines cannot go through the same point at the same time. Therefore the eight perpendiculars to the centers of area of the triangle faces and the 12 lines that led to their 12 common outer vertexes, like the tetrahedra's volumes and areas, have come to common zero time-space size and can no longer interfere with one another. We find, operationally, however, that there never was any paradoxical problem such 'never completable approach' concept for we have learned of the fundamental torque or twist always present in all experientially explored system realization and we find that as each team of opposite triangles apprehended the other just upon their nearing the center each is whirled 180°, or is 'half spun' about, with its three corners never completely converging. 'Whereafter they diverge.'

- Cite SYNERGETICS draft at Sec.

20 Feb'73

See Structural Functions

Turbinizing & Counterturbinizing

See Omniequilibrium, (1)(2)

See Motions: Six Positive & Negative

Onnilibrium

Polar Torque

Torque & uountertorque

Turbining

Twist-and-torque Contractions

See Transfomnationw, 10 Oct'50

In, Out & Around Experiences, (2)

Six Motion Freedoms & Degrees of Freedom, (6)

Torus:

"Explosions are pushive and taolute and involute as do rubber
toruses."

~~jeierlF Hotel, New=<OTt5?=\$=Api 11 -4994.~~

- Citation at Explosions_t 24 Apr¹71

Torus:

"If the pattern has a hole through it like a doughnut then you don't
have to have plus anything. You leave out the two from this solid.
Wheh you leave out the two from this solid it really is to say that it
is a doughnut and you are cutting out the axis, which is to say that the
axis is two."

- Cite Oregon Lecture #7, p. 246. 11 Jui«62

See Coring

Doughnut

Evolute

Fountain Pattern

Hole

Rubber Tires

Toration

Reciprocating Torus Model

Reverse Fountain Flow

Tams:

(2)

See Balls Coming Together. (2)

Explosions, 24 Apr*71*

Totality:

"Every child manifests spontaneous interest in totality."

- Cite RBF remarks at Design Science Institute press conference, N.T.,
28 Jun'72

Totality:

"Compression is inherently partial. Tension is inherently
total."

- Citation at Tension &c. Compression_T Dec'71

- 'CLEXynd&e tic tr Dmft=atinrfcOv7OF

TQWltY:

"Conceptual totality ia inherently prohibited."

- Citation t context at Conceptual Totality. May'72

- invffj

rtBF UfiFlftlllUNb

Xsalisx:

"There is conceptuality within the totality but it is
always partial.

- Citation *tc.* context at Conceptuality. 22 Jul'71

- ma-, u i 1*08., Mmm p i ' '

Total Complexity:

See Human Being

Univeree

Total Energy:

See Eternity vs Energy, 2 lay*78

See Energetics 1c Synergetics, 10 Jan'74 Industrialisation, 20 Jun'66

Synergetic Integral, 1960 Einstein Equation: $E = mc^2$, 1959

latal. Industry:

See Halfway-round-the-Woriding (1)(2)

See Twelve Universal Degrees of Freedom: General Systems, (I)-(IV)

See Laisses-faire Process, 10 Oct'63

See Aggregate

Allness

Child'8 Spontaneous Interest in Totality

Comprehensive

Covariant Differentiation of Totality

Holistic

Mystery of Totality

No Conceptual Totality

Partiality

Remergent Synchronisation

Starting with Universe

Synergetic Strategy of Commencing with Totality Sum-total

System Totality
Total Complexity
Total of Experience
Total Information
Understanding is Exquisitely Total
Unitary Totality
Whole
Wholes Parts
Womb of Total Human Consciousness
Whole System
Grand Strategy

Total; Totality:

(2 A—I)

See Comprehensive Universe. (1) Conceptuality, 6 Sep*7>; 22
Jul*71* Conceptual Totality, May*72* Conditioning, 14 Feb*72

Energetic-synergetic Geometry. Jul* 59 Energetic Information. 23
Apr'76 Enough to Go Around, (l)(2) Energy, 17 Jun*75 Environment.
28 Apr*77 Epigenetic landscape, May'49

General Systems Theory, (2) God, 3 Apr'74

Heaven, 23 May*72

In 4c Out, 19 Jun*71 Industrialization. Jun'66 Intuition of the Child,
(4)

Total; Totality: V 2 L-Z)

See Local vs. Comprehensive, (1) Man: Interstellar Transmission of Man, (2)

Order &. Disorder, May'72
Organic & Inorganic, May'49
Plurality, 5 Mar'55
Quantum Mechanics, Jun'66
Quantum Mechanics: Grand Strategy, 10 Apr*75
Scenario, 1970
Specialisation, Dec'69
Synergetic Integral, 1960
Tension 4 Compression, Dec*71*
Time Center, 16 Nov'72
Truth, 29 Dec*73
Whole System, 28 May*72

See Total Complexity Total of Experience Total Information Total Industry Total Fan Total Energy

Touch:

"If you want to do something good for a child... give him an environment where he can touch things as much as he wants."

- Cite RBF quoted by Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72
HBF DEFINITIONS

Touch:

"We can hear, Bee, taste, smell and touch-feel."

- Cite RBF Synergetics draft Sept. 1971, "Conceptuality Sensoriality: Sweepout."

Touch:

"Touch = tex of ver-tex, i.e.. converging toward touchability, meaning a T r equency-c omplex clustering whose frequencies interfere, or tune in, with the frequency array of the molecular complex of the atoms altogether constituting the Galaxy of frequencies of our life cell tissues of Milky Way nebulae of locally regenerative frequency, locally recurrent through self-interference pattrning."

- Citation and context at jjadome Sequence (1)(2), 29 Dec*58

See Touch, 29 Dec¹58

Touchable Thing:

See Death, 5 Jul*62

See Tactile Seauenca (1)

See Tangency: Tangential

Tactile

Touch - tex of Vertex Not Touching: Never-quite-touching

(2}

See Senses, 9 *pr'40; (1) (2)

Substantive Awareness, 20 Feb'73 Harmonics, (2) Children as Ohly Pure Scientists, (A)

See Education: Evolutionary Touchdowns Football Player

Toward:

See Coming Towardneaa

See City Local Identifications One-town World

Toys:

"I have shunned daily the recurrent opportunities to exploit the energetic-synergetic geometry either as toys or as objets d'art. » ."

- Citation and context at Tensearltv: Depolarised Orientation Of Tensegrity Octahedron Universal Joint, Decbl

Toys:

See Games

See Isotope Tracers on Food

See Overload the System, 15 May'72 Spinach, 11 Feb'73

Tracer Bullet Sequence:

See Geodesic, 5 Jul*62

Spherical Triangle Sequence, (V)(VI)

Geodesics, (1)

See Line

Trajectory

Severance-tracing

See Topology, 10 Sep'74

Truss, 25 Jan*73

Wave, Dec'71

Wind Stress & Houses, (10)

Windows of Nothingness, (1)(2)

See More with Less Visible to Invisible Wire to Wireless

Track to Trackless:

(2)

See Dymaxion Airocean World, (I) Invisible Architecture, (1) Pirates:
Great Pirates, (3)

See Path Trail

Trade:

See Planarity of Trade-center Coloniaing

See Natural .20 Jan'75

Rationalization Sequence, (3)

Traffic:

"Traffic is not a MM willful demonstration of street usurpation, It is a composite of functioning transport media designed primarily for the transport of individuals from shelter to shelter,"

- Cite NINE CHAINS TO THE NOUN, p.3, 1938

Traffic in Ideas: Jg.ta. E£ianga=

See City aa Center of Abstract Intercourse

Trqfric In Idea,: IdM Exchange

See New Tork City, (7)

Traffic:

(1)

See Automobile Freeways Highway

(2)

See Population Density: Manhattan Jet Diepersal, 30 Mar'7»

RBF DEFINITIONS

Tragedy

` ` I take the word tragedy to mean poor little man being born ignorant and helpless and not having any idea of what is going on in the Universe. If for one instant we could really come to understand our Universe and could perceive ourselves as really one with Universe, we wouldn't have to consider such a word as 'tragedy.* We would see that there is absolute immortality. 'Tragedy,' I think is where everything just comesfout wrong, and nothing works and the Universe is a failure. But I don't think the Universe is

a failure. And the reason I don't think so is that as far as we can see Universe is the minimum eternally self- regenerative system, so we can only think of it as a complete success. It includes everything we experience and all of it has logical and/sublime integrity.¹

' eally)

(FebJ

- Cite RBF in Barry Farrell Playboy Interview! 972 - Draft, p. 20.

Tragedy:

See Comedy and Tragedy of Errors

MMI Trail Making and Trail Remembering:

"In lines we see that earliest man's social experience began with trail-making and trail-remembering. The connecting trail 'line' was the basis of his establishment of communication. Today it is the essence of communication theory."

- Citation and context at Communication. May'65

Trail & Trail Ramemberinz:

See Intellect. I960

Number: Tetrahedral Number, May*65

- Cite RBF to EJA, 32OC Idaho, Wash., DC, 8 Apr'75

**See Grass: Putting Aside the Grasses to Isolate the Trail Irrelevancies:
Dismissal Of Parting the Strands Strands Walking Jet Streams**

(2)

See City (1) Number: Trim Tab,

Tetrahedral Number, May'65 1963

See Education: Trained Mind

Trained Nurses?

See Aesthetics of Uniformity, (3)

See Gear Train

Railroads

Railway Trains: Loosely Coupled

Trajectory:

"Our definition of an opening is that it is surrounded, that is framed, by trajectories. Every trajectory in a system will have to have at least two crossings. These are always as viewed, because the lines could be at different levels from other points of observation."

- Gibe
- Citation, at Opening, 22 Apr* 71

Trajectory:

"There are no surfaces. Therefore, there are no areas.

So Euler's topological aspects have to be altered to read: "lines" - trajectories; "vertexes" `` crossings; and "areas" \square = openings, i.e., where there are no trajectories or crossings. This relates to systems."

- Citation at System_r, 22 Apr'71

Trajectory;

(D

See Circuit

Critical Path

Crossing

Fireworks

Geodesic Line

Line

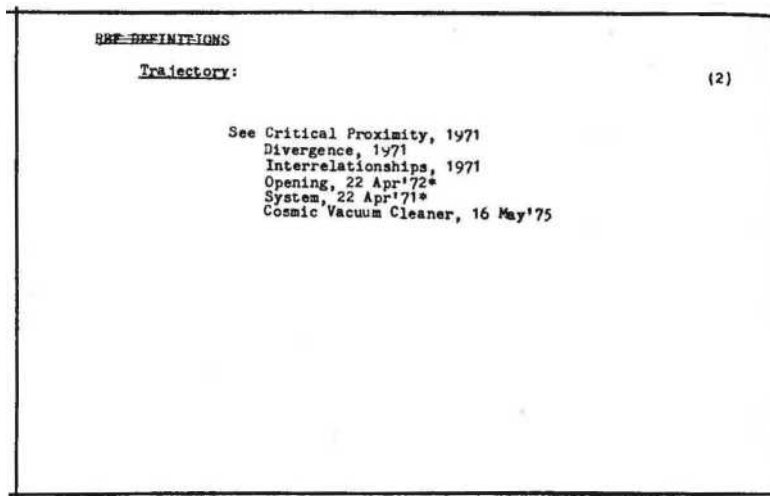
Intertrajectory

Spiral

Vector

Lines - Trajectories

Crossings, Openings & Trajectories



TramppUn?:

See Invisible Trampoline

Trance t Ian»

See Information Transaction

See Eye-beamed Thoughts

Eye as Transceiver

ZranacfelY.gr * Transceiving; (2)

See Valvability, 30 Nov'72

World-around Communication Transcends Politics, (1) Communication,
21 Jun*77 Identity, 16 Feb'78

"There is a question-asking possibility that metaphysical omni-
science may be transcendental in its velocity to that of omnipotence,
i.e., the definitive physical speed of energy as radiation."

- Ic), as rewr itQg:

- Citation at Metaphysical k Physical. 21 Dae'71

- Cite Museums Keynote Address Denver.” - p. 13 2 Jun'71

Is synergetically transcendental

-ven to Einstein.*

- -Ctte-KBi-to EJA

Saraseta, Florida

7. February 1971—>

- Citation and context at Omniscience. 7 Feb*71

Transcendental:

”Generalizations are also transcendental

To beginnings and endings.”

- Citation and context at Generalized Principle (1), 28 Jan*69

Transcendental; (1)

''There quite clearly is a capability operating that is much greater than the capability of man. The discovery that man has really been bumbling around in a very ignorant way in an extraordinarily well organized affair, where things are so well invented that he really couldn't fail despite his ignorance and despite his propensity for eliminating the other fellow. I am going -to say that I am sure this next half-century will be one of a comprehensive discovery of the leaders of men as the most trusted, most reliable intellectual explorers and, in fact, of everybody. It is going to be a first-hand affair, and not something that happens by virtue of somebody telling you about it. I would say there is going to be a discovery and a developing of individual convictions of the leaders of world society of a comprehensive anticipatory integrity of the highest intellectual order and it has no shape at all. It is not a thing thing. It is completely transcendental to anything

that could be called thingness. There is no idolatry involved here. I would say there was going to develop something instead of, in lieu of, Just a faith in the wisdom of your parents, or other fine people who said: young man, I really urge you to believe this is the

- Cite Oregon Lecture #4, p.179, 6 Jul'62

"way to behave and just behave that way and everything will come out all right. There is going to develop a working conviction by direct discovery by the leaders of men, and then in due course by all men. I think we are coming into an era of higher confidence in the integrity of Universe than man has ever known before.*

- Cite Oregon Lecture #4, p.129, 6 Jul'62

RbF L)E.F1N1T1UNS

Transcendental:

"There is a question-asking-possibility that omniscience may be transcendental in velocity to the definitive physical speed of energy omnipotence."

- Citation at Omniscience Transcendent of Omnipotence, 1960

Continuous MRn

See Eternal Designing Capability Intellect: Intellections Intellect: Speed Of Meditation: TH Metaphysical & Physical Life is Not Physical Ideal Synergetics Metaphysical Transcendent of the Physical Objective Intellect Omniscience

Omniscience Transcendental of Omnipotence Science: The Great Design Supreme Intellect Synergetic Integral Threshold of Life Universal Mind

Womb of Total Human Consciousness Greater Intellect

God

See Angle, 2 Nov'72

Christ, 7 Oct*71

Generalized Principle (1)*

Metaphysical & Physical, 21 Dec¹71*

Omniscience, 7 Feb*71*

Principle, Jun'69

Synergetic Integral, i960

Omniscience Transcendental of Omnipotence i960 *

Pi, Aug*71

Large Patterns, 30 May*75

Regenerctivity, 17 Jan'75

Order & Disorder, 1964

Transformable:

"in a necklace the angles between the pieces are transformable until you reduce them to a triangle.

The triangles is then not transformable."

- Cite RBF to EJA, 3200 Idaho, DC, 23 Jan '72

TranartrMbl* =

"I will give another example

Of always and only co-occurring phenomena.

Physicists today observe

That the proton and neutron

Always and only co-occur.

While they are not 'mirror* images of one another,

And have different weights,

They are iranaformab1e

One into the other.

And are thus complexedly complemtary, As are isoscoles and sca-
lene triangles.

None of the angles and edges of either need be the same

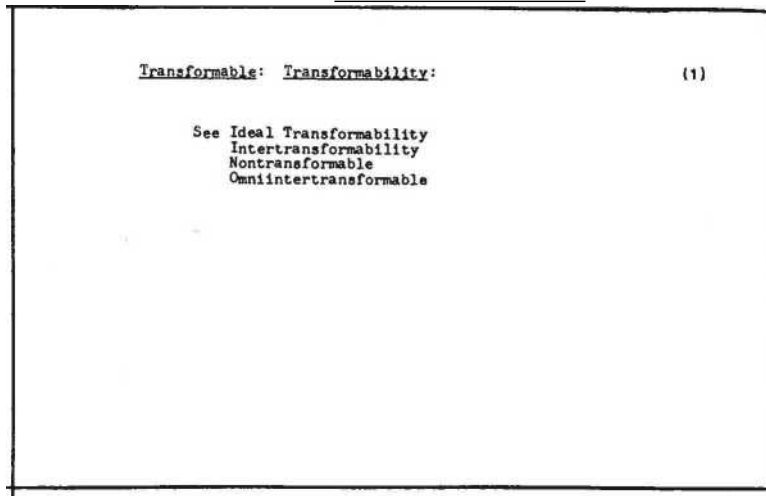
To produce triangles of equal area.

And the sums of the three angles of each

Will always be t>ne hundred and eighty degrees."

- -O±ter-HRAIN-MIND, ~p. -12dj--- g»Hey~ `` 1971

- Citation & context at Proton & Neutron (1), May¹72



See Physical, 1970

Proton & Neutron, 1-Iay*72*

Energy ^Hae Shape, 25 Sep'73

Finite Minus De-finite, Nov'71 0 Module, 29 Sep'76

Transformation:

"Nature is ceaselessly transforming. Every event has six equieconomical alternatives. Eternal transformation is inexorable

- Citation & context at Artifacts (1), 30 Apr'74

Transformation:

"In dealing with the physicists and mathematicians who are working with the molecular biologists, one of the mental blocks I began to find on the part of the mathematicians were their tendency to still think of these Platonic geometries as individual integrities, as not having interrelationship. It took me quite some time to get them to give me enough time to let me show them the transformation of one of these into the other. They, as physicists and mathematicians, were very useful to transformation but transformations had no conceptual imagery at all. They were simply done by symbols. Just as you can make a transformation from two sides of an equation if you choose to take the positive and negative from one side to another and you will have to know which way it goes, but you can transform the equation without knowing what is in the equation. It does not have to stand for any particular given material called empty sets so you are used to mathematical transformability and empty sets.. The mathematicians were so used to that, that they had not expected to see or actually witness an affair where there are the complementaries."

- Cite Oregon Lecture #8, p. 281. 12 Jul*62

Transformation:

"Gradually now I am making you think about not only the withinness and the withoutness, but we even have a definition of a finite Universe even though nonsimultaneous. It is one in which we are dealing always in finiteness and is always adding up in their complementary transformations and the transformations are changing the rest. Something you are looking at locally is changing and it is changing the things around it. It has to do so."

- Cite tipgeon Lecture #8, p.282. 12 Jul·62

ftBF DbFlKlTlUhb

Transformation;

"Universe is the minimum as well as the maximum closed system of onmi-interacting, precessionally transforming, complementary transactions of synergetic regeneration. ..."

- Citation at Closed Sv«tam, i960

UKUTiUriAL—~p ,445I y6(jz

Transformation:

"In the inherently subjective language of physical transformation of an omni-interaltering and accelerating universe there are only two fundamental kinds of observable transformational changes, i. e. , angular or sub-unity alterations τ and linear. or plural unity (frequency modulated) accelerations. These subjectively viewed transformations of universe are also objectively and locally controllable by man through designed angle and frequency modulations."

- Cite OMNIDIRECTIuNAL HAW, p. 156, I960

Transformation:

- RBF paper, Raleigh NC, 10 Oct¹50

Transformation;

"All structure is a transformative phase or complex of tetrahedral transformations."

— Cite I&I, DOMES, p, 166. Date undetermined

"Once a closed system is recognised as exclusively valid, the list of variables and the degrees of freedom are closed and limited to six positive and six negative alternatives of action for each local transformation event in Universe."

- Citation at Closed System, 21 Oct'65

- 'CCE

See Tetrahedron, 24 Sep'73

"The transformational projection is contained entirely within a plurality of great-circle-bounded spherical triangles {or Quadrangles or multipolygons) of constant, uniform-module (ir/Wi*iant, central-angle incremented) subdivision whose constantly identical edge length permit their hinging into flat mosaic tile continuities. .

RBF rewrite incorporated at SYNERGETICS draft Sec. 1101.02, 24 Jan`73

RBF approves the designation "'Triangular Geodesics Transformational Projection" vice "'projective Transformation."

(For earlier entries on this subject see Projective Transformation)

- Cite RBF to EJA, 200 Locust, Phila., 22 Jan'73

See Constant Zenith Projection

Projective Transformation #

Twenty-foot Earth Globe i 200-foot Celestial Globe

(* Preferred term (# Obsolete term

Tr^ana forming Center;

See Me the Observer, 19 Feb'73

"We may say that nature proceeds from the obviously orderly and symmetrical to the nonobviously, but always orderly, transformation phases known as asymmetries which, having gone through their maximum or peak positive phase asymmetry, which only seems (to the uninformed brain) to be disorderly, always returns transformatively thereafter through an orderly progression of decreasing asymmetry to the fleeting passing through the condition of equilibrium popularly recognized as 'order,' thereafter deviating asymmetrically to the negative phase of balancing limits of oscillation."

- Citation at Symmetry & Asymmetry. Jul'71
- 552702, July W1*

See Associative & Disassociative

Catalog of Alternate Transformative Options

Human Ecology Transformations

Interpolyhedral Transformations

Local evolutionary Transformation Events

Limit Structural Transformative Tendencies

Minima Transformation

Minimum Momentum of Transformation

Omnidifferentiated Rates & Methods of Transforming Pattern Transformation

Propagative Transformation of the VE Radial-circumferential Acceleration Transformations Reciprocally Transformative Precessional Involvements Step-up, Step-down Transformation Tetrahedral Transformations Transformational Projection Eternal = Transforming Richter Transformation Intertransformings: Intertransforms Hex-pent Sphere: Transformation into Geodesic

Spiral Tube

See Abstractions, 1964

Acceleration: Angular & Linear, 1960 Artifacts, (1)* Closed System, 1960*; 21 Oct'65* Design Science, (1) Eternal vs. Finite, 15 Dec'71 Indeterminism, 20 Jun'77 Individual Universes, (1) Omnidirectional Typewriter, (2) Relativity, 1968 Tidal, May'72

Transformers:

See Vertexlal Spheres, 8 Apr*75

Convex 4 Concave, 16 May*75

Transient;

"...Transient, ergo, sensorially detectable..»"

- Ciaation and context at You and Me. 11 Sep'73

TranBinviaiblity:

See Invisibility, 1 Jul'62

Tranaiator;

"Tranalstore were not amell-diacovered and can't be made to do what la physically foreign to tranaiator behaviors."

- Citation 4 context at Invisible Heallty. 22 Jun'74

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- Citation and context at Atomic Computer Complex (2), 13 May¹73

See Solid State

See Atomic Computer Complex (2)* Invisible Reality. 22 Jun'74* Revolution, Aug*64 Omnidirectional Typewriter (4)

Trap? on =

See Zero Moment of Transition

TranamlBalon-

See Electromagnetic Transmission

Man: Interstellar Transmission of Man Power Transmission

Information Transmitting 8c Nontransmitting Model Radiation as
Information-carrier Electromagnetically Transmittable Logistics
Electromagnetic Transmission of Human Organisms Extraorganic
Travel Scan-transmission of Pattern Integrities Cosmic Transmission
Electromagnetic Transmission: Subjective 8c Conscious

Sas Siza-aalective, 30 Nov'72

Transnational:

We are now entering a transnational period of world evolvement quite apart from national frontiers. The world corporations are not so much exporting products as know-how and technology and these do not require the protection of sea power. So the companies are not saying to the governments that your military has to protect me locally."

- Cite RBF to American Enterprise Institute, Washington, DC, 2b Nov'72

"There were no building industry exhibits, no manifests of 'National Association of Real Estate Boards,' nor of home builders associations, nor building labor unions"... at the UN Habitat Conference in Vancouver.

"Conspicuous by the old banking world's absence, it became quite clear that the world bankers, confronted with escalating building costs which had passed the point of no return, as well as with exhaustion of the USA's---and all other major capitalist-system nations'---building mortgage guaranteeing creditability, had withdrawn all support of real estate exploiters and of obsolete building technology in general.

"The big money of the world... has gone entirely transnational... had found that whereas 'you can't take it with you' into the next world, you also can't take it with you around the world--ergo, ownership has now become onerous. Big money has left all the sovereignly locked-in, local-property- game players holding the unmovable bags of real estate. Machinery becomes obsolete almost overnight, ergo is unattractive as a continuing property and must be written'*

- Cite ACCORDING TO THE HUMAN UNSETTLEMENT, p.6; 20 Sep'76 "off the books in five years. But machinery can be melted and reworked to ever higher earning effectiveness only by ever improving know-how.

' 'Know-how has become the apple of 1976 transnational capitalism¹ s eye....

"All the great American corporations of yesterday have now moved out of America and their prime operations have become transnational and conglomerate and are essentially concerned with the game of selling their corporations' very complete technical, managerial, and vast credit-handling and moneymaking know-how. For this reason they are not interested in the older kind of properties. This set of unpredicted changes of volition explained the lack of concern of transnational conglomerate capitalism and their lack of opposition to the UN Vancouver Conference's preoccupation with human settlements---peanuts....

"The new transnational capitalism's grand strategies are primarily formulated... to keep governmental power widely deployed, ergo 'conquered.' The media it employs to aim and focus humanity's attention on what capitalism would like" - Cite ACCORDING TO THE HUMAN UNSETTLEMENT, pp.7-8; 20 Sep'76

"the human beings to think about and buy. Much of their media news has been smoke-screen news diverting humanity's attention from what the supranational capitalism itself has been doing. For instance, all the while the world news was spot-lighted on the Korean and Vietnam warring, the great USA corporations and banks were conglomerating and moving out of America into a world theater of operation."

- Cite ACCOMMODATING HUI AN
UNSETTLEEENT, p.8; 20 Sep'76
Transnationalism: vs. Colonialism; p j

"Probably the most prominent of the economic trends prognosticating evolutionary events is that of the supranational corporation. The 200 -largest industrial and financial corporations originally developed within the United States have now expanded to become world corporations with the preponderance of their operation and income derived from outside the United States. It has been quite feasible for these abstract organizations to obtain a world passport, but not so for human individuals.

Transnationalism is very different from colonialism. Colonialism was primarily characterized by the most powerful sovereignties in Europe going to nonindustrialized countries around the world where a few unique chemical element resources existed unused in the local arts---crafts, hunting, and fishing economies--- and extracting those chemical element resources whose significance was unrecognized by the local peoples. They progressively separated the chemical element resources from the ore bodies, refining and importing them to the European (and sometimes American) economies where these chemical elements became essential ingeddients of tools or end products of mass production tools in the modern industrial evolution of ever higher performance technology per units of resource input."

- Cite 'The Evening of the World's Power Structures,' pp.30-31, 10 AprH
RBF D&F1NITIONL

"In due course the same chemical elements, as ingredients of the modern technology, were exported around the world thus to return from time to time to the countries from which the raw materials originated. This brought a great mark-up of the price of their original materials to the buyers in the countries of raw origin. Because of their meager money-producing economies, the balance of annual trade was always unfavorable to the 'colonies' and always favorable to the European or American sovereignties.

"In contradistinction to colonialism, which took resources away from people, the new corporate transnationalism brings resources to the lesser sovereign powers.

"In the early 1920's Mexico effected a historical shutout of colonialism while conceptualizing and inaugurating hospitality - for transnationalism. Shortly after World War I Mexico successfully expropriated the petroleum lands and the drilling, pumping, and refining equipment of all the oil companies which had invaded Mexico without any official permission other than corruptly obtained 'licenses.'

'With the U.S. population alarmed by its World War I 'saving of democracy,' American big business was unable to excite American democracy's resentment for their plight and thereby protection of their 'rights' by intervention of USA armed might as in the past patterns of colonialism. Historically, colonialism's democratic ideals camouflaged their exploiters might-enforced, special-interest-advantaging, economic stratagems, moreover, Mexico said to America and Europe: 'Stop dumping your worn-out automobiles in our country. We will not accept imports of either your new or secondhand automobiles or other products. We would be glad to have your Buick, Ford and Mercedes, but you will have to set up

manufacturing plants of your products in Mexico and do so entirely at your own expense. You will have to give Mexico and Mexicans stock interest in your enterprise. In effect, your plant machinery, being immovably on Mexican territory, it will belong to us. As long as you're manufacturing those cars in our country on a successful basis, and are paying us dividends, using our resources, giving us excellent transportation (or other end-products or services) we will be glad to have you profit by your portion of your enterprise shares. But you, General Motors, Ford, Mercedes-Benz, et al., will have to"

- Cited in 'Evening of the World's Power Structures' p.32, 10 Apr'74
Transnationalism vs. Colonialism: 14)

"obtain the chemical element resources necessary to your manufacturing which are not available in our country and will have to bring them to us from wherever they may be. You will have to use the physical resources of Mexico whenever and wherever they exist and above all, you will have to bring world import and export advantage to us."

"General Motors and Ford suddenly found this highly profitable, as had also, long years earlier, Singer Sewing Machine and others.

"This is the major pattern of transnational industrialization. Thus the transnationalized corporation no longer needs Army or Navy from its country of origin to protect its on-foreign-soil interests because wealth has been brought to the small country, wherefore the small country inherently protects the transnational corporation. Transnationalism is not being participated in by the communist countries as well as the industrial majors. The net of all this is that colonialism took physical wealth away from the weaker country and left people in ignorance while transnationalism brings both physical and metaphysical 'know-how' wealth to the weaker country, thus increasing the minor nations' wealth and literacy quite independently of ideological factors."

- Cite "Evening of the World's Power Structures," p.33, 10 Apr*74

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"Colonialism took away the physical and returned the physical in re-arranged ways. Transnationalism trades in metaphysical know-how.

"Along with its integration of world industrialization, transnationalism has also developed its own world-around intramural economic accounting facility which overflies the local, national controls and their respective currencies and tariffs. Vast, computer-facilitated, omni-world-operation accounting of the major transnational industrials is now being accommodated in a major way by the great American and European banking corporations themselves going transnational. In effect, American banks have taken American depositors' funds to expand themselves into world organizations and, together with the transnational corporations' financial managers, have used American dollars around the world to buy the world's gold in the world markets outside the United States as permitted by the recent U.S. presidential rescinding of a 40-year-long federal law that monetary gold could not be privately owned.... Altogether this flight of gold and its acquisition by the new transnationalism and the Arabs, who finally wrote the death warrant of petro-colonialism, has resulted in the world's international import-export trade balance being divested of any serious meaning."

- Cite "Evening of the World's Power Structures," p.34, 10 Apr'74 "With the largest amount of the world's petroleum energy supply in Arabia, and with the Arabs' conversion of their paper dollars to gold, there came about a natural marriage of interests of the oil capitalism and the transnational managerial capitalism. The oil is inherently exhaustible but the know-how of management can only increase.

"While all this was accomplished by self-survival astuteness of the banks and transnational corporations, retrospectively it constitutes the greatest economic upheaval in history. It amounts to taking away from the sovereignly-locked-in world's humans all their life-support equity chips and transferring that wealth to the transnational corporations and Arabs for a total heist which is equal to 18 trillion of the USA's present Nix- dollars."

- Cite "Evening of the World's Power Structures," pp.35-36,
10 Apr'74

See Halfway-round-the-Worlding World Corporation Desovereignization Sovereignty: Elimination Of Supranational Unsettling vs. Settlements

Transnational Corporations:

Trananatlionalism: (2)

See Desovereignisations Sequence, (3)

Mobile Rentability vs. Immobile Purchasing, 20 Sep'76

Disarmament, (1)

Technology: Enchantment «. Disenchantment, (4)

Transparent;

See Omnidirectional Shutterable Sieve

Transplants:

See Human Parts Replacement

See Omnimedirm Transport

Trolley System for the Whole Earth

Air Delivery & Submarine Cities

Airplanes vs. Railroads

Deployment: Man's Increasing Depolyment Pattern Locomotion:
Radeus of Man's Locomotion

See Population Density: Manhattan Jet Dispersal, 30 Mar'73

Houses A. Infrastructure, 20 Sep*76

"...Theae alternate structural symmetries constitute typical positive or negative, non-mirror-imaged intercompl ementation and their systematic, alternating proclivity which inherently propagate the gamut of frequencies uniquely characterising the radiated entropy of all the self-regenerative chemical elements of Universe, including their inside-out, invisible negative, Universe-provokable, split-second-observable, imports of transuranium, non-self-regenerative chemical elements."

context at Cube fc VE as Wave Propagation Model

Tranaurmilua Eleawnta:

See Noneelf-regenerative

Superato«iC8

Trans-vector-equilibrium Configurations:

See Superatomics

Q-f Diemay, Fear-* Negativism:

See Myopia: Incasting vs. Broadcasting, 22 Jan'75

See Inventions that Decrease the Degrees of Freedom Self-entrapment Energy Traps

See East Is East Theme

Locomotion: Radius of Fan's Locomotion

See Up &. Down Sequence, (1)

See Cotravel

Extraorganic Travel

Space Travel

Transportation

Seo Flight, Oct*73

"Nature designs the most efficient (ergo beautiful) structures, for instance, great trees. Let us examine the structural effectiveness of nature's tree design. Make an experiment.

Take a suitcase in each hand, each weighing about 50 pounds. Try to hold them out horizontally at arm's length. It's easy for our arms to hang them vertically from our shoulders; but the more horizontal, the more difficult. It is almost impossible to hold MB 50 pounds out horizontally.

"let look at a tree's shoulders where the branches are attached. Look at the branch of a tree with the same girth as that of your shoulder when your arm is extended and muscles flexed.

Such a tree branch may weigh 500 pounds--- 10 times what you can hold out horizontally.

"Wing root" is the aeronautical engineering term for 'shoulder, for example, the wing root between the fuselage of an airplane's airframe and the jet-pod-carrying aluminum wing structures, which wing roots contain the mainspar. These air transport wing roots accomplish almost incredible tasks with incredibly low weight ratios. However, holding five and more ton branches"

- Cite RBF Intro, to H. Kenner's "Geodesic Math," p«20, 8 Sep'75

"out horizontally, while yielding streamlinedly and flexing gracefully without breaking in great winds as do the trees in a design accomplishment unparalleled by aeronautical engineering even in the wing roots of jumbo jets and supersonic

fighters. How can a tree do that? Biological structures cope hydraulically with all compressional loadings....

"The paramount function of trees is to expose as much leafage as possible under varying wind conditions in order to photosynthetically impound the Sun radiation, with which by a complex of relationships with other biologicals to support life on our planet, since few of the mammals can directly convert Sun-energy into life support. Since the function of trees requires maximum leafage exposure, its progeny will prosper most when planted outside the shadow of its parent. Each tree seed is a beautiful flying machine designed to ride the wind until reaching propitious soil. Because few seeds will find propitious sites in this random distribution system, the tree launches many thousands of seeds. These seeds contain the geometric design instructions for associating the locally available resources of air, water, and the locally available"

- Cite RBF Intro, to H.Kenner's 'Geodesic Math' p.25, & Sep'75

"soil and rock chemistries* atoms in the environs of the seed-landing. The seeds contain coded programs for associating local atoms in triple-bonded, ergo high-tensile capability crystal structures, which when triple-bonded with others, produce the long overlapping fibrous sacs to be filled with local water and air derivatives*

"These close-packed, liquid-filled, fibrous sacs compound to produce first the tree's root 'wood.* What nature ships in the seeds are the DNA-RNA coded instructions on how to utilise the resources of locally occurring water, gases, and chemical elements at the seed-planting site. These high tensile fiber sacs are filled with liquid sap, developed from water brought in through the roots by osmosis and one-way capillary valving of the hydrogen and oxygen-laden water out of the ground to combine with the carbon- and oxygen-laden gases of

the atmosphere as produced by mammals and other biological organisms, and by the photosynthesis of Sun radiation, whereby the tree's leaves combine the hydrogen and carbon atoms to produce the hydrocarbon, cell-built cells of the tree, while giving off the oxygen atoms to the atmosphere, with which the mammals' growth"

- Cite RBF Intro, to H. Kenner's "Geodesic Math," p.26, Sep'75
- 'will be respiratorially sustained.

"Enormous amounts of water are continuously elevated through the one-way, antigravity, capillary flMMB valving system: the tree feeds the rain-forming atmosphere by leaking atomised water out through its leaves, while all the same time sucking in fresh water through its roots. The tree's high tensile, fiber cell sacs are everywhere full of liquid. Liquids are noncompressible, yet distribute their local stress loadings evenly in all directions to all the enclosing high tensile fibrous sacs. The hydraulic compression function fills out firmly the predesigned overall high tensile fiber shaping of the tree. In between the liquid molecules nature inserts tiny gaseous molecules which are highly compressible and absorb the tree's high shock loadings, such as those from hurricane gusts.

The branches can wave wildly, but rarely break off unless dehydratively dying, which means losing their hydraulic, noncompressible, load distribution's integrity. Sometimes in an ice storm the tree freezes, the liquids cannot distribute their loads, and the branches break off and fall to the ground."

- Cite RBF Intro, to H. Kenner's "Geodesic Math," p.26, & Sep'75
- Trees:

"With the liquids distributing loads and the gases absorbing shocks, and the predesigned (DNA-RNA) overall high tension crystalline tension fiber network (like a football skin) controlling the overall tree (or other biological) shapes to be produced (when filled out with the liquids), we find the system transmitting its hydraulic load distribution impulses through each liquid-filled cell's contacts with adjacent liquid-loaded sacs.

"Starting with one tetrahedral bud shoot, the tree grows as a series of concentric tetrahedral cones--- revolved tetrahedra generate cones. Constant reorienting of the direction from which the Sun radiation is coming, and the frequent shift in wind direction and consequent drag forces on the tetra-tree, produce a conic revolution effect on the tree growth. Each year a new cambium-layer cone grows over the entire outside of the previous year's tetra-cone. Each branch of the tree also starts as a tetrahedral-shoulder-cone sprouted out from the main cone.

"This high-tension sac's web design with its hydraulic-compression coping and pneumatic shock absorbing is much the same structural system nature employs in the design of humans."

- Cite RBF Intro, to H, Kenner's "Geodesic Math," p.27, 8 Sep'75

Trees: (!)

"To be sure, the liquid does not freeze under average environmental conditions: nature creates a »good health* temperature control of 95.6° F for all its humans. Instead of the progressively larger tetra-cone form over which the tree builds from the roots outward into successive live layers, nature introduced th?

skeleton in the mobile mammals, all around which their hydraulically-actuated muscles and cushioning cells are crystallinely grown as scheduled by the DNA-RNA program thereafter to be automatically operated by genetic coding."

- Cite RBF Intro to "Geodesic Math," H. Kenner, p. 27, 8 Sep»75

"Whereas man builds all of his buildings with compressional strategies and all engineering analysis is in terms of compressional continuity of the old stone-on-stone, nature doesn't do any of her compression work with crystallines or solids. She uses them only in tension because the crystalline has the most bonding, therefore the best in tension...

"Nature does all of her compression just as in a tree. You take a beautiful but fairly small tree--- with its branches out--- and its wing root would be Just about the same size as your shoulder. You will find that whereas you can only hold possibly 30 to 40 pounds out horizontally, this tree is holding out a thousand pounds. And we get to a big tree with many tons out there, holding this thing out with all the great winds and the hurricanes: How can it do such an extraordinary task?

"It goes back to the tetrahedron, the simplest structural system in Universe. Where you associate tetrahedra just corner-to- corner there is a mass interattraction occurring, but they are free to move as in a universal joint. Tetrahedra fastened corner-to-corner would fill a whole lot of space, but with enormous spaces in between them. Because there is so much"

- Cite RBF to DSI Meeting, Phila., transcript p.3, 22 Mar'74

Trees: '•space they are so flexible and you can really fold the mass back into its own self. This is the way gases are: the simplest bond you could get. They are the least coherent this way and highly compressible because of the flexible joints and the way they could be folded back on themselves. The flexible joints illustrate pneumatics where all the loads are very evenly distributed.

"Then we come to the same tetrahedra, but with two bonds. They can be edge-bonded, or hinged. In engineering you call that hinging and the loads are still flexibly distributed. And if you put all the tetrahedra together edge-to-edge you suddenly find that you have what we call the octahedron-tetrahedron truss. The interstices between the tetrahedra will be octahedra and they are structural systems. They are

eight triangles. And so they do not flex. They are noncompressible; and they are like the liquids, being hinge-jointed and the loads are distributed with all the characteristics of liquids.

"Then we get to three Joints and suddenly we have the crystalline and there is no flexibility in here at all and so no loads are'*

- Cite RBF to DSI Meeting, Phila., transcript p.3, 22 Mar¹⁷⁴

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"being distributed. This is very good because the three bonds are tensionally much stronger than two bonds. One bond to pull apart in the pneumatics; two bonds to pull apart in the hydraulics; and three to pull apart in the crystallines.

'So we find nature-- in designing a tree--- sending a seed bouncing into the sky. Because the tree is rooted and can't move, it has to get that seed out from underneath its shadow so the seeds can function as radiation impounders. And what goes into the seed is the strict instruction for the crystalline development. And crystals do grow; so the crystal]ines build the fibers--- and everything that is crystalline in the tree is the fibers to enclose the liquids, which are doing all the compression. And the liquid sac continuities are valved by osmosis. Water can only go one way, so it keeps being pulled in by the roots, keeping it hydraulically pumped up. Then the waters get going out at the top a little less rapidly that they're coming in at the bottom, so it

keeps the pressure up. So we have the crystallines acting in tension as a sac and in between them we get water molecules which act as the springs to take the shock loads. So you see then how this beautiful great tree is able to"

- Cite RBF to DSI Meeting, Phila., transcript p.4, 22 Kar'74

Trees: (d)

'take enormous wind shock loads. They gases are contained but yet they distribute the loads. The minute you freeze the tree up--- off goes the branch! Because it can't distribute its loads.

"This is very much the way nature has designed you and me... using this water to distribute the loads. And that's why we have to have this 98.6 degrees so we're not going to freeze up. And there are very limited conditions where the humans and the trees really can operate, but nature is able to do it on board of our planet within the biosphere. Hydraulics are a very good way... they are incredible!

"Whereas man--- in the Stone Age--- would go through millions of years in compression. Even though masonry has an ultimate, or limit, compressive strength of about 50,000 pounds a square inch, while masonry in tension is only about- 50; so it's been built 1000 times stronger to resist in compression than in tension. And that's the way man learned to pile that stone up....

"So I began to see that this hydraulics and pneumatics--- the crystallines--- had never been in the building arts at all. And so I've gotten into tension continuities with tensegrity structures"

- Cite RBF to DSI Meeting, Phlla. transcript p.5, 22 Mar*74

Tree:

"A tree is a fantastic design. It has roots to get the water out of the ground in a one-way osmosis system that gets the water back in the sky so it can rain again and water the roots.

- Cite RBF quoted by Tina Jeffrey in Newport News Daily Press, 1 Apr'73

Tree;

"Seen in their sky-returning functioning as recirculators of water, the ecological patterning of the trees is very much like a slow-motion tornado: an evolving-involuting pattern fountaining into the sky, reaching outwardly, downwardly, and inwardly again once more to recirculate and once more aiin--- like the pattern of atomic bombs or electromagnetic lines of force. The magnetic field relates to this polarization as visually witnessed in the Aurora Borealis."

- Citation and context at Ecology Sequence (2)(3), 16 Feb'73

Tree:

"I looked on a tree as beautiful when i jwas a little child. .Now I can see why that tree is designed the way it is. As a comprehensive anticipatory design scientist I understand why that tree is there, what its relation to me is. I really feel it too. It's not something superficial to draw a picture of. I really feel how it's handling the wind and the rain and what it's doing. It's a beautiful mechanism. Fantastic technology. You try to pick up a bucket of water, hold it out at arm's length. Suppose it weighs 50 pounds. You can't hold 50 pounds horizontally. And this tree is holding out a branch that weighs five tons--- horizontally. And it's able to handle a hurricane and not get into trouble, and with all those leaves. Quite a piece of design. And I know exactly how it's done. I began to design like that."

- Cite Rasa Gustatitis quoting RBF, in WHOLLY ROUND, (H,R&W, NY), p. 160, Feb'73

Trees: (A)

'Nature employs the three phases of association--- as liquids, crystals, and gases--- to very great account, assuming their low distributing capability. Nature wanted to build something very extraordinary such as a tree. Then the trees have a function: transforming energy for you and me; being rooted and pulling water through it... The impounding ends of you me have no roots. Trees and vegetation have roots so they can be watered. We have this enormous amount of water being pulled through them by osmosis all the time... And I give you the tree having to have its own young out from under its shadow. Launching all those seeds, hoping they would land in a favorable place. When sending off the seeds Nature counts on there being local gases, which amounts to air, and liquids available. She sends only the tensile blueprint in the seed. And part of this is crystals and crystals we know will grow. So the crystals are going to grow and give you more local tensiles.

'You have all tried picking up great weights and holding it vertically. It's easy to carry this way, but you try to hold that sijn case out horizontally and it's approximately impossible.

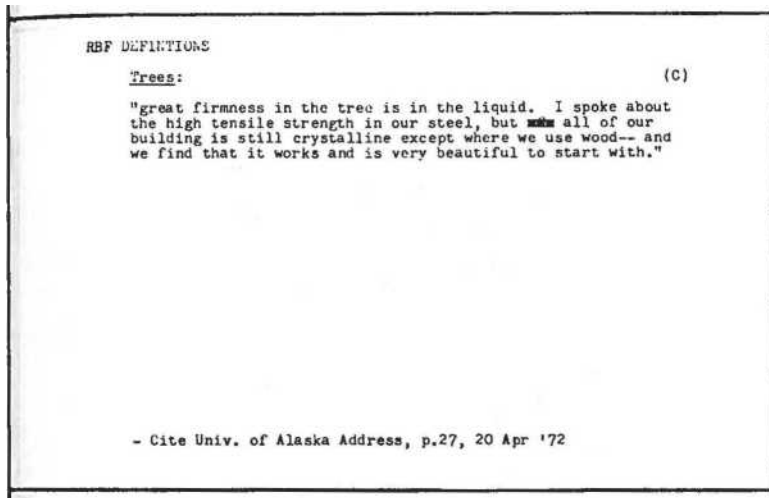
- Cite Univ. of Alaska Address, p.23 + 26, 20 Apr '72

"We see a great tree with its beautiful limbs going out horizontally and the wing root is really pretty small. You weigh one of those branches, sometimes they go up to five tons. You find you have trouble holding 50 pounds out like that. Jus try holding five tons out like that. You've got quite some structure all in a relatively small amount of space.

And nature does that. And when a great storm comes along she is able to sway and yield and not break. If you have a great ice storm then off comes a branch. Nature then sends that crystalline seed and the crystal increases, making more and more of the fibers. And they are triple-bonded; therefore, they have a high tensile strength. And

th crystals give all the tensile strength and it encases the hydraulic. The hydraulics have flexibility; they distribute the load so beautifully. But they are noncompressible. Between the molecules of the liquids are molecules of gases; and they are compressible and they take the shock load. So the great branch holding out its load does not deform, due to hydraulics being noncompressible. It's distributing its load superbly. And it's held together in the most high tensity we have-- which is the triple-bonding of the crystals. And then when the wind blows and the gas molecules in there yield to allow it to do this, despite the noncompressibility of the liquid. So the

- Cite Univ, of Alaska Address, pp.26-27, 20 Apr '72



- Citation A context at Redundancy: Reduction Of. 22 Apr*71

"Now it is time for me to say something about wood's lessons to us as they relate to the design science revolution which, through invention, can increase capabilities and efficiencies to the point that will guarantee success to all men. If we really try to do more with less then nature has some extraordinary things to teach us when we study the structure of the tree.

"First, let me say there is nothing in nature but structure. Still. I find in engineering and architectural schools with all or their specialisation that there are always courses in materials. In these courses it is taught that buildings are built out of materials, but I find from my experience that this is not the case. What we in fact do is to build visible module structures out of invisible module structures. We have nothing but structures. We have microstructure and macrostructure, but there is nothing but structure. If we look carefully and see what nature is actually doing, what is her patterning, what is her structuring, then we can begin to develop very high capabilities."

- Cite Syracuse Address, Pp. 54-55, 7 Nov '77

HD

HBFIWHLTKS

Trees:

"I find that man has thought structurally in what I would call compressional logic, whereby he piles stone upon stone to make a building. In that kind of building you find that tension was only a secondary helper and compression was the primary logic employed. This is to say that I find many thinking spontaneously in compressions!--- might makes right--- logic. I found that nature was not using that logic. In our solar system the Earth is not touching and ball-bearing around the Moon's surface. And in the atoms the energy components are equally remote from one another. In the atom the electron is as remote from the proton in the microstructure as the Earth is from the Moon in our planetary macrostructure. In terms of relative diameters, we still have the same kind of celestial attraction that we have in the microcosm. There are no ¹ solids,' just as there are no 'materials,¹ but there are sufficient relative proximities of these masses which are

enough to cohere; just as the earth's mass is enough to have it held to the Sun even though they are 92 million miles distant. I find that nature is here using continuous tension and discontinuous islanded compression."

- Cite Syracuse Address, Pp. 5-56. 7 Nov '67

"These are clearly differentiated tension-compression structures which I call tensional integrities, or tensegrity, structure®. This, as we shall see, is exactly the structure of the tree.

"Tension and compression are complementary functions of structure. Therefore, as functions they only coexist. . . .

"The tree has an excellent structural lesson to teach us in the efficiency of its tensegrity structure's clearly differentiated tension and compression patternings. . .

Ancient man, wanting a spanning procedure used wood. Wood has 100 times stone's ultimate tensile strength, or about 5,000 p.s.i. But the wood beams eventually rotted out or burned, which is why today we find only the vertical stone compressive elements of antique man's great building ventures. . . . Clearly • we see that compressive capability has to be augmented to match our high tensile ability.

"It is the tree that can teach us this for nature has a very great trick in relation to all of these structural strategies."

- Cite Syracuse Address, P.57-59, 7 Nov '67 **"In 1885 the scientist, van't Hoff, demonstrated to organic chemists that all organic chemistry is tetrahedrally configured. Consider molecules as tetrahedra® and those tetrahedra joined vertex to vertex. A constellation of tetrahedra linked together entirely by such line vertex or universal jointing, which is called single-bonded, uses lots of space and is very characteristic of the gases. . . . Tetrahedra joined by two vertexes line up to what engineers call a 'hinge,' . . . When tetrahedra are attached to one another by three vertexes they are triple-bonded. . . ."**

"How does the tree do its extraordinary work? The tree has to impound all that Sun's energy with all of those leaves. It has to expose an enormous amount of leaf structure in order to be able to do so and still not dry up. To do this nature has the tree water-cooled, sending its roots deep into the ground to find the water to pump through its cooling system. These deep roots also give the tree its great stability to resist the forces of its great branches and leaves waving around in the wind. If you take a 50 pound load, such as a bucket of water, you are able to hold"

- Syracuse Address, Pn. 59-60, 7 Nov '67

"it vertically at the end of your arm, but if you try to elevate the bucket toward the horizontal it becomes more and more difficult. You can't really hold it out there. Because your arm is a pretty good size this makes you appreciate what the tree is doing with what is called the branch root into the trunk, Although relatively small, this area is sometimes sustaining a branch eight or more than two tons, compared with the 50 pounds with which you were struggling. And the tree is able to do this in winds of hurricane velocity and wave those tons around and still • not have the branch break off. In the airplane we call that joint the 'wing root' at the point where the wing comes to the fuselage. The greatest stresses experienced by flying a plane are at the wing root. Some of the great tree branches are cantilevered out from their branch roots as much as 40 feet. How can you possibly make such a structure as that?"

"The tree uses extraordinary structural strategies both in the tension and compression of its tensegrity patterning."

- Cite Syracuse Address, Pn. 60, 7 Nov '67

"The tension is entirely in continuous sheathing of compression-resisting liquids and shock-absorbing gases. The tension strength in the sheathing fibres comes from getting those masses of atoms closer and closer each other and thus exerting greater and greater attraction to each other. As they get closer the fibre gets stronger. If examined under a microscope those overlapping fibres are exactly analogous to the Milky Way. One Milky Way approaches another Milky Way and the attractions between their masses becomes enormous. The series of fibres actually overlaps so closely as to act as one great fibre. . . .

- 'In compression, liquids are completely noncompressible, and because they are also completely flexible, they distribute the load evenly all over the system.

"This is just what the tree does. She does all of her compression in hydraulics, and in between the hydraulic or liquid molecules, are little gas molecules. They are single-bonded tetrahedra and therefore highly compressible. The gas molecules give springiness and absorb shock. They are smaller than the liquid elements and fill the tiny"

- Cite Syracuse Address, Pp. 10-61, 7 Nov '67

Trees:

"spaces between them. An effective analogy would be oranges in a pile in closest packing. Think then of the hydraulic molecules as the oranges with the gas molecules filling in the tiny corners between them. So the shock loads on the tree are taken in the gases and the hydraulics give it its firmness and its strength. I would say that we're probably going to see an age of high hydraulic-compressive capabilities coming in to balance man's advantages of already high tensile capabilities.

"I just point out to you that our tree is the greatest structure I know. That's why if man continues to use wood in a dried state, we shall continue to lose its greatest strength. Incidentally, in order to have more trees regenerated, there cannot be a tree underneath another tree because the new tree wouldn't get enough Sun to sustain it. So nature has the tree produce seeds and the tree ships a pattern in the seed which goes off by the wind and the waters to get implanted where there will be available the new life's regenerative needs. Trees are regenerative. Man can actually profitably cut them down and replant them,"

- Cite Syracuse Address, Pp. 61-61, 7 Nov '67

Trees:

"These new structures are part of Planet Earth's income, and I think we're going to have to learn to live on income."

- Cite Syracuse Address, Pp. 61-62, 7 Nov '67, Also titled WOOD DESIGN IN A DYNAMIC TECHNOLOGY

KBF DEFINITIONS

"Now let me discuss ways in which we might think about nature's logistical strategy in an accomplishment of most economical world-around structuring as disclosed to us within the narrow limits of immediately visible nature. Let us use the tree as an example. Trees are substantial organic structures, and they frequently last for many years more than do men or birds or fish or the contrived dwellings or nests of men or other mobile life. Some trees stand for more than a thousand years against great storms and earthquakes. While man and birds and fish are positionally mobile, trees are not. Trees are only locally flexible.

And yet trees spread their population around the world. The way they do this is by means of their seeds which they place in beautiful little flying machines. The maple tree's seeds, for example, float around in the winds and come fluttering down like little helicopters. The winds carry these seeds so that by successive generations trees are able to go airborne into new locations around the world. Thus are accomplished the world's pine tree belt, and other worldgirdling tree belts."

- Cite r.EPES, pp. 04-85. 1965

Trees : (2 1

"Let us consider the logistics nature uses in building and distributing such a lasting structure as a tree. We find that in the seed nature provides a blueprint pattern tightly folded up in a triangular tension grid."

- Cite KEPES, p. 35.1965

rtBF DEFINITIONS

"So nature, in arranging for one tree to build another tree, Bakes up a folded, tight blueprint in a tension network grid and folds it into a tight package: a seed. When the seed cones to rest, nature then provides the means for expanding the tree pattern by means of locally available compression components developed from the local water and air. Water is highly noncompressible--- our powerful hydraulic pumps exploit this--- so when nature hui Ids a tree, she takes the blueprint of the seed and begins to pump it up, full of locally available water, bhe then develops regenerative patterns, using the inhibition of more and more local waters. Lore water is needed because so much keeps leaking out, through the process known as osmosis.

"It is the noncompressibility of the water which makes for that great sturdy stiffness of a tree also permitting a tree trunk to hold out a branch weighing from ten to 25 tons to be waved flexibly in the wind. How can it wave in the wind? Because in between the molecules of non-compressible water, nature pushes in little packages of air, little spheroids. Air is highly compressible (as in

- Cite KEPES, pp.85-86, 1965

JXm: (4)

"pneumatic tires), so the little molecules of air compress like an automobile tire, allowing the branch to wave.

"Nature's great trick in making trees is to distribute tensional blueprints which regenerate the pattern locally, employing the compressions of local gases and local waters, enclosing them in beautiful tensional skins of the molecules themselves. This is nature's major strategy of efficient energy utilization in the distribution of structures."

HBF DtHMTIUhb

Trees:

"The microscopically observed structures of 'worked' steel and tree trunks are, alike, comprised of myriads of

sausage-balloon-fibrous units."

— JjAtw MN in/1 LN.¹.UjMhrt.,

- Citation and context at Colloidal Chemistry 1938

Tree Hinges of Exnerlenco:

See Hunana, Kay'49

Cyclic Bundling of Experiences, May*49

See Buildings as Machines. (1) Motion. 12 Jun'69 Optical Motion Spectrum, (3)

Trees: World-Around Colors of Trees:

"So powerful are the climatic pigmentation effects
Of the tropic to arctic
And sea-level to mountaintop
Sun radiation angling
Temperature and humidity differentialings,
That the coloring
Of the world's hardwood trees
Ranges from Northerly mountainside
White and pink woods
Through torrid zone yellows and reds
To tropical teak grays
And dark brown mahoganies
To equatorial jungle ebony blacks.
"These fundamentally dominant inbreeding effects
Are not contradicted
By exceptional cross-breeding cases
Amongst humans and trees

**Produced by the world-around seed blowing And the vast waterborne
shuttling of sailors."**

- Cite NO RACE— NO CLASS, 1 Aug'72

Trees vs, Humana:

See Trees, (v)(vi)

Tree As An Invention:

**Letter from Charles D. Stewart in "Shelter," p. 129. Nov'32 (This Stew-
art citation eapplied by Hugh Kenner, 29 Jun'72.J**

See Fountain Pattern

Lever: Fallen Tree as a Lever Load Distribution

Lumber

Organic Model Pine Tree Pine-tree & Palm-tree Belts Hoots Seeds

Wood

See Crystallines, y Dec*73

Ecology Sequence, (C)

Ecological Pattern, 1y Sep*64 Information, 12 Feb'?2 Lags, (1)

Pneumatic-hydraulic Structures, 22 Aug'70 Redundancy: Reduction
Of, 22 Apr'71* Wood Technology, (1) Wind Stress & Houses, (7) Ie, 29
Apr'77

See Charts: Curves & Trends

Charting Alternating Experiences of Man & Nature

Dymaxion-concept-trend-history

Idea Trending

Invisibility: Trends to Invisibility

Progressions

Spherical Trending of Events

Intervariable Sequences

Sequence: Sequential

3cw< = TrenAtos:

See Human Events. Feb'71 Irreversibility, 25 Mar•71 Mathematics,
13 Mar'71 Dymaxion Outset, summer'50 Navy: Theory Of, 22 Dec'74
Periodic Experience, (1) Life, Kay'49 Improvement, May'49 Peri-
odic Experience, (12) (13) Servomechanism, 15 May*75 Quantum
Sequence, (1 J Out-lining, 22 Mar'76 Teleology, (2) Domes, 12 May'7°

TRENDS

.Trend i Checklist:

See Darwin's Evolutionary Trends

Epheraeralization Trends

Evolutionary Trends

Measurement Trends

Heisenberg-Eliot-Pound Sequence

Science-Technology-Economics-Politic8 Sequence

Macro-> I-acro

Ninety-two Elements: Chart of Rate of Acquisition

Industrialization: Curve Of

Industrial Revolution: Profile Of

Industrialization: Successive Halving Time of National Industrialization

Sea Technology Conversion to land Technology

Truth-trends

East-to-West Trends

Word Trends

"Number one consideration on the part of the design scientists is the question:

What can and may the individual human do on behalf of other humans that will not trespass on any humans nor frustrate any of the regenerative integrity of the omniecology? What do I have the right to do that is going to affect other people?

"When I can see, but you don't, that something is going to fall on your head and I jump to pull you out of the way just as the thing crashes on the floor, I don't think I am trespassing on you.

You might say:

"Well, I wanted to die."

And I reply:

"That has to be your option.

You didn't know that there was such an option;

I did, and had no time to tell you of it.

If you want to jump out the window that's your option."

- Cite Universal Requirements for a Dwelling Advantage, J1 May'74

"The point is that if I see something

that is going to be fatal or damaging to you

**or on the other hand might be of great advantage to you if acted upon
in time**

of which your experience has not made you aware,

then as a design scientist I have the cosmic responsibility

to prevent those debilitating conditions

and to realize on your behalf the advantageous potential

which could no longer have been realized IMB

when you too learned that there had been such a potential.

"There are many advantages for you

I or others can secure on your behalf that you don't know about.

"I must always be sure

I am increasing your elective freedoms.

Your life can be capitalized

as the number of hours you will probably live.

How many of those hours are really free?

You will find that a great many are preoccupied

In the chemical process you and I;

there are a great many involvements in this process and"

- Cite Universal Requirements for a Dwelling Advantage, 31 May'74
TrftSPMSInfi Not Trespassing: (c)

"relatively few of them that we can actually direct. So I must--- as a design scientist--- increase the proportion of your total life that is at your disposal.

I must reduce the restraints.

I must reduce the number of negative restraints set upon you by circumstances and increase the number of your favorable electives. For instance, if you would like to speak with someone at a great distance away, If I design and install a telephone where you may be you now have the option to communicate without spending much time in getting from here to there.

You don't have to use the telephone; but if you want, it's there.

I will make available, then artifacts that make it possible for you to do what you want or need to do and try continually to increase the magnitude of your effectiveness while always reducing the restraints upon you and saving you hours.

- Cite Universal Requirements for a Dwelling Advanatage, 31 May'74

` ` All environment controls deal with the locally convergent events of Universe

which impinge upon you from outside you
and all the events which impinge upon you from Inside.
There are all kinds of magnitudes and frequencies.

The biggest ones are least frequent and the lesser ones more frequent. They are on a quantum wave basis of absolute regularities.

I want to be able to provide what you want when you want it.

"I don't try to insulate;

I provide automatic means of intercepting and shunting angularly into holding patterns for further usability;

The intercepted energy or materials to be valved by you into your presence in the magnitudes and frequencies most favorable to you while being effectively considerate of all the ecological sustaining contingencies.

"Environment controlling artifacts consist essentially of"

- Cite Universal Requirements for a Dwelling Advantage, 31 May*74

"structures and machinery."

Mechanical advantaging environment controls consist of lever complexes.

Gear trains and turbines are lever complexes.

"there are optimally efficient structural strategies for providing the most advantageous environment control.

We must be able to let whatever we want in from any direction.

We must think of our controls as omnidirectional.

We must be able to get in and out in any direction with least effort

We must be free to go in any direction we want.

We need an omnidirectional shutterable sieve

where we can increase or reduce the magnitudes of our omnidirectional environment valve openings.

"Since we wish to be able to see in any direction and likewise to be able to obscure in any direction, we recognize that it is difficult to make an opaque wall transparent but it is very easy to opaque a transparent wall by curtaining and shuttering.

"Our structures must be considerate

- Cite Universal Requirements for a Dwelling Advantage, 31 May'74

"of all human requirements

from those of the newly born child to those of the most aged."

- Cite Universal Requirements for a Dwelling Advantage, 31 May'74

frttMlliW Not Triwudw (A)

"I think th* first thing I ought to do then. thinking about ths environmental events that are going to impinge on human beings* . . and also sotting up another discipline which was related to it: Whatever I must do on behalf of my fellow man must never trespass on my fellow man. That is, I must never increase restraints on him; I must reduce flfr restraints on him. I must free more of his time of his life to his own decisions.

"I could say: What do you mean by 'not trespassing'? . . . And I could get that pretty well defined. So I said: there's this man and you didn't know him, so I Just jump over here and quick react. I saw that something was falling from the ceiling and was going to hit you in the head. And you'd be killed. And I didn't have time to say anything. So I just went likethat to grab you and knock you over to get you out of the way. And you say: I wish you hadn't done that. And I sav: Why? And you say: Well, I wanted to die. And I say: Well, you've got to make that decision. I do not think I'm trespassing on you when I give you the decision whether you're going to die. Clearly I'm not trespassing if I see something's going to kill you that you don't know about and I do something"

- Cite RBF lecture at Wistar Inst, EJA transcript, p.9, 19 FeB'73

"about it. I do not consider that as trespassing. And then I went from there on and it was quite easy to find out how and what you could do. And also that you would have to be considerate a of the complex ecological balances all the time. You must not be a deliberate changer of the fundamental balance. You don't know enough about it. You must be responsible about the recirculations."

- Cite RBF lecture at Wistar Inst, EJA transcript p.10, 19 Feb'73

Trespassing: Not Trespassing; (1)

"I've got to know what I can do on behalf of my fellow man as a designer without trespassing on my fellow man. These seem to be very fundamental kind of questions.

"For instance, I said. I see--- you didn't see it--- but there was a stone that's falling there and it's going to hit you in the head and I Jump up that way and deflect it. And if I didn't you'd be killed. And you might say to me: I wish you hadn't done that, I want to die. And then I say: You didn't know that the stone was falling. That option has to be yours. If I saw that the falling stone was going to kill you and I don't act--- quickly like that--- then I would consider that I am a murderer because I have allowed you to be killed when you needn't be killed. Okay. So I said, I don't think I'm trespassing then when I intercept on behalf of my fellow man and divert. So we can't really insulate anything. You can't stop Universe. It's inexorable. But what we can do is take all the events impinging upon man and we can divert them in preferred ways.

"We all need water, but you can't drink all the rain when it rains. But what we can do is to shunt it angularly into a"

Cite Tel Aviv Address, 16 Jun'72, p.14

"into a holding operation to be valved into your presence at the magnitudes and the frequencies that your frequency of regeneration requires.

"So I found then what we must do with all the events impinging upon man from outside, macrocosmically; and all the events impinging upon him from microcosm-- and they impinge at different rates and at different frequencies and different magnitudes. So I said what we can really do on behalf of one another is to begin to understand about those and learn how we can shunt those into holding positions to be useful to man. But we must be completely considerate of the total ecological Interactions at all times."

- Cite Tel Aviv Address, 1b Jun'72, p,15

Zrnaiwaaajlti Mot Treapaaalna:

(1)

See Consideration for Others

Expense: Without Any Individual Profiting At The Expense of Another

Golden Rule

See Lags (1)

Law. May'65

Dwelling Service Industry (7) Fuller, R.B: Crisis of 1927 (B) Technology, 21 Jan'75

Triacon:

"The triacon system using the long isosceles is less satisfactory than the short isosceles used by Don Richter."

- Cite RBF to EJA, Beverly Hotel, NT, 22 Jun*72

Triacontrahedron:

"The triacontrahedron displays the sixty-degreeness plus the ninety-degreeness of its minimum spherical excess resulting from its self-divisioning, its self-halvings."

- Citation in context at T Module. 31 Jul'77

"Triacontrahedron:

"The triacontrahedron is the sphere in nonmotion--the sphere in repose."

- Cite RBF to World Game Workshop¹77; Phila. PA; 20 Jun^f77

Triacontrahedron:

"In the rhombic dodecahedron we have the unit vector radius at the center of the diamond faces.

"It is only when the unit radius is at the sphere center that we get all the foldabilities where the value of the sphere becomes exactly 5-

"With the unit radius at sphere center and with the 15 maximum great circles describing the triacontrahedron we get the only condition accommodating the unfoldable square of \sqrt{r} as a model to satisfy the Einstein equation.*"

- Cite RDF to ECA by telephone from Philadelphia office, 13 May'77
Incorporated in SYNERGETICS 2 draft at Sec. 1033.131.

Triacontrahedron:

"The maximum limits of the rational cosmic hierarchy are the 120 similar and symmetrical triangles of the triacontrahedron. The minimum limits of the hierarchy are the Kites."

Incorporated in SYNERGETICS 2 draft at Sec. 1052.342

- Citation & • context at Mite as Model for Quark _t 3 May* 77

Triacontrahedron: Great Circles Of:

"The first four prime numbers 1, 2, 3, and 5 synergize factorially in the triacontrahedron with its 15 great circles--ergo, maximum-limit-case---spinnability of the maximum number of identical triangles, dynamically producing the most spherical aspect when spun on all 15

of its potential axes—ergo 'sphere.' ”

132.

- Cite SYNERGETICS 2 draft at Sec. 1033.W; 27 Apr* 77

Triaxantrahedron aa ^LXmit ^Rtailv Pqlxh,gdxsn'

"The rhombic dodecahedron is the domain of omni-closest- packed spheres; the middle of its diamond face is the control point for the sphere's radius, the unity vector.

"But at the maximum limit is the triacontrahedron. the 15-great circle limit regular polyhedron generatable from spinnable symmetries. The T Modules emerge as the 120 similar units of the triacon with its 30 diamond faces."

"The T Modules are unfoldable as a square in which the prime vector is the square's diagonal---affording, for the first time, a physical model of -instein's equation $E = mc^2$

- Cite R3F to EJA from Kensington Motel, Santa Monica; 13 Apr'77

Trlacontrahedron:

See T Quanta Module, 12 May'77

S Quanta Module, 4 Jun'77 T Module, J1 Jul'77* Trigonometry, 26 Sep*7?

MOHHMI ^Trtal BalaRCeg:

"Inventions are extemporaneous. They represent trial balances of immediate resource and principle drawn off in the light of shifting needs.

Inventions are always imperfect and always become obsolete or may never be realized. Unlike inventions, pure science events are absolute and irrevocable."

- Citation at Inventions. 1947

Trial Balance:

Omnidirectional Halo, p. 161 - 1960

"I've used the phrase 'trial balance Inventory' all my life, but I first learned of it as an accounting technique when I was working in the finance office of Armour & Co."

- Cite RBF to EJA, Aspen, Colorado, 13 Jul*74

RBF DEFINITIONS

Trial-balance Cut-off Year ; 1977«

"That's where we've arrived at now after 50 years of exploring---at our trial-balance cut-off year... 1977«"

- Cite RBF to World Game Workshop'77J Phila., PA; 21 Jun'77

See Individual Life as One Way Universe Could Have Turned Out Formulation

See Dwelling Service Industry (B)(C) Invention, 1947*

Local vs. Comprehensive (2) Pretending, 8 Apr*75 Periodic Experience, (13) ; (6)

• 'Trial and error always produces inadvertent (i.e., sideways) oblique results. But now humanity is learning about ecology which is only circumferentially omni-intercoordinating. . . .**

- Citation and context at Ecology Sequence (F), 5 Jun*73

See Berry Picking

Error: Pullout From Error

Intuition: Hot Line of Intuition

Trial Balances

Womb of Permitted Ignorance

Mistake

See Biosphere, (2)

Cosmic Accounting System, (3) Ecology Sequence, (F) □ Generalised Principle. 1971 Intuition Sequence, (1) Rearrange the Scenery. May*72 Solid State, 13 May'73 Universal Mind, Mar*72

Helpless: Humans Bom H_elpless, 15 May'75 Desovereignization Sequence, (7) Words & Coping, 7 Nov'75 Confession, 7 Jan'76 Human Beings <x Complex Universe, (8)

Trial By Jury:

Sae Jury

Triangle;

- Cite RBF to EJA, 3200 Idaho, Wash., DC., 18 Dec'74

Triangle:

"The structural stability of the triangle is a visualisable yet physical nothingness."

- Citation and context at Octahedron, 1b Dec'73

Triangle;

*...We find the triangle to be not only the unique patternself-stabilizing, multienergied complex, but also accomplishing pattern stabilization at minimum effort, which behavior coincides with science's discovery of the omni-minimum-effort behavior of all physical Universe."

- Citation t context at Necklace. (B), 9 Nov'7J

Triangle:

(a)

"A triangle's three-vector parts constitute a basic event. Each triangle consists of three interlinked vectors. In the picture, we are going to add one triangle to the other. (See illustration 511.10.J In conventional arithmetic, one triangle plus one triangle equals two triangles. The two triangles represent two basic events operating in Universe. But experientially triangles do not occur in planes. They are always omnidimensional positive or negative helixes. You may say that we do not have any right to break the triangles' three-sided rims open in order to add them together, but the answer is that the triangles were never closed, because no line can ever come completely back 'into*' or 'through' itself. Two lines cannot be passed through a given point at the same time. One will be superimposed on the other. Therefore, the superimposition of one end of a triangular closure upon another end produces a spiral--a very flat spiral, indeed, but openly superimposed at each of its three corners, the opening magnitude being within the critical limit of mass attraction's 180-degree 'falling-in' effect. The triangle's open-ended ends are within critical proximity and mass-attractively intercohered, as are each and all of the separate atoms in"

- Cite SYNERGETICS text at Sec. 614.01; 9 Nov'73

Triangle:

- Cite SYNERGETICS text at Sec. 614.01; 9 Not»73

Triangle:

"Frequency begins with three--- with triangle minimum cyclic enclosed circuitry."

- Citation and context at Prime, 17 Feb*73

Triangle:

"... A triangle is a boundary line closed upon itself.,'* the finitely closed boundary lines of the triangle automatically divide the unit surface of the sphere into two separate surface areas. Both are bounded by the same three great circle arcs and their three vertexial links: which is the description of a triangle. . . It is impossible to construct one triangle alone."

- Cite Spherical Triangle Sequence (i), 26 Jan*73

Triangle:

"The word 'structure' means a complex of events which Interact to produce omniangular interstability. Three points constitute a triangle. A triangle consists of three vector edges and three tension angles. A triangle is the only polygon whose vector edges stabilize their own opposite angles. Each rigid edge vector of a triangle seizes the ends of its two adjacent vector edges whose other ends are tied together and act as a pair of shears or levers. Thus the third rigid vector edge of a triangle controls the size of the opposite angle and does so with minimum effort because it holds on to the ends of the two edge levers and therefore stabilizes the opposite angle with minimum effort. The triangle is not only structure but it is the only structure inTUniver s e."

- Cite SET X, p.13, Aug'72

Triangle:

"You can't have something less than the triangle."

„ Cite Univ, of Alaska Address, p.30, 20 Apr *72

Triangle:

"A triangle is a spiral. It is a spiral which superficially seems to be SHMM a closed line, but we know that two lines cannot go through one another. Two lines can within critical mass-attractive proximity be drawn into crossing tangency which looks superficially (only) as though the line were closing back within itself. Because the closure is always tangential triangles will always be stabilizingly locked only by mass attraction integrity in one of its many forms. Ergo, edge-formed triangles are always very flat spirals.

"Two triangles may be combined in such a manner as to create the tetrahedron, a figure volumetrically embraced by four triangles. Therefore, one plus one seemingly equals four."

- Cite RBF rewrite of Caption to Synergetic Illustration #1, Feb'72

Triangle:

"a triangle is a pattern stabilizing complex of energy events."

- Cite KBF in Corcoran Gallery .Address, ./ashington, DC
23 Feb >72

Triangle:

"The triangle is a set of three energy event vectors converging anguly into a closed system of critical proximity whereby each event, with minimum effort, stabilizes the opposite angle."

- Cite RBF quoted in Science Today, January '72, rewritten by RBF, Kennedy airport, 1 Apr '72.

Triangle:

'The triangle is a set of three energy events getting into critical proximity so that one, with minimum effort, stabilises the opposite angle.*¹

- Cite RBF quoted in SCIENCE TODAY, Jan»72

Triangle;

"Triangles are inherently open. As one positive event and one negative event, the two triangles arrange themselves together as an interference of the two events. The actions and resultants of each run into the actions and resultants of the other. They always impinge at the ends of the action as two interfering events. As a tetrahedron, they are fundamental: a structural system. It is a tetrahedron. It is structural because it is omnitriangulated. It is a system becauseAA it divides Universe into an outsideness and an insideness---into a macrocosm and a microcosm.

"A triangle is a triangle independent of its edge-sizing.

"Each of the angles of a triangle is interstabilized. Each of the angles was originally amorphous---i.e., unstable---but they become stable because each edge of a triangle is a lever. With minimum effort, the ends of the levers control the opposite angles with a push-pull, opposite-edge vector. A triangle is the means by which each side stabilizes the opposite angle with minimum effort."

- Cite SYNERGETICS text at See. 614.02-.04; No»'1

Triangle:

"Superficially a triangle seems to be a closed line

but we know that two lines cannot go through one another but can, within critical mass-attraction proximity,

be drawn into crossing tangency, which locks superficially (only) as though the line were closing back within itself. Because the closure is always tangential, triangles will always be stabilizingly locked only by mass attraction integrity in one of its many forms. Ergo, edge-formed triangles are always very flat spirals."

* Cite New caption written by RBF for SYNERGETICS Illustration Number z/1. 7 Oct. '71.

HBF DEFINITIONS

Triangle:

A triangle is symmetrical in a plane, but in respect to a pole of omnidirectional symmetry, we find that the symmetry of the triangle lies only in the equatorial plane.*

- Cite RBF SYNERGETICS Draft, 7 Oct. 1971 (Dictated to EJA.) "Antitetrahedron," p. 1.

Triangle:

"The three angles of one 'face' of a planar triangle always add up to 180° as a phenomenon independent of the relative dimensional size of the triangles. One-half of the definitive cycle unity is 180° . Every triangle has two faces--- its obverse and reverse. Unity is two. So we note that the angles of both faces of a triangle add up to 360° . Externally, the sum of the angles around each of the triangle's three vertexes is 120° , of which 60° is on the obverse side of each vertex; for a triangle, like a line, if it exists, is an isolatable system always having positive and negative aspects. So the sum of the vertexes around a triangle (three) times 360 equals 1080° . The remainder of 360° from 1080° leaves 720° , or one tetrahedron. Q.E.D."

- Cite SYNERGETICS text at Sec. 224.06, Jun'71

Triangle:

"What we call the edges of a triangle--- or arc--- is simply the central angle. You are dealing in central angles and surface angles. You are dealing all in angles and you have no incompatibility for your fractions."

- Citation and context at Spherical Triangle Sequence (e), 1 May'71

Triangle:

"A triangle is a triangle independent of its edge- sizing."

Cite NEHRU SPEECH, p. 14 , 13 Nov'69

'HMMNGVLA FioA' " £IH.03 /

Triangle: (A)

"The triangle is the fundamental component of structure but each triangle has two component functions: the edges (vectors) and the angles. The edges synergetically interact--- synergetically because there is naught in the characteristics of a single linear vector, per se, that predicts the co-existence of an angle. No angle can exist until two vectors co-exist and interact in critically significant proximity to permit an observed crossing of their action paths to form an angular aspect. Then it takes three angles and three vectors to constitute an 'event.' Two events of two angles and three edges each constitute a tetrahedron: thus two events constitute two event functions, the positive and the negative, to make a minimum structural system. The tetrahedron is the simplest structure known--- experimentally and metaphysically--- to man. The triangle exists operationally only as a positive or negative function of a polyhedron. Of all the polygons only triangles are structurally stable. Try a square with rubber joints: it folds up. Try another rubber-jointed polygon--- it will fold up. Try a rubber- jointed triangle--- it won't fold up: It is stable. Stability relates to the angular behavior: the sides of polygons can"

- Cite RBF marginalia at old Chap. 2, "Synergy," 1.6, 18 Mar»69

Trlan&l?:

(B)

"remain Identical while their angles vary. If we want to have a structure, we have to have triangles; and to have a structural system having insideness and outsideness requires a minimum of four triangles. A structural system may be symmetrical or asymmetrical, but it always has a withinness and a withoutness and its faces are always triangular."

- Cite RBF marginalia at old Chap. 2 "Synergy," 1.5, 18 Mar*69

Triane:

"The three-sided polygon is the minimum spiral of vectors."

- Cite RBF marginalia on old Chap 2, "Synergy", p.I.2_t 18 Mar'69

Triangle:

"And when we say 'I recognize' something, the recognizability would be in some kind of a pattern. There must be some reason for nature having repeat patterns; it stabilizes a pattern so you know that it's a maple leaf or it's a rose petal. And once you find that only a triangle can maintain a pattern, you have to say that for anything you say 'I recognize' would apply to a triangle."

- Cite RBF to Verner Smythe, NYC, reel 1, pp.5-6, 25 Feb'69

Triangle;

"The transition of initial awareness Of sensorially experienced

Physical forms and process relationships

Through their

Progressively

Ephemeral

Diaphanous,
Ethereal,
Brain to mind,
Physical to metaphysical,
Idea trending
Toward, and attaining,
Absolutely weightless
Conceptual integrity
Of interangular pro Rationality
Is utterly Independent
Of size--
A triangle is
A triangle
Independent
Of size and time.
The concepts of"

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan'69

Triangle;

••Isosceles, equiangular, and scalene triangles Are utterly independent of size and time. Fundamental conceptuality is immortal.

Utterly weightless, metaphysically abstract, Conceptual pattern integrities Are of the mind--- In contradistinction to brain sensing."

- Cite GENERALIZED PRINCIPLES, p.7, 28 Jan'69

(2)

Triangle:

" A triangle is the means by which each side stabilizes the opposite angle with minimum effort.

"A triangle is a critical terminal proximity; an energy event helix.

"A triangle is the only structure as a polygon."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE, 1967

Triangle:

"Open triangular spirals may be combined to make a variety of different figures. . . The tetrahedron and icosahedron require both left and right handed (positive and negative) spirals in equal numbers. . . . The other polyhedra require spirals of only one handedness."

- Cite HOE SYNERGETICS ILLUSTRATIONS #5

—— . 1967

- SfC 6f3.02.1

Triangle:

"The open ended triangular spirals can be considered one 'energy event' consisting of an action, reaction and resultant. Two such events, one negative and one positive, combine to form the tetrahedron."

"The open ended triangular spiral also represents the proton, electron and anti-neutrino or the positron, neutron and neutrino, which become one-half quantum." (Adapted.)

Cite SYNERGETICS ILLUSTRATION // 2 and #4 1967

Triangle:

"Triangle is the only structural polygon.

"NJ- Unstable polygon.

"Triangles crystallize."

- Cite P. PEARCE, Inventory of Concepts, June 1967

Triangle:

"The stable structural behavior of a whole triangle. which consists of three edges and three individually and independently unstable angles or a total of six components, is not predicted by any one or two of its angles or edges taken by themselves. The six edges of the two triangles can and frequently do associate with one another, one as left

helix and the other as right helix, to form the six-edged tetrahedron which having four triangular faces gives synergetic demonstration of Jr four triangles occurring as the result of associating J' only two triangles. o'

v

" Incidentally, the right and left helixes formed of the two triangles' respective sets of three edges each constitute the vectorial modelling in conceptual array of the positive and negative 'half spins' or 'half quanta' corresponding respectively to the proton set and the neutron set consisting of right-handed neutrino on the left hand and the proton, electron, and antineutrino on the right hand. Together these six magnitudes make one quantum unit--- which is identified as the tetrahedron."

-Cite DOXIADIS p. 312, 313 , 20 Jun'66

Triangle:

"The stable structural behavior of a whole triangle, which consists of three edges and three individually and independently unstable angles or a total of six components, is not predicted by any one or two of its angles or edges taken by themselves."

- Cite DOXIADIS, p. 312, 20 Jun'66

-TRtAHtutAns b - Sec

Triangle:

"The triangle is the only structure. Unless it is self- regeneratively stabilized it is not a structure.

"Everything that you have ever recognized in the universe as a pattern is re-cognized as the same pattern you have seen before. Because only the triangle persists as a constant pattern any recognized patterns must be recognizable only by virtue of being a triangle or a

complex of triangles. This is the only possible basis of recognition. Only triangularly structured patterns are regenerative patterns. Triangular structuring is pattern integrity itself. This is what we mean by structnre."

- Cite NASA Speech, p. 54. Jun'66

Triangle:

"A triangle is a flat single cycle helix."

- Cite RBF Ltr. to Prof. Theodore Caplow, 18 Feb. '66.

Triangle:

"The sphere is complex unit and the triangle simplex unity. Here and here alone lie the principles governing finite solutions of all structural and general systems theory problems."

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- Citation and context at Unity: Complex and Simplex Unity 15 Feb'66

Triangle:

"A triangle is not a closed line of three angles and three edges" but "a critical terminal proximity W energy event helix."

- Cite Ltr. to Dr. Hobt. W. Horne, 14 Feb '66, p. 3

Triangle:

are the only inherently

"... Triangles stable polygons."

- Cite KEPES. p. 82, 19&5

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Triangle:

"Amongst all the polygons only the triangle is structurally stable. We are being informed that in a multiplicity of omnidirectional actions in the close proximity of the viewable depth of the surfaces structurally stable triangles are everywhere resultant to the similarly random events. That triangles are everywhere is implicit in the fact that wherever we move or view the concentric circles they occur, and that there is always a triangle at the center of the circle. We could add the word approximately everywhere to make the everywhere-ness coincide with the modular frequency characteristic of any set of random multiplicity. Because the triangles are structurally stable * each one imposes its structural rigidity upon its neighboring and otherwise unstable random events. With energy operative in the system the dominant strength of the triangles will inherently average to equilateral-ness."

- Cite RBF Ltr. To Dr. Urmston, a Uct. '64, pp. 1-2.

Triangle:

"Experiment shows that two lines cannot be constructed through a given point at the same time. One will be superimposed on the other. Therefore the triangle is a spiral--- a very flat spiral, but open at the recycling point."

10 Oct'63

- Cite MEXICO 63. p. 23

Triangle:

"..e do not have any such thing as a closed triangle in a plane; all triangles are merely spirals, very flat spirals. There are no planes. Triangles are inherently open.'"

"The angles of each triangle are inter-stabilized. Each of the separate angles which as such were originally amorphous-- that is, unstable---MSB became stable because we went out on the edge of each triangle-- each edge of which is a lever---□ to the ends of the levers, and there with minimum effort, we controlled the opposite angles with a push-pull opposite edge vector. The triangle represents the means by which each side stabilizes the opposite angle with minimum effort, The triangle is the fundamental function of structure but it takes two functions, the positive and the negative, to make a structure. The tetrahedron is the simplest structure known to man. The triangle exists operationally only as a positive or negative function of a polyhedron.

Of all the polygons only triangles are structurally stable."

"If we want to have a structure, we have to have triangles and to have a structure also requires a

Triangle:

(II)

Tfti

- Cite Mexico Address, pp.25-27, 10 Oct*6j

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Triangle:

"A triangle is an action that returns upon itself in critical proximity of itself. It can be pulled apart because it is open."

- Cite Oregon Lecture #3 - p. 89. 5 Jul»62

Triangle:

"The triangle is the geometric plane figure which has maximum rigidity, accomplished with least effort because . . . the vector opposite any angle of any triangle is always operating at and between the ends of levers which are the sides of the angle, thus providing maximum advantage over its own angular stability with minimum effort. . . Therefore . . . omni-triangulated, omni-symmetric systems require the least energy effort to effect and regenerate their own structural stability."

- Cite MARKS, p. 43, 1960

Triangle:

"... In any network high energy charges refuse to take the long way round to their opposite pole. They tend to push through the separating space, striving to 'short.' Thus energy will automatically triangulate via a diagonal of a square, or via the triangulating diagonals of any other polygon to which force is applied. Triangular systems represent the shortest, most economical energy networks. The triangle" is "the basic unit of energy configuration, whether occurring as free energy or as structure. •."

- Cite MARKS, p. 43, 1960

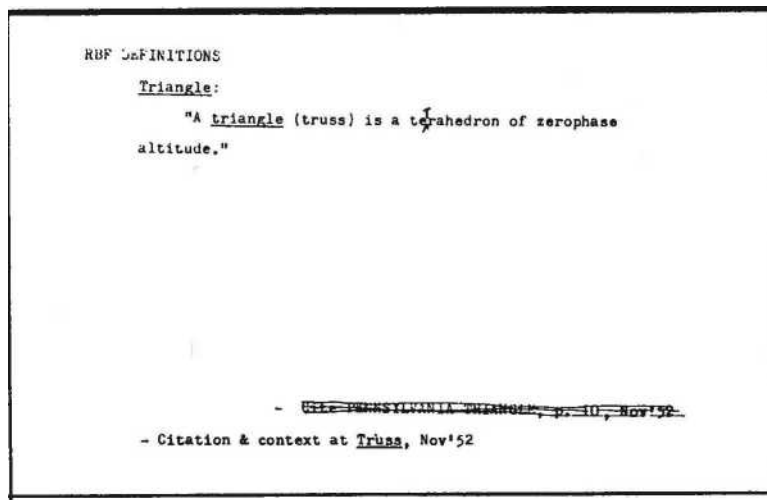
eiXcio or- vc-,_ sac.. HS2.O2_/

Triangle:

"Every triangle has two faces: obverse and reverse.

- Cite OMNIDIRECTIONAL HALO, p. 144, 1960

--- SEC. 4/* 11)



Triangle:

"A triangle is a boundary line closed upon itself."

- Cite NOAH'S ARK, p. 3. 1950

Triangle:

"'Second powering' could be either 'squaring' or 'triangling' but trian-
gle is minimum hole. That is. there are no holes of less than three
edges. 'Triangling' is basic or Unity.

A 'square' is two triangles."

- Rbf Notes, 6 Burns St, Forest Hills, undated

Triangular. Accounting YJ. Quadrangular Accounting:

See Vectorial a Vertexial Geometry, 27 Jan*75

Triangular-camined. In-out-and-around Jitterbug Model:

"The four axes of the vector equilibrium provide the four-dimensionally
articulatable model of motion freedoms unimpeded by other motions
of either contiguous or remote systems of Universe while coper-
mitting and concurrently articulating both omnidirectional wave
propagation and gravitationaxly convergent embracement."

- Cite SYNERGETICS (2nd. Ed.) at Sec. 465*41; RBF rewrite 11 Dec'75

Triangular-cammed, In-out.-and-around Jitterbug Model:

"At Sec. 465 is the four-dimensional, motion-freedom-front-rest-of-Universe, omnidirectional wave-propagating model.

We can also call it by the short title: Triangular-cammed, in-out-and-around, jitterbug model."

- Cite RBF to EJA & Roger Stoller, 3200 Idaho, Wash. DC; 12 Nov'75

Triangular-cammed In-out-and-around Jitterbug Model:

See Axis: Four-axial System

Triangular-cammed. In-out-and-around Jitterbug Model:

See Macro-Micro, 12 Nov*75

(2)

Triangle in a Circle:

See Light on Scratched Metal, 9 Nov*73

See Three-way Weaving

See Prioritire, 18 Jul*76

'•No surface is conceivable without its inherent sphere as a flat Universe is contradictory to experience. The construction of a triangle involves a surface and a curved surface is experimentally satisfactory. Now the minute a triangle is constructed on the surface of a sphere — because a triangle is a boundary line closed upon itself--the boundary lines of the triangle automatically divide the surface of the sphere into two separate surface areas, each of which are bounded by three lines of arc and by three vertexes— which is the description of a triangle. Therefore both areas are true triangles. . . It is impossible to construct one triangle alone. In fact, four triangles are inherent to the (oversimplified concept) constructing of 'one' triangle. In addition to the complementary surface triangle already noted there must of necessity be two complementary concave triangles appropriate to them and occupying the reverse or inside of the spherical surface. Inasmuch as convex and concave are opposite they cannot be the same. Therefore a minimum of four triangles are always constructed and which one of them is the 'fixation' of the constructor is irrelevant. He might be on the inside, constructing his triangle on

- Cite NOAH'S ARK, P. J. 1950

Triangle; Minimum of Four Triangles:

some cosmic sphere, or vice versa. It might be argued that inside and outside are the same, but not so, while there are an infinity of insides in Experience Universe, there is only one outside comprehensive to all insides. So they are not the same; and the mathematical fact remains that four is the minimum of triangles that may be constructed if any are constructed."

(2)

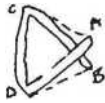
- Cite NOAH'S ARK, p.3. 1950

See Spherical Triangle Sequence

Spherical Triangles on Earth*s Surface `` Four Triangle

Triangle As Signature of God;

- Cite RBF quoted by Oliver L. Reiser in COSMIC HUMANISM, p. 93, 1966



"As any three points define a triangle a triangular spiral discloses two sets of three.

Two triangles:

ACD

BCD

"Because unity is plural and at minimum two each basic spiral triangle is in fact a priori two."

Caption to Synergetics Illustration

- Cite RBF rewrite of #1, Feb*72

Triangle an » Priori Two:

See Unity Is Plural, Nov*71

See Spherical Barrel: Spheres as Complex Unity: Triangle as Simplex
Unity Unity: Complex &. Simplex

See Basic Triangle: Basic Disequilibrium Basic Triangle: Basic Equi-
librium 4® Equiangularity

Minimum Cyclic Enclosed Circuitry Necklace

Module: A Quanta Module Triangle Minimum Hole

Minimum Polygon

Recognition

Spherical Triangle

Spherical Triangle on Earth's Surface Structure

Minimum Polar Triangle Surface Triangle Structures No Altitudeless
Triangle Precessed Triangle Open Triangular Spirals Hedra Triangles

Four-triangular Circuits Tensegrity

120 LCD Triangle LCD Triangle

- Four Triangles

See Lqui-interval, 17 Feb'73

Minimum Effort, 9 Jul*62

Octahedron, 16 Dec*73*

Prime, 17 Feb'73*

Shape Awareness, 20 Feb*73

Structure, Nov*?1> 22 Jul*?1

Tensegrity: Twelve Pentagons, Aug*72 Transformable, 23 Jan*72

Unity: Complex 1 Simplex, 15 Feb*66* Truss, Nov*52*

Background Nothingness, 2 Jun*75

Domain of an Area, Dec'71

Threeness, 27 May*72

Necklace, (B)*

Tidal, 9 Nov*73

Object, 9 Nov*73

See Triangle: Minimum of Four Triangles

Triangle as Signature of God

Triangle as A Priori Two

Triangle as Simplex Unity

Triangular Accounting vs. Quadrangular Accounting

Triangle &. Hexagon Grid

Triangular-cammed, In-out-and-around Jitterbug Model Triangle in
a* Circle

Triangling:

'All scientists as yet,,say, 'X squared,' when they encounter the expression 'X⁴,' and 'X cubed' when they encounter 'X⁻⁵'. * Now we may say 'one to the second power equals one,' and identify that arithmetic with the triangle as the unit of area. Two to the second power equals four: four triangles. Three to the second power equals nine. Four to the second power equals sixteen. Now, we may say •triangling* instead of 'squaring.' Every square consists of two triangles. Nature needs only triangles to identify arithmetical 'powering' for self-multiplication of numbers. Therefore, 'triangling' is twice as efficient as 'squaring.' This method is what nature uses because the triangle is the only structure. We must learn to say 'triangling' and not 'squaring.''

-pHA SfttXrt, $y > 7$ s', Jun '66

4 crowwnws— SEC 0/1

("Triangling")

" We may say 'triangling' instead of 'squaring'.¹ When we say 'triangling*' we are referring to stable structures. When we say 'squaring' we are referring to unstable shapes. Because squares are utterly unstable they may not be called structures. Squares, when partially stabilized, always consist of two triangles which can move in respect to one another as the two halves of a hinge. When we deal with triangling we are being more economical with space than when we employ squares with edges equal to the triangles'. Nature

always insists on being most economical.

Nature 'triangles.' Nature accounts all of her structuring entirely rationally when measuring with triangles.

. . . . Ergo: triangular observation of physical phenomena from any angle always produces reliable and rational accounting not available in quadrangular accounting. " tT; , • -TP*

1965 -Cite Kepes, Caption Fig. Ba p 85

Triangling: (1)

' ` Now here is the way we are used to appraising area. We have a square and we divide the edges into two and we say that the increments are two, so $2 \times 2 \ll 4$; and we count the squares and we say that $3 \times 3 = 9$, etc. I am now going to do this with the triangle. I divide the edge into two and I say $2 \times 2 \ll 4$, $3 \times 3 = 9$, etc: and you can say 'triangling' instead of squaring.

"Maybe you never thought about doing that. None of the scientists do--- they always say --- they always say squaring. It seems that it never occurred to them that they could say triangling instead of squaring. When you find you can triangle, and you recall Mach's definition of physics--- 'nature always does things in the most economical ways'--- and if you are triangling you only need half the area to account it in triangles. The triangles use up less of your area. ~

"Furthermore, there is a very trusting characteristic. Let me look at any quadrangle and I look at it prospectively--- let's say any quadrangle in which the four edges are not the same.

I bisect those edges and interconnect and I get four dissimilar'*

- Cite Oregon Lecture #6, p.212, 10 Jul'62

IrlanRUng: (2)

"quadrangles. Let we take any triangle and I bisect its edges and the length of its edges are different, but I always get four similar triangles. There is no way you can subdivide an asymmetrical triangle and not come out with identical triangles. There is no way you can subdivide asymmetrical quadrangles and come out with the same.

"If I am using triangling as my fundamental mensuration, and I have a frequency of modular subdivision of the edge (that is what we said we were doing, and what we mean by linear subdivision and that simply means that we must divide the edges up evenlyj, and when I do so I always get an Identical triangle. Therefore, if I am playing the game iritriangulation, I don't have to look at it absolutely symmetrically to be sure that they look nice and even. They can look like anything I like and I am still getting the same information. When I am dealing with quadrangular forms I am not getting the same information; I can be completely misled.

"I suddenly found that triangling is not only more economical but it is always reliable." - Cite Oregon Lecture #6, p.212, 10 Jul'62

See Euler, Sep'58

KBF DEFINITIONS

Triangular Topology Integrity;

ft.B.F. Marginalia: "Not 'desperate,' but redundant to frequency integrity of triangular topology integrity of constant relative abundance of $1 V \times 2 A = 3 L$, plus 2 poles, plus 2 cosms: macro micro. . . The system knew what to do and has been 'overlcfeed' or 'starved' by ignorance. Learn how not to overload or starve. Let trace elements be available. Don't meddle."

- Cite RBF marginalia presumably 1> May*72

Triangular Observation;

"Triangular observation of physical phenomena from any angle always produces reliable and rational accounting not available in quadrangular accounting."

- Cite KEPES, Caption Fig. 8a, p.85 1965

Triangulation:

"The 31 great circles of the icosahedron resolve everything that goes into triangulation."

- Citation & context at Wichita HOIRB, (1), 31 Jan'75

nBF DAFIMTIuBo

Triangulation:

"Closest packing begins with triangulation, the imposition of triangulation on the rest of the system. Only the triangle is inflexible."

- Cite KBF to Hui) Engineers

Washington, DU, 2b Jan '72

Irlanmlation:

"... The cube is not structurally stabilised until each of its six unstable square-based pyramidal half-octahedra are subdivided, respectively, into two."

- A lire Syuurgrloe-at "Model&bUtty;

~~Sgijflng of Great Clrclaa, 14-Sap t~~

- Citation at Cube, H Sep'71

Triangulation:

"Randomness of lines automatically works back to a set of interactions and a set of proximities which begin to triangulate temselves.... The most comfortable condition of triangles is equilateral so there will be a tendency for them to try to become equilateral.... This effect goes on in depth and into the tetrahedra or octahedra."

- Citation at Randomness, 15 Oct'64

RBF DEFINITIONS

"If I am nature and I want to enclose some volume

and do it with a minimum of effort, i have to triangulat and the icosahedron is the polyhedron which I would use.

22-15

±o

- Citation t context at Icosahedron. 15 Oct'64

See Atomic Triangulated Substructuring: Hierarchy Of

"Come-and-Co" Triangulation Pattern Strip Cork: Triangular Corks in Spherical Barrels Icosahedron

Intertriangulated

Omnitriangulation

Omniiintertriangulation

Railroad Tracks: Triangular System of Energy Network

Self-triangulating Structure

Centrally Triangulated

Stabilized Vector Equilibrium

Cube &. VE as Wave Propagation Model Stabilized Cube

Dynaxion Airocean World Map

See Cube, 14 Sep'71* Euler, Sep'58 Frequency, May'67 Icosahedron, 15 Oct'64* Randomness, 15 Oct'64* Remember, 20 Feb'72 Relationships, 15 Oct'64 Structural Functions, Oct*73 Wichita House, (1)* Light on Scratched Surface, 9 Nov'73 Surface Strength of Structures, Mar*72

RBF DEFINITIONS

Triclinic:

` ` 'Cline* means an incline or slope. 'Clinic* means special characteristics of a family.

"I use 'triclinic* to describe the three edges and three faces around a corner: tetrahedron.

` ` In the goofy language of crystallography they talk of inclines and faces, but crystallography pays no attention to the fact that square faces lack stability. The word 'polygon* is OK as in a triangle. And the word 'trigonometry' is OK for angles. But 'polyhedron' is not OK because it refers to descriptions in terms of faces and faces are not stable.

"We need a word to serve as the 'gons' of polygon: what it takes six of to stabilize the cube and 12 of to stabilize the rhombic dodecahedron."

- Cite RBF to EJA, by telephone from Sunset, ME; 31 Aug*76

Irigom.lTrimotrlc) System of Airways;

See Point: Outbound Point, (1); 6 May*48

Trigonometric Limit;

"45 is the limit. You don't have to know more than 45°, which is the maximum asymmetry. If you have to go higher than that you treat it in terms of the complementary. This is the strategy of trigonometry, where the tables go no higher than 45°.

The complementarity of the vector equilibrium with the octahedron permits us to get down to the local and not be afraid of missing the rest of Universe, because we know the fundamental complementation of macro tetra and micro tetra. We were always looking at the XYZ quadrant--- focusing on the crossing at the center of the octahedron, rather than on the functioning of the covariations.

"This is why we factor the first 15 primes--- that is up to the limit of the 45° angle, to all the variations of all the trigonometries

from 1 to 43 — accommodate of Universe."

- Cite RBF to EJA, Beverly Hotel, ..Y, 22 Jun'72

— Last two paras, above deleted from

— ~~JgT IZZir-12)~~ SYNERGETICS galleys by RBF.

Trigonometric Limit: First 14 Primes:

"45 degrees is the zero limit of covarying asymmetry because the right triangle's 90-degree corner is always complemented by two corners always together totalling 90 degrees. The smallest of the covarying, 90-degree complementaries reaches its maximum limit when both complementaries are 45 degrees. Accepting the concept that one is not a prime number, we have 14 primes--- 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43--- which primacy will accommodate all the 14 unique structural faceting of all the crystallography, of all biological cell structuring, and of all bubble agglomerating: the 14 facets being the polar facets of the seven and only seven axes of symmetry of Universe, which are the 3-, 4-, 6-, 12-great circles of the vector equilibrium and the 15-, 10, fireat circles of the icosahedron."

- Cite RBF rewrite of SYNERGETICS galley at Sec.

1238. W,

Santa Monica, CA, 14 Jan'74

Trigonometric Limit:

See Degrees: 45°

Octant

Octantation

XYZ Quadrant at Center of Octahedron

Trigonometry;

"We were working on the text of the T Quanta Modules and Chris Kit-trick objected that the volume of the triacontrahedron in the geometric hierarchy does not equal 5, that it works out to .4997. So I explained to him that all of the rational numbers in the hierarchy derive from the successive halving of tetrahedra. i/c get the irrationals in the triacontrahedron and in the icosahedron because we compute it trigonometrically.

"Trigonometry has no comprehensive rational quotients. Trigonometry is inherently rough because it is predicated on the notion of 360° around a circle in a plane,"

- Cite RBF to EJA, from Philadelphia; 26 Sep'77

Trigonometry:

"Plane geometry is only a vestigial, terminal case of spherical trigonometry. The ratio-ing of angles and edges on a presumed flat surface is a very special case. That's why it seems so remote from experience. What is really being measured can be only central angles and spherical surface angles. That's all there is.

"The central angles and surface spherical angles are those of the projection onto a sphere of the characteristics of polyhedra as projected from the centers of volume of the respective polyhedra."

- Cite RBF to EJA a propos Ltr. from Hugh Kenner of 14 Jul'76; holograph, Washington DC, 18 Jul'76.

HBF W1KXT10KS

. If we start synergetically with whole systems such as spherical trigonometry then you avoid the concept of an edge and instead learn of the accommodation of surface and central angles. Then having both surface angles and central angles we discover that spherical trigonometry is always dealing with tetrahedra whose interior apexes are at the center of the system."

- Cite 9^{mer}retics draft, Sec. S&ET, August 1971

RBF DLF1H1 HuNS (1)

Trigonometry: Spherical Trigonometry:

"Many of you have been exposed to the trigonometry and it seemed really to be the first kind of difficult phase to kids in school because they came to words that didn't seem familiar. A line and a face sound familiar, but you got into some Greek words and you got into sine, cosine, tangent, cotangent and so forth, and you said I don't know what these are and then you said, Show it to me. They couldn't show it to you because it is a ratio. That was annoying to you to have a ratio. . . I can give you a very good case of a ratio that you are familiar with that doesn't give you trouble. . . A knot is a ratio of miles and hours. . . . But the trouble was that all those functions of the angles, they were Greek words and a very upsetting thing. The trigonometry showed us

ways of dealing in edges and angles. One of the things that made you kind of upset was that you were ratioing an angle to an edge, and that was something like ratioing cows to moons and you are not really sure that they fit together."

- Cite Oregon Lecture #7, pp. 271-271. 11 Jul'62

Trigonometry: Spherical Trigonometry:

"This is one of the troubles of having started our education with parts--- of starting with lines and planes as being simple, and solids as being very difficult and sphericals even more difficult. I have given you a Universe where we start with the whole and then we begin to take out all our parts and inspect the parts, and you will always find a finite relationship of those parts--- so we come to a sphere long before we come to a plane. A planar trigonometry would be a very difficult one compared to spherical. Once I am in the spherical I have a very fundamental condition which is, in making these circles, what we call the arcs, is a central angle. It is an angle. Therefore, when I am doing spherical trigonometry, when I am dealing in central angle or surface angle, you needn't say angles and edges. . . I say this is a central angle because if you look on the circle that arc is proportional to the central

angle. It is a central angle and a surface angle. You are dealing entirely in angles. If you started again from the outside you would never have the uncomfortable feeling about solving ratios between angles."

- Cite Oregon Lecture #7, p. 272. 11 Jul'62

Trigonometry; Spherical Trigonometry:

"Now we have learned about precession. We find that there are fundamental conditions of waves and the effect of systems of precessing from the 90-degreeness so you go from the central angle to the surface angle and you find over and over again, each one of the progres-

sion . . . shown in the series of 25 great circles. 8 We find the three, going to the four, the four going to the five. What had been the central angles before became the surface angles; what were the surface angles became the external angles. We find the systems inherently turning themselves inside-out in respect to these angles. The angles are independent of size.

They are fundamental. They are nondestructible. And so we get the processing of edges from insideness and outsideness and are beginning to understand and have a feeling about the propagation of electromagnetic waves. And I have been showing you where things literally were turning themselves out and the space became the sphere and the other way. They were doing that on the 25 great circle patterns. We have a great pulling together of a concept of fundamental waves and understanding inside and outside angles. . . .

- Cite Oregon Lecture //7, pp. 272-273.11 Jul'62

Trigonometry:

See Angles k Edges

Central Angles k Surface Angles

Octant

Octantation

Trigonometry=

(2}

See Cartography: Conventional Projections, (2) Octahedron, 3 bar'73

®B^{sl}T^bU[®].?₂?SW5^{26 w} Omnirational Control Matrix, 12 May*75 Sin, 7 Nov*75 uBF jd-'itefi luhb

I'rira Tab:

"A trim tab is a physical environmental control device in a universe where change, motion and evolution are inexorable. . . You must not just have a theoretical idea but reduce it to practice* that is my strategy."

- Cite KBF to SI. b Seminar, u. lass., Amherst, 22 July 1971.

Trim Tab:

" . . . In an airplane you have this great big rudder up there, with a little tiny trim tab on the trailing edge and by moving that little trim tab to one side or the other you throw a low pressure that moves the whole airplane.

he last thing, after the airplane has gone by, you Just move that little tab. And so I said to myself, »I»m just an individual, I don't have any capital to start things with, but I can learn how to throw those low pressures to one side or the other, and this should make things go in preferred directions, and while I can't reform man I just may be able to improve his environment a little. But in order to build up those low pressures I'm going to have to really know the truth."

- Cite Calvin Tomkins, The New Yorker, 6 Jan. 66, pp. 64-65.

RBF DtrlNITIONt

Trim Tab:

"The child is really the trim tab of the future."

Cite Calvin Tomkins, TheNew Yorker, 8 Jan. 66, p. 65.

KbF DcFIMTIUhS

Trim Tab:

"Something hit me very hard once, thinking about what one little man could do. Think of the Queen Mary--- the whole ship goes by and then comes the rudder. And there's a tiny thing on the edge of the rudder called a trim tab. It's a miniature rudder, Just moving that little trip

tab builds a low pressure that pulls the rudder around. Takes almost no effort at all. So I said that the little individual can be a trim tab. Society thinks it's going right by you, that it's left you altogether. But if you're doing dynamic things mentally, the fact is that you can just put your foot out like that and the whole big ship of state is going to go. So I said, Call me Trim Tab."

- Cite RBF tape transcript for Barry Farrell Interview, Feb '72. p. 46 of transcript,

for PLAYBOY

199 of Mag.

"Something hit me and hit me hard once--- thinking about what one little man could do. Think of the Queen Mary, the whole ship goes by and then comes the rudder. The rudder does a little tiny thing and causes the great big ship to do so much. So I said, I'm just little me and we have this great ship of state and society moving this way and I'm not going to get anywhere by getting out front and trying to push the bow around. That's what all the reformers try to do,

"So what could I do? Next thing, take flying. The rudder of your airplane, when you're moving it's a terrific job to move that thing. There's a tiny section on the trailing edge of the rudder called a trim tab. It's a miniature rudder. Just moving the trim tab like that builds a low pressure and that pulls the rudder around. It takes almost no effort at all. When you get into jets you have to do it that way; to move the jet at the velocity it's going is like trying to move it in concrete. So the little trim tab pulls the big rudder around."

"So I said: What does the little individual do? A little individual can be a trim tab. Society thinks it's going right"

- Cite H3F to Barry Farrell: Beat Island; Tape #8. Side A, transcript p. 1; 22 Aug'70.

Trim Tab Sequence: (2)

"by you, that it's left you altogether. But if you're doing dynamic things mentally, the fact is that you can just put your foot out like that and the whole big ship of state is going to go. So I said, if you've read some of my things, Call me Trim Tab. I'm going to get some of these big things to happen by doing little things.

"And there's no little thing quite so powerful as integrity. And the truth is that you get the low pressure to do things rather than the positives: and so you get rid of a little nonsense, you get rid of everything that doesn't work and is untrue, and you get the trim-tab motion every time. These are the grand strategies you're going for. And really, I'm positive that what you do with yourself-- just the little things you do yourself: do you throw a little piece of paper on the ground?-- these are the things that count.

"To be a real trim tab you start with yourself. Once you start with yourself it starts the low pressure and suddenly things begin to work in a beautiful way. You started me off by asking the question: How do these enormous things happen? Well, I've"

- Cite RBF to Barry Farrell: Bear Iswland; Tape #8, Side A transcript pp. 1-2; 22 Aug'70

IriB__ Tab Sequence: j-

"seen enormous things happen. I've really tried things and I've seen them happen. But they can only happen when you're dealing with really great integrity. You must be helping evolution--- and then they happen like that! She's trying very hard to make man a success. He was designed to be a success, even if he's been assuming he was supposed to be a failure."

- Cite RBF to Barry Farrell: Bear IsAnd; Tape #8. Side A. transcript p.2; 22 Aug'70

KBF UbFINlilUhb

Trim Tab:

"Philosophically it is clear that trim tabs occur in the trailing edges of trailing devices--- in the tail-end of tail-end events--- at the stern of the ship as the last event and not at the bow as the first event."

- Citation and context at Ruddering Sequence (5), 1963

TcJCT CITATIONS

Trim Tab:

New Forms Vs Reforms, WDSO Doc. #1, p.54, 196J

See Cybernetics

Rudder

Ruddring Sequence

Feedback

See You, Nov'67

RBF JuFl/UTWNS

Trinity; Equation of Trinity:

"Einstein's formula, explaining as it does imperfection and interference in terms of diffused but non-lost energy, provides a specific means for the scientific measurements and rationalization of all life phenomena. This formula quite interestingly represents as a mathematical explanation of life, what the Christian religion attempted intuitively and philosophically to express in name-words: pod (the father in heaven) = son and holy nhost (on -ar th)."

- Cite CHAIr.a TU THE J-.UUN, p.bj, 1938

Trinity: Equation Of;

See Equation: Philosophical Equations

See Flight, 3 Oct*73

Tripartite Component, of Uni vara*?

See Basic Event, Dec*71

See Vector: Threeness of the Vector

Vectore: Three-vector teams

See Basic Event. 18 Feb'66

Cosmic Complementary, 6 Nov'73

Mite: Positive & Negative Functions (1)

Proton k Neutron, May'72

Action-reaction-resultant, Jun'66

TrlPle-fr9n<M:

See Chemical Bonds

Inter-tripie-bonded

Tripod:

"Goldy now sees that gravity makes the three legs of the tripod spread apart, but gravity also pulls the tripod toward the Earth and also coheres the Earth on which the tripod stands and gratuitously provides three more base lines formed as a closed tension triangle which keeps the three disintegrating tripod legs from coming apart and thus guarantees the structural integrity of the tetrahedron so formed.

"Since each of the tripod*s three legs are trying to part from the others, they are trying to subtract themselves from one another so they are minus quantities. Therefore, in this particular synergetic formulation*s formula, one vector leg minus a second vector leg minus a third vector leg equals (results in) the six positive vector legs which is the minimum number of structural members of a structural system."

- Cite GOLDDLOCKS, pp.C1-C2, *ft* May'75

See Tepee-tripod

See Topoiogy: Synergetic i Eulerian, 28 Oct*72

Redundancy: Reduction Of, 22 Apr'71

TrigMtign .of an Anrit*

"We now have the hexagonally divided circle as a constructionally proven geometrical relationship; and therefore we have what the Greeks could not acquire: i.e. a trisected 180-degree angle; ergo a six-equiangular subdivision of spherical unity's 360 degrees into 60-degree omniequiangularity; ergo a geometrically proven isotropic vector matrix operational evolvment field.

- Cite RBF rewrite of SYNERGETICS galley at Sec. 841.16, 22 Nov'73

Trisection of an Angle;

See Universal Vertex Center Model, 29 Apr'43

See Chemical Bonds: Triple Bond

Trivalent:

See Compoundings of Systems, 1U May'7b Quanta Loss by Congruence, (2) Bubble Bursting, 20 Jan*78

Irix:

• 48

- Citation and context at Angle: Pumping Fraction Factors. 15 Mai

Trolley

for the Whole Earth:

See Most Economical. 15 Jun'74

See Wave Pattern of a Stone Dropped in Liquid, Feb*73

Trucks:

See Dymaxion Airoccan World, (I)

True:

"It is preposterous to be deliberately ignorant about 'solid state' or 'black hole.* They cannot see what is true until they relinquish what is not true."

- Citation and context at Invisible Circuitry (2), 28 Oct'72

See Real Trix Truth

See Principle, May'49

KBF DEFINITIONS

Truncated Tatrahedra:

"'Surface* triangle structures are always truncated tatrahedra

- Citation & context at Structure, 26 Dec'74

See Fourteen Axes of Truncated Tetrahedra

See Rigidity vs. Resilience, 20 Dec*74

Prime Nuclear Structural Systems, 27 Dec*74

See Complexocta Truncated Tetrahedra Untruncate

See T Module, 21 Jun«77

Truaa:

"Intertrusaed and Intertriangulated are the same words: Truss; Trace; And Triangle."

- Citation and context at Tyontv-Foot Earth Glob, and 200-Foot Celestial Sphere (8), 25 Jan

Truss:

"Strutted trusses are high-tide aspects of edges . . ."

- Cite RBF tape Blackstone Hotel, Chicago, 31 kay 1971. p. ,37.

Truss:

. .A sphere is a polyhedron of invisible plurality of trussed facets ('trussed' because all polygobs are reducible to triangles or trusses and are further irreducible) and trusses are therefore basic polygons. Infinite polyhedron is infinitely faceted by basic trusses."

'* ` ` triangle (truss) is a tetrahedron of zero phase altitude."

- Cite KCHALt., Plate 36 caption.

1962

- Citation & context at Sphere. Nov*52

Tsorrri'ie VFCTO* HATHiv - *HIO-OTJ*

Krir jaFNITXOH

Truss:

" <Yhen later men learned that the structural strength at the surface was not provided by the ` solid* quality of the exterior shell, but by triangularly interstabilized lines of force operative within that shell, they perforated the shell with holes between the force lines. The minimum holes were triangular. The pattern of triangulated force lines, peppered with triangular holes in the hollowed out structural shell, became what we call a truss. <Ve can say the, firstly, that the hollowing out automatically reduced the thira power volumetric multiplication of relative weight increase of structures as they increase in respect to their primary linear dimensions."

- Cite "Tensegrity," PuRTr .Liu + AST KEWS, p.124, Dec. *61

See Beam

Gusset Intertruss Octet Truss Strut

See Sphere, Nov¹52*

Twenty-Foot Earth Globe and 200-Foot Celestial

Sphere (8)*

Universal Vertex Center Model, 29 Apr*43

Imat:

See Cosmic Synergy. Jan'72 Death, 11 Sep*73

Truth:

"We may say that thinking about the truth alters truth, but only to the extent of defining it. We may always clarify and redefine the truth by making it more comprehensively considerate and more incisively exquisite. Truth alters truth only by refining the definition. The substance of the sensing and instrumental control of the physical means of communication are always refinable and trend toward the ephemerization of doing ever more with ever less, but you can never get to the exact, most economical statement of the truth for the very communication will have ephemerized to pure metaphysics. Truths are like generalized principles: interaccommodative and nonintercontradictory. Truths are special case realizations of the generalized principles; by these very aspects are they discovered to be truths."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 504.11, 30 Jun»75

,<BF DEFINITIONS

Truth: to everybody."

"The truth belongs

- Cite RBP to EJA, Pagano's Reat., Phila., PA. 22 Jun¹75

Truth:

"As humans are physically situate halfway between the largest and smallest known bio-organisms, they are also halfway between the astro-largest and nuclear-smallest physical phenomena; humans thus find themselves between an absolute, omnidirectional, equilibrium, dimensionless, metaphysical core contained within a spheric twilight of macro-almost-true and containing a spheric zone twilight of micro-almost-true. As humans are in the middle of the cosmic scheme metaphysically, truth_it self is an unreachable, omnidirectional, cosmic center. The truth is zero eternal. Temporality = tempo- reality «» time-reality. In temporality you cannot reach the truth. You cannot be exact because truth is zero. Absolute truth is an omnizerophase condition. The metaphysical comprehension passes through, exnandingly and contractively, but fails ever to remain at the zero core of equilibrious truth."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 504.14; RBF rewrite, Phila. PA., 22 Jun¹75

Truth:

"Truth is special case. Truths tend to articulate generalized principles.

"God is the synergetic integral of all truths... but these are just words, utterly inadequate. You can only talk to god on behalf of everybody.

` ` I have had experiences that nake me feel that god knows what I am doing."

— -Cite RBF at Penn Bell videotaping, Philadelphia, 31 Jan'75
core - 2wo £» - *Sec. SW1*)

Truth:

"Truth is cosmically total: synergetics. Verities are generalized principles stated in semimetaphorical terms.

Verities are differentiable.' '

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1005.54, 29 Dec*73

Truth:

"The eternal is omniembracing and permeative; and the temporal is linear. This opens up a very high order of generalizations of generalizations. The truth could not be more omni-important, although it is often manifestly operative only as a linear identification of a special-case experience on a specialized subject. Verities are semi-special-case. The metaphor is linear."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1005.52. 29 Dec '73

"All the cosmic generalized principles are omniembracing- always-true. Truth. like gravity, is nonlinear; it is omniembracing. And of all the creatures on our planet, only humans have demonstrated the ability to discover such truth."

- Context and citation at Radiation-Gravitation Sequence (3),

. 5 Jun¹73

JppitL CASE -SEC

Truth:

"...You keep reducing the tolerance for error. As we reduce the tolerance for error we begin to get near the eternal, which is what we'll call the truth. But we'll never quite get there... Man being pretty much in the middle, as is the truth itself in a kind of twilight zone on either side of the truth--- both microcosm and macrocosm, kind of closing in on it."

. - Citation and context at Middle, Feb'73 SPFctUL cAse Sec \$*5, /</ /\$-

Truth:

"The eternal is embracing and the temporal is linear. This opens up a very high order of generalizations of generalizations. The truth could not be more important, although it is often only a linear identification of a special-case experience on a specialized subject. Truths are semispecial-case. The metaphor is linear."

1005.53, 16 Feb*73

- Cite SYNERGETICS draft at Sec.

Truth:

"In the inherently endless scenario model of Einstein's Universe truth is ever approaching a catalogue of alternate transformative options of ever more inclusive and refining degrees, wherefore the metaphysical might continually improve the scenario by conceptual discoveries of new generalized principles."

- Cite SYNERGETICS draft at Sec. 217.03, 10 Nov'72

Truth;

'But as long as self-consciousness continues

The inherent inexactitude of

Earthian mind's self-and-environment apprehending--- Yclept life---
will continue Only as a deoendent function Infinitely subordinate To
cosmic totality.

"But life will--- ever and anon---

Experience inspirational glimpsing

Of the orderly cosmic vectors

All of which point convergingly to absolute---

Ergo incomprehensible to temporality---

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH
Jan '72, pp. 8-9.

5?£CI*L CAJE - 2.»O fD 69.12

Truth:

' 'Conceptual totality Is inherently prohibited.

But exactitude can be bettered and measurement refined ay progres-
sively reducing Residual errors Thereby disclosing

The directions of truths Ever progressing

Toward the eternally exact Utter perfection, Complete understanding
absolute wisdom

Unattainable by humans . . . "

Cite IRAN, 1971

RBF DEFINITIONS

lying has to ba learned."

Truth:

"Truth is spontaneous;

(also anpears in verse)

- Cite RBF to EJA in N.Y.C.

10 Dec 70

Truth:

"The truth is «ero. You can't get to the truth

You can't be exact because truth is sero."

- Cite WATTS TAPE, p. 39 » 19 Oct'70

5FEC>A<- CAJTF - 5Fc ./y \

Truth:

"Truth is ever approaching evolutionary and constantly inter-transforming, precessionally behaving, process of a complex of omni-accommodative intercomplementary transactional events ... in ever closer proximity to perfect equilibrium of all transformative forces, but never attaining such equilibrium. . . "

- Cite Pendulum Model VS, Scenario Model. 23 Dec'68

JTFC/et *chSE*- <£& 5 ec. W

Truth:

. Absolute Truth ... an omni-zerophase condition . . . Metaphysical passes through but fails to remain at the zero of equilibrious truth. . . "

~~ Cite PendulB Model VS, Scenario Nfodel. 23 Dec'68

5 *F*ECI* L C4SE*) 5

Truth:

"We've gotten eo that you cannot get to any absolute truths. The word truth is simply a direction rather than an attainment. It's not a static. Truth is really then a yielding to the integrity of the intellect, not trying to persist in sticking with something familiar, just trying to rationalize what you thought was an explanation. I say then that we're coming very swiftly into an era when we will think together, an enormous comprehensive spontaneity of society to act in unison--- as you see a beautiful flight of birds acting, simply because we will be adhering to the information which is closer to the truth, and the truth will be guiding us all the time. The nuances will be much more impressive, much more delicate, much more exciting!"

- Cite RBF quoted in the San Francisco Oracle, VolI, No.11, 1967

Truth:

"I have learned that truth

Is an omnipresent, omnidirectional, Evolutionary awareness,
One of whose myriadly multiplying facets Discloses that there are no
'absolutes' --- No 'ends' in themselves--- no 'things' --- Only transi-
tionally transformative verbing.

- Cite HOW LITTEE, p. 52. Oct'66

Truth:

"Post-Greek electron-microscopy and Heisenberg's Indeterminism
show that the seemingly self-evident is always superficial and utterly
deceptive and that truth is at best inexact.*

- Citation and context at Axiom. Jun*66

Truth:

"Degrees of accuracy are only degrees of refinement, and magnitude
in not way affects the fundamental reliability, which referas, as direc-
tional or angular sense, toward centralized truths. Truth is a relation-
ship."

- Citation and context at Relativity, May'49

Hbb' UhFIMTIONS

Truth;

' • Evon thinking about truth alters truth."

- Compare this to Observation entry cited to Hugh Kenner

- Cite TOTAL THINKING, I&I, p. 226. 1949 (Context at Epigenetic
Landscape. May*49)

Truth:

"...Truth may not be dealt with as isolated, but only as relative relation-
ships of interaction governing in principle the interactions of specially
nonsimultaneous sets of dynamic principles."

- Citation and context at Reciprocity (4), May*49

Truth;

"It is only on first revelation that a truth is obviously new. Its recurrence as an idea appears to be age old and common knowledge. That is the way of truth. It so thoroughly harmonizes within all the scope of our reason that it makes little note of its entry. On the other hand a warped truth or fallacy lingers long within our reasoning chambers and makes much impression. The truth-loving, non-procrastinating mind analyses to the end. The laggard mind merely marvels at the sensation set up by the discordant fallacy. In either case there is more sensation in the fallacious statement than in the truth, .tfe constantly overlook the harmonious and important truth in life until, at some distance of time or space, our perspective is repaired.'"

- Cite 4-D, Preface, 1'ay 1928

RBF DhFL.ITICUS

Truth and Love:

"Truths are then differentiable. But love is omni-embracing, omnicoherent, and omni-i nclusi ve, with no exqfjtions. Love, like synergetics, is nondifferentiable, i.e., is integral. Differential means locally-discontinuously linear. Integration means spherical. And the interefects are precessional.

"In the highest order of generalizations is the comnarison of truth and love."

- Cite SYNc.RGr.TICS draft at Secs. 1005.55 + 1005.57, 16 Feb'73

Truth as Progressive Diminution of Residual Error:

Q. What do you mean by the contrast of acceleration vs.

eternal slowdown?

RHF: "rfe are going faster. It is more than just the

60,000 M.p.h. of the Larth-around-the-Sun. Our jet planes add to that and so we are getting enormous acceleration compared to our forebears.

"The generalizations are eternal,... Heisenberg.... The more accurately we state the truth the less frequently it becomes necessary to modify our statement of it. ./e have to change what we say less and less. Eventually it works back to the eternality of No Change."

- Cite RHF to videotaping session, Philadelphia, PA., 1 Feb'75 CAsE 2nc.ee •S'E'c so'i.l'j'X

R0F DEFINITION

Truth as Progressive

Diminution

of Residual Error:

"It seems that Truth

Is progressive approximation

In which the relative fraction

Of our spontaneously tolerated residual error

Constantly diminishes.

This is a typical

Antientropy proclivity of man

— Entropy being the law

Of increase of the random element."

- Cite HOW LITTLE, p. 53, Oct»66

S_ee Eternal Slowdown

Heisenberg-Eliot-Pound Sequence No Finality of Human Comprehension Perfect • Direction

Residual Ignorance of Temporality

See Synergetics, 22 Jun'77

kBF UbFiMTIONb

Truth? « Nontrut-h:

`` To perceive of and say 'truth' invokes the concept of non-truth_f ergo diflentionation."

Sec. 529.07

- Citation at Differentiation_f 20 Dec*71

- CtLu-kh F SYNKHGETTCS-totfi_t

Truth: Thinking About Truth Alters Truth:

"Thinking about truth alters truth only to the extent of defining it."

- Cite RBF to EJA, 3200 Idaho, Wash., DC, 15 May*75

Truth: Thinking About Truth Alters Truth:

bee heieenberg-Eliot-Pound Sequence, May*49 Truth, 30 Jun¹75

See False Property Illusion, (2)

"...Disorder attains and passes through maximum asymmetry as the metaphysical passes through but fails to remain at the zero of equilibrium truth.,"

- Citation and context at Metaphysical_r 23 Dec'68 'SfS'OjTL CASF to c 5oV. /y)

See Conceptual Totality

Induetry as Broadcasting of Truth to Individualism

Lies

Local Truth

Lying

Spontaneous Truth of Childhood

Verities

Youth, Truth & Love

Truth:

See Architecture, Jan'34 Axiom, Jun'60* Child Sequence (2)-(4)
Communications, Oct'70 Differentiation, 20 Dec*71* Epigenetic
Landscape, May'49* Industrialization, 1928 Integrity, 11 Aug'70 In-
tellection, Oct'66 Lying, 9 Dec`73 Measurement (1) Middle, Feb'73*
Metaphysical, 23 Dec'68* Pendulum Model vs. Scenario Model,
23 Dec'68* Radiation-gravitation Sequence (3J* Reciprocity (4)*
Relativity. May'49* Rememberable Names, 14 Jan'74 Trim Tab, 8
Jan'66 Vector Equilibrium, Summer'74 Possession, 10 Jun(74

See Mistake, 7 Nov'75

Self-discipline, 28 I-'ar'77

Womb of Permitted Ignorance, (2)

See Truth i Lore

Truth as Progressive Diminution of Residual Error

Truth: Thinking About Truth Alters Truth

Truth-trends

Truth: Zero of Equilibrrious Truth

Truth & Nontruth

See Cylinder

Pipe

Plastic Tube of Universe

Rod

Geodesic Spiral Tube

See Curvature: Simple, (1)

Plastics, 10 Aug'70

Octahedron as Conservation & Annihilation Model, 23 Jun'75

Wind Stresses & Houses, (10)

Tuck in a Plane:

See Visibility, 19 Jun'71

luck in the Universe:

See Disparity, 1960

Tuck:

See Takeout

Tetrahedral Tuck

Tunability:

"You can get a new Universe every time you get a new tuning. But they are all complete Universes; they are all systemic.

"The multipliability and infinite range of frequency of modular subdivisibility of the primitive whole system and the multiplicity of optional intertransformabilitiee accomplishable at alternate frequencies and durations provides the synchronous and dissynchronous overlappability of episodes of Scenario Universe as always uniquely tuned in by the variable cognition relay lags of any individual tuners."

- Cite RBF rewrite of 24 Apr'76

Tunability:

- Cite RBF to EJa, 3200 Idaho, Wash, DC: 23 Apr'76

Tunability:

"Convergence to frequency magnitude is tunability. Aa with all wave phenomena, tunability is in terms of whole cycles converging to a vertex. . . "

- Citation and context at Cycle. 10 Feb'73

- Citation at Point. 16 Nov*72

Tunability;

- Citation at Allspace Filling, 22 Oct'72

Tunability:

"The eye can resolve intervals of about 1/100th of an inch, or larger. Below that we do not see the aggregates as points. The after we see only 'solid' color surfaces. But our color receptivity, which means our only-human-optics- tunable range of electromagnetic radiation frequencies cannot 'bring in,' i.e., resonatingly respond to, more than about one-millionth of the now known and only instrumentally tune-in-able overall electromagnetic frequency range of physical Universe. This is to say that humans can tune in directly to less than one-millionth of physical reality, ergo cannot 'see' basic atomic and molecular structuring events and behaviors, but our synergetic tensegrity principle of structuring are found instrumentally to be operative to the known limits of both micro- and macro-Universe system relationships as the discontinuous, entropic, radiational, and omnicohering, collecting, gravitational s/tropics."

- Cite SYNERGETICS draft at Sec.713.06, 19 Oct'72

Tunability:

"Apprehension means information furnished by those wave frequencies tune-in-able within man's limited sensorial spectrum."

Cite SYNERGETICS, "Universe," Sec. 302. 1971

Tunability:

"Any large auditorium could theoretically accommodate the physical presence of more than 100,000 radio sets each of which could be tuned in simultaneously to receive a program different from any and all of the others for today there are at all times more than 100,000 different programs being broadcast coincidentally from places around the Earth.

There are everywhere invisibly present those more than 100, 000 programs, purveying very real information permeating our space, passing our walls and our bodies. All and more of the phenomena that yesterday were assumed to be mystical or magical are now physically explicable and deliberately employable,"

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, Dec. *69

Tunability:

"At almost any spot anywhere around the earth there are always thousands of different radio or TV programs silently and invisibly present. With a wide band radio set« we can tune any one of their "12" components of the environment, in the same way the other factors tune in or out."

Cite NASA Speech, pp 33,34

Jon* 66

Tunability:

"Not only does man have a very narrow range of tunability in the electromagnetic spectrum where he can actually see, but he also has a very narrow spectrum of motion apprehension. He cannot see the hands of the clock moving or the stars or any of the atoms in motion."

- e±U!.-THE TEAR 2000, San-Jose State College

- Citation 4 context at Extrasensoriality. Ear'66

RUF DEFINITIONS

Tunability:

"A wave is a principle. Discovering that we have waves which are tunable waves, which we will call the spectrum of light, and that we have waves of the air which we call sound, and other kinds of waves, there are tunable limits to what hear and then we get into infra and ultra sonic. We recognize then that we have a very small spectrum of tunability in respect to each one of our apprehending capabilities, Recognizing then that we have discovered this wave that operated in the phenomena water, milk or whatever it was, and yet was not a tunable wave, it was not in the spectrum of tunability, but yet we got information from it by what we call step-up or step-down transformations. Time and again as scientists we go through step-up and step-down frequencies and bring things into the audible range by relayings and stepping-up until finally we get the messages coming over the air, coming out of electromagnetic waves, and we put these together as familiar sounds."

- Cite OitEGUN Lecture //5 - p. 164» 9 Jul'62

Tunability:

"When television or radio waves pass through the walls of a house, when light waves pass through a window or a lens, OfB there are always some comprehensively relayed local jostlings, some sets of submicroscopic eddies of force that accommodate the push through. The complementary effect— what in conversational language is the 'resistance' of the wall,

window or lens— and what in synergetics is called the precessionally shunted pattern relay.."

- Citation and context at Wave. 1960

Tunability:

"Newly recognized generalized principles seem emergent in unprecedentedly accelerating accumulation as reported from the instrumentally extended range, velocity, and exactitude of special case experiences in the most recent moments of history's scientific venturing. The manywhere local probings have been meticulously organized and reported regarding measurable relationships and rates of changing relationships throughout the vast macrocosmic and exquisite microcosmic angle and frequency Universe events both infra and ultra to man's direct tunability yet instrumentally tunable and transformably readable within regenerative informative tolerance despite inherently limited observational exactitude."

- Cite INTRODUCTION to OMNIDIRECTIONAL HALO, p.120, 1959

Tunability - Convergence:

See Convergence, 10 Feb'73

Universe is the sum total of all men's progressively hvⁿ41TJ5^{ina,le} 2nd telaolo «ic*llly translated experience SL2?GreCy-,?f mn a available circuit tuning limits and relative feedback lags. All man's experiences may not be consciously tuned in. Ergo Universe is both ultra- and imziunable. Ergo Universe is simultaneously untunable and only progressively thinkable."

- Citation at Universe. 1954

See Infratunable

Non-senaoriality: Infra & Supra Infra & Ultra Tunable: Infra It Ultra Visible

See Minimum of Four Tetrahedra, 22 Feb'77 Polyhedra. 18 Jul'76 Silence, jo Sep'76 Somethingness 4. Nothingness, 7 Oct*75 Think-aboutability, 8 Feb'76 Universe, 1954* Visibility <5c Invisibility of Systems, (1) Tetrahedron as Microsystem, 12 May*77 Tetrahedron, 8 Aug'77

Tuning - Dismissal of Irrelevances:

See Tuning, 20 Jan'75

Tune-in-ability:

"Humans' senses... and possibly an ultra-high-frequency electromagnetic wave tune-in-ability."

- Citation & context at Humnn Mind k Physical EvaluM™ (iWct
5 Jun • 75

Tunable Set: Tuned-in Set:

See Death. 29 liar'77

Human Beings 4c Complex Universe, (4)

Tuning:

"Tuning « dismissal of irrelevancies. Those too large and too low frequency are dismissed omnidirectionally. Those too small and too high frequency are dismissed inwardly. The tuning phenomenon is either inward or omnidirectional."

— Incorporated in SYNERGETIC 2 draft at Sec. 526.17

- Cite RBF videotaping sessipn Philadelphia, Pa., 20 Jan*75 "Ojijt is any direction. You go in to go out because out is not only any direction but is all directions—electromagnetically speaking it is 'tuned-out.* In is what we are thinking about now. In is the momentary reality into which we are tuned. AH the rest is for the moment tuned-out, but equally real as progressively tuned-in.

"Physics finds that Universe has no solid things surrounded by and Interspersed with space. Life is an inventory of in-and-out tunings, birth is the first tuning-in; death may not be the last."

- Incorporated in SYNERGETICS 2 at secs. 526.26 & 526.27
- Citation *k* context at In, Out fc Around, 17 May*77

See Irrelevanciee: Dismissal Of Sorting Thinkability Tunability Articulated cl Unarticulated Interference Donintereforence

Sonethingnuii: k Nothingness Frequency tc Interval Visible Invisible

| | | |
|-------------------------------------|-------------------|-------------------------------|
| TEXT CITATIONS | <u>Tunability</u> | |
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| 225.03 | 960.08 | .262,09 |
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| 780.13 | | |

See Conceptual Tuning
 Electromagnetic Spectrum
 Equi-interval “ Timed
 Finitely Tuned Somethingness
 Frequency Modulation
 Instrumentation
 Intellectually Tunable
 Invisible Motion
 Invisible Operation of Thousands of Radio Programs
 Invisible Reality
 Minimum Tunability
 Optical Tuning Crystal
 Optical Tuning & Scanning

Radio Tuning Crystal

Sensorial Spectrum

Step-up, Step-down Transformation

Intertunable

Infratunable

Ultratunable

See Telepathic Tunability Tetratuning Time-sining Transmission: Consciously Tuned Tunability « Convergence Unpremeditated Tuning Tune-in-ability Something-nessa Subtunability Untunable: Untuned Organic Tunability Valving: Valvability Vertexes « Tunings

See Accommodation, 1960

Apprehension, 1971 Cycle, 1955; 10 Feb*73* design Covariables; Principle Of, 1959 Equi-interval, 17 Feb*73

Environment Events Hierarchy, (2) Extrasensoriality, Mar'66* Infinite, 1955 Instrumentation, 1963

Isotropic Vector Matrix, 30 Nov*72 Omnidirectional, 1954 Pattern, 1954

Point, 16 Nov*72*

Principle, 12 Jun'50

Scenario Principle, 1959

Spheric Experience, 20 Feb'73 System Zoneness, 8 Jan'55 Touch, 29 Dec'58

See Universe, 1954*

Wave, 1900«

Wave Pattern of Stone Dropped in Liquid, (A) Zoned System: Zoned Limits, 1954 Allspace Filling, 22 Oct'72* tNonpolarized, 12 Nov'75 Compoundings of Systems, 10 May'76 Aural, 22 Feb'77 Olfactoral. 22 Feb'77 Tactile, 22 Feb'77 Visual, 22 Feb'77

Wave Pattern of a Stone Dropped in Liquid, 22 Jun `77

Human Beings <x Complex Universe, (4) (5)

See Tunability

Tunability • Convergence

Tunability: Infra « Ultra

Tuning - Dismissal of Irrelevancies

Tune-in-ability Tunable Set: Tuned-in Set Tuning-in & Tuning-out

Turbining:

"We have said that this is a vector equilibrium and in a zero-condition and is non-reality. Nature would not permit it but a minute after that these six edges turbine around that point one way or another and you see plenty of the models of the lines turbining.abo&ntie will have to say that there had to be a moment theoretically when this plane went from being a positive tetrahedron to a negative tetrahedron which it could be, and had theoretically to pass through that point.¹

- ~~ii~~ ~~mi~~ «

- Citation & context at vector Equilibrium; Zero Tetrahedron

(3)

11 Jul'62 “

Turtlnlng-counterwrblnln;

See Energetic Functions

Male it Female Turbining Hub Torque it Countertorque

See Hole in the Victrola Diac, 24 Jan*75

See Gas Turbine

Lever Complexes

Turbine i-odel

Turbinlng-countertubblning

See Irreversibility, 4 May*57

Parity, 1967

Tensegrity: Vartexial Connections, Dec*61

Vector Equilibrium: Zero Tetrahedron (2)(3)»

Wire Wheel, 4 May*57

Crystallography, 17 Aug'70

Stark, Apr*44

Duality of Universe, May'49

Tensegrity Easts: Pentagonal Polarity, 27 Dec*76

TurbQ-ayfitwp

See Convergence & Divergence, 1955

Turbulence Model:

See Rubber Tires, 24 Jan'75

See Relative Asymmetry Sequence, (1) Transformations, 10 Oct*50

Weather, Feb¹73

RBF DEFINITIONS

Turn:

”You will be turning, or angularly reorienting your direction.”

. Cite SYNERGETICS draf «a Sec. 539.06, 2J Sep'73

See Spherical Wave Terminal Limit Velocity

Turnaround J4nU =

(2)

See Nuclear Sphere, 16 Dec*73

Sea Inbound-outbound Turnaround

lumxaiuisl:

(2)

See Syntropy A Entropy, (A)

T Quanta Module, (1)(2)

Turtle Dome;

"Look at this turtle. This is the way I am going to do another dome... where the outer ring is continually opening from the inside out, so it gets to be bigger. You build on the inside and it keeps on unrolling. You get to a great conch

shell and every time the creature pushes more goo out--- the creature keeps pumping in and out---it gets built on the outer rim as he keeps pushing it out. The big turtle does not have more rings than the small one, he Just has bigger ones. All the plates grow locally.

"How do you make a whole building grow? I saw that this was a way to make a whole geodesic dome grow; where the hexagons simply grow you can have an expandable dome with no trouble at all. Local finite closures: expanding each hexagon from the inside. That solves the problem when people say you can add to a rectangular building but you can't add to a dome. But you can in this way. Notice how long the turtles live. They last out pretty well; they can accommodate their growth with a hard shell

- Cite RBF to HUGH Kenner, Phila.,PA, Transcript p.11, 9 Jun»75

See Evaginating, 22 Jun'75

Turtle Hex-pent:

"The back of a turtle is a combined pattern of pentagons and hexagons: a hex-pent matrix. As the turtle grows, each individual hex-pent pattern adds a new ridge in the outer edge. This is apparent when you closely examine the turtle's back.

"The process is analagous to how I have provided for the organic growth of geodesic hex-pent domes, which could be done just by inserting successive caulking or layerings around each hex-pent module."

- Cite RBF to EJA_t 3200 Idaho, Wash. DC, 12 May'75

TV:

See Televisionx TV

TV: The. TV Generation:

See Daddy, (1) (2) Young World, (1); 4 Jul*72

Twelve:

‘‘There were systems based on modulo twelve.

The system was in twelves

**For the very simple reason that the decimal system doesn't embrace
the number three rationally.**

Since they had so many threefold experiences,

And the triangle was so important,

They really wanted somethin;-* th.t would embrace it evenly.

So they came to twelve.”

- Cite :<8F !>raft, Xumerology 4.2

1970

Twelve:

**"Inasmuch as there are always and everywhere twelve fundamental
degrees of freedom (six positive and six negative) and since every en-
ergy event is characterized by a three-fold vectoring--- an action, a re-
action and a resultant--- all structures, symmetrical or asymmetrical,
regular or irregular, simple or compound, will consist of the twelve-
foldedness or its various multiples."**

~~—Cite ftDfettateyrft-ph, 2-£_ December~~

- Citation & context at Structure, 25 Dec'68

"The octet truss is the evolutionary patterning, intervectory-ina and intertrajectory-ing. of the ever-recurrent 12 alternative '*' options of action, all 12 of which are equally the most economical ways of self-and-otherness interbehaving--- all of which interbehavings we apeak of as Universe."

- Citation and context at Octet Trusq, 24 Sep'73

"I want to share with you a little exercise I frequently give myself in order to decondition my subconscious reflexing whenever that reflexing produces spontaneous behavior in ways that we know through experience to be ignorant, inept, irrelevant, and evolution-frustrating. This is my cosmological exercise. I think about the following: The planet Earth is about 8000 miles in diameter. The highest mountain is five miles above sea level. The deepest ocean is five miles below sea level. There is a tensile differential between the innermost and outermost aberrations in the spheric surface of our Earth. Ten miles in relation to 8000 miles is 1/800.

"If you take a twelve-inch world globe of polished steel, it probably has greater radial dimension aberration than 1/800 of its diameter. Astronauts cannot see any signs of humans aboard our planet as they ancroach the ~arth from the Koon. They do not even see mountains. They see only a polished, color- marbleized ocean and continents' pattern through the dominant cloud cover. The average height of humans of all ages is about five feet. There are approximately 5000 feet in a mile. If 1000 humans made a column by standing on one another's heads, we could make a columHM ten miles high. Ten miles is the" - Cite THLSKltlG OUT LOUD: ;,Z ARE KOTHIKG 2UT A SPACE PROGRAM,1 %

Twelve-Inch Steel World Globe: (2)

'difference between the deepest ocean and the highest mountain, so you and 1, then, are 1/10,000 of invisible on our twelveinch globe. Now 75 percent of our planet Earth is covered with water and another 20 percent is uninhabited for one 'frozen mountain' reason or another,

our 7.5 billion Earthian humans are invisibly secreted in fractional percentages on those little continents, with six percent in Central and South America, eight percent in North America, ten percent in Africa, 20 percent in Europe, and 50 percent in Asia.

"The diameter of the star betelgeuse is exactly 100 times that of our 8000-mile diameter Earth. With an engineer's scale you can see 1/50 of an inch, but you can't see 1/100 of an inch--- it is a blur, if you make a little circle of wire one-inch in diameter and hold it at arm's length from your eye, you will find that it matches the size of the perimeter of the whiteghost disk of the betelgeuse on a day when the betelgeuse can be looked at through thin clouds. And so, against that one inch, the 1/100 of an inch that is our earth's diameter would not be visible."

"The star Betelgeuse in the constellation Orion, has a diameter" - Cite THINKING OUT LOUD: WE ARE NOTHING BUT A SPACE PROGRAM,

World Mag., 1? Jul'73

"larger than that of the orbit of the Earth around the sun. Betelgeuse is one of the big stars. Our Sun is one of the small stars. There are 100 billion stars in our galaxy. There are a billion other such galaxies within the 22-billion-diameter sphere of observation of Mount Palomar's 200-inch 'reflector.' Ninety-nine percent of the 100 quadrillion 'known' stars are beyond the range of the naked eye, but altogether they form, in effect, a thickly galactic, spherical cloud array surrounding us, at whose billion-mile-radius center is located our little Milky Way galaxy and, deep within it, our minuscule solar system, deep within which rotates and orbits our minuscule earth. That will give you an idea of what a fantastically negligible cosmic speck is this Earth of ours. We are 92 million miles away from the sun, and we receive all our life-supporting energy from it.

"If our local 'gas station,' the sun, ran out of life-supporting energy, the next closest refueling star is 25 trillion miles away. It takes 4-2/3 years to get to us--- coming at 100 million miles an hour, but when someone says, 'Never mind that space stuff-- let's get down to Earth; Let's be practical!' pay no attention. We are nothing but a space program. We are so"

- Cite THLHHHG UUT LOUD: WE ARE NOTHING BUT A SPACE PROGRAM World Mag., 17 Jul'73

"physically negligible as to be approximately space itself.

"I don't think that stars are paying much attention when one of those little specks on board this almost invisible Earth says, 'We can't afford it.' I don't think the Sun is saying, 'We can't afford to keep those people living on planet Earth because they haven't paid their bill.' The Universe is not concerned with how Earthians raise millions of something they call dollars."

(2)

- Cite THINKING UUT LOUD: WE ARE NOTHING BUT A SPACE PROGRAM World Mag., 17 Jul'73

Twelve-Inch Steel World Globe: (A)

"...And Professor Goddard then said: Here's our planet Earth going around the Sun at 60,000 miles an hour. And you and I are on board with it going at 60,000 miles an hour around the Sun, if we take any of the objects on board in this co-orbiting of the Sun, and accelerate one of them, as it leaves this Earth every time it doubles its distance away, the attraction--- the tendency to fall back in--- is only one-quarter of what it had been before. It wouldn't have to go very far out before there would be no tendency to fall back in at all. That is you would then be affected by other bodies in the Universe. Out of

this came our rocketry but very few people would have really pictured this in any kind of a model form. To get a little idea--- when we were first told that the vehicles being rocketed into the sky had gone into orbit the altitude that they did so was about 100 miles out from the planet Earth. You and I, with the highest mountain at five miles, and the highest flying jet plane flying at about ten miles out, 100 miles is way out. And it is so far out that people don't start to try to picture it.

"But I'd like you to take a twelve-inch globe representing an 8,000-mile diameter Earth: and 100 miles in relation to 8,000 miles is 1/80th. And you'll find then that if you take a twelve-inch globe, the thickness of a paper match, the thinness" - Cite HBF Address, transcript p.5, Tel Aviv, 1b Jun'72

Twelve-inch steel world Globe: (B)

"of a paper match, gives you 100 miles. So if you glue just a little paper match on to a twelve-inch globe, that's the altitude at which it goes into orbit. In other words it's just presumably almost still in the print of that globe, in other words, then, almost no distance at all when the other bodies take over. And at this point we say it goes into orbit, instead of trying to fall in, it now goes off in orbit at 90 degrees. Now this is very strange because 180 degrees is what we had with the falling-in, it now goes off in orbit at 90 degrees. Now this is very strange because 180 degrees is what we had with the falling-in and now suddenly it's going at 90 degrees--- going around. The effect of bodies in motion on other bodies in motion is what we call precession. And precession is to affect them at angles other than--- they do not tend to at 180 degrees of falling-in--- but to operate at angles tangent, sometimes 90-degrees, sometimes maybe at other angles, but primarily in the 90-degree range. Okay?

"if you think about the dimension that I've just given you in relation to our tiny little Earth, and to think about the distance to our own sun, 93 million miles, or the next nearest"

- Cite rtBF Address, transcript p. 5, Tel Aviv, 1b Jun'72

KBF DtFINITAUfeS

Twelve-Inch steel World Globe: (C)

"star--- it takes light coming at 700 million miles an hour, it takes 4 and a half years for the light to get to us. That's from just the nearest star in the whole of Universe, our little 8,000-mile globe is a very snail thing, and just 100 miles out from it and you don't tend to fall back in. In fact you find that 99.9999999 percent of Universe you'd do nothing about falling into anything else. You'd just be in orbit. 'Falling in' is a very unique condition."

- Cite RBF Address, transcript p.5, Tel Aviv, 1b Jun'72

"In every geodesic sphere, you can always take out 12 pentagons. These 12 pentagons each drop out one triangle from the hexagonal clusters around all other points. Assuming the dropped-out triangles to be equiangular, i.e. with 60-degree corners, this means that $60 \times 12 \ll 720^\circ$, which has been eliminated from the total inventory of surface angles. You can always find 12 pentagons on spherically conformed systems such as oranges, which are icosahedrally based; or four triangles with 120-degree corners if the system is tetrahedrally based: or six squares where the system is octahedrally based.

- Citation & context at Geodesic Sphere, (2)(J), Aug'71

See Tensegrity: Twelve Pentagon#

Hex-pent Sphere

See Geodesic SpheX (2)0 Dodecahedron, 23 Feb'72

"Everything in Universe is divisible by two. There will always be two poles to any system. Unity is two,

"All the aspects of the constant relative abundances of facings, crossings, and lines are divisible by two: two faces, four crossings, and six edges. Thus there are six vectorial moves for every event; and each of the vectorial moves is reversible, hence 12. Positional differentials in Universe derive only from the sixness of the 12 degrees of freedom."

(7sv.»K_ffr.« X. -r ')

- Cite R3F in videotaping session, Philadelphia, Pa. 1 Feb'75

"The behavioral Interpattaming franc of reference of the six degrees of freedom in respect to omnidirectionality is, of course, the vector equilibrium, which embraces the three- dimensionality of the cube and the six-dimensionality of the vector equilibrium* Experience is inherently omnidirectional; ergo there are always a minimum of twelve 'others'¹ in respect to the nuclear observing self.

' 'The 24-positive- and 24-negative-vectored vector equilibrium demonstrates an initially-frequenced, tetrahedrally quantised unity of 20; ergo the Universe, as an aggregate of all humanity's apprehended and comprehended experiences, is at minimum a plurality of 24 vectors."

, i si

- Cite SYNERGETICb, 2nd. Ed. at Sec. ft 537.1\$, 19 Mov»74

"With each and every event in Universe, no matter how frequently recurrent, there are always twelve unique, equieconomic, omnidirectionally operative, alternative action options: which twelve occur as four sets of three always interdependent and concurrent actions, reactions, and resultants."

- Citation 4 context at Gravity (a), 12 Jun'74

"Each of the six positive and six negative energy lines impinging on every nonpolarized point ('focal event') in Universe has a unique and symmetrical continuation beyond that point. The six positive and six negative vectors are symmetrically arrayed around the point. Consequently, all points in Universe are inherently centers of a local and unique isotroic-vector-matrix domain containing 12 vertexes as the corresponding centers of 12 closest-packed spheres around a nuclear sphere." "

- Cite SYNERGETICS text at Sec. 537.11; galley rewrite 7 Nov'73

"Universe has always operative 12 uniquely alternate degrees of Freedom or realisation or physical events. •

- Citation and context at Inventabllltv Sequence (2), 9 Jul'73

"Gibbs deals with energy associative as matter, and what the degrees of energetic freedom may be within a local physical complex, and what amounts of energy would have to be added MHBHBIBB locally to bring about other states.'"

- Cite SYNERGETICS draft at Sec. 1054.12, 6 Mar'73

IMH 'Twelve Universal Degrees of Freedom:

'First powering expresses only one vector, i.e. 1/12th of relevant system potential."

- Citation and context at Powering: One Dimension. 14 Oct'72

"... Synergetics is so true as to become real because part of the conceptuality is the lags which bring in the six degrees of freedom."

- For citation and context see Timeless. 1 Apr '72

"The eternality of the generalized principles brings about differential lags, the aberrations in the rates of recall. Differential lags are inherent in the mathematics of the twelve universal degrees of freedom of the vector equilibrium which characterize an event in pure principle. The six vectors of an event can be articulated linearly or in a hexagonal circle. It is inherent in the mathematics of the degrees of freedom which demand the invention of time due to the varying rates of recall of observation of the behavior of the vectors."

- Cite KBF to EJA, J200 Idaho, ..ash DC, 29 lay'72

"With respect to every nonpolar point in omnitriangulated systems there are three lines, or edges, networking the surface There are also always three lines (which can be regarded either as tetragonal edges or vectors) connecting the points by omnitriangulation either to the next inwardly or outwardly concentric omnitriangulated point layer.

"It follows from this that every nonpolar point in the energy Universe monopolizes an inherent inventory of six energy lines. Of even more significance is the fact that each of these six energy lines, impinging on every nonpolarized point (focal event) in the Universe has a unique and symmetrical continuation beyond that point. The continuation of the lines can be regarded as negative vectors. The six positive and and six negative vectors are symmetricaly arrayed around the point. Consequently, if we exclude two points in Universe, all other points in Universe are inherently the center of a local and unique(veBbeF-equilibium-doMarin} isotropic vector matrix contairtt 12 vertexes as the corresponding centers of the 12 closest packed spsheres aroudd a nuclear sphere.**

- Cite MARKS, p.47, as rewritten by RBF Feb*72 /SUPERSEDED BY RBF GALLEY REWRITE 7 NOV'717

fl, cP FxE'VDO'VI *srcT*. S'2'7. U /

"The connection between the six degrees of freedom and omnidirectionality is, of course, the vector equilibrium, which combines the threeness of the cube in relation to 20 as unity - VE. Experience is inherently omnidirectional. Ergo, there is not just one 'other.' There are always at least 12 'others.* Ergo, vector equilibrium, which is sub-frequency. Happenability has the vector equilibrium as its minimum model, ergo the Universe, experience, can't be one quantum."

- Cite BBF to EJA, Bear Island, 25 August 1971.

otrnfAu OUIKLKS <r riww- s*rc. S37.nl v SEC. 5J7JH|

"It is experientially demonstrable that the structural inter patterning principles governing all the atomic behaviors are characterized by triangular and tetrahedral based associations governed by the twelve degrees of freedom."

- Citation and context at Nucleated Systems: Idealistic Vectorial Geometry Of:, 14 Feb'72

in synergetics a 'line' is "the axis of intertangency of unity as plural and mlniaua two. . « The line becomes the axis of spin. Even two balls can exhibit both axial and circumferential degrees of freedom."

- Citation & context at Line-. 19 Jun'71

- CI*e-RDF-«> r.rfy

* X V MwCgJ/fL bFGUrx -SEC 537. SIQ

"...There are always and everywhere 12 fundamental degrees of freedom (six positive and six negative),.**. **

- Citation & context at Structure_t 25 Dec'68

"In order to be able to think both finitely and comprehensively, in terms of total systems, Kt we have to start off with universe itself as a closed finite system which misses none of the factors. We must also include all the universal degrees of freedom. Though containing the

frequently irrational and uneconomic XYZ dimensional na relationships, universe does not employ the three dimensional frame of reference in its ever-most-economical, omni-rational coordinate system transactions. Nature does not use rectilinear coordination in its continual intertransforming. Nature coordinates m. twelve alternatively equi-economical degrees of freedom-- six positive and six negative. For this reason twelve is the minimum number of spokes you have to have in a wire wheel in order to make a comprehensive structural integrity of that tool. You have to have six positive and six negative spokes to offset all polar or equatorial diaphragminr and torque."

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- Cite NASA C_{peech}, pp 23,24, Jun*66

"Experiments show that there are six positive and six negative® degrees of fundamental transformation freedoms, which provide twelve alternate ways in which nature can behave most economically upon each and every energy event occurrence."

- Cite NASA Speech, p. 37, Jun'66

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"A basic event consists of three vectorial lines: the action, the reaction, and the resultant. This is the fundamental tripartite component of Universe. One positive and one • negative event together make one tetrahedron or one quantum unit. The number of vectors (or force lines) cohering each and every subsystem of Universe is always a number subdivisible by six; i.e., consisting of one positive and one negative event, each of three vectors which adds up to six. This holds true topologically in all abstract patterning in Universe as well as in fundamental physics. The six vectors represent the fundamental six. and only six, degrees of freedom in Universe. Each of these six,

however, has a positive and a negative direction and we can speak therefore of a total of twelve degrees of freedom. These twelve degrees of freedom can be conceptually visualized as the radial lines connecting the centers of gravity of that central sphere. The twelve degrees of freedom are also then identified as the push-pull directions of the tetrahedron's six edges."

- Cite RBF Ltr. to Prof. Theodore Caplow, 18 Feb '66., incorporated at SYNERGETICS Draft, Sec. 537.13, Dec. '71,

"Once a closed system is recognized as exclusively valid, the list of variables and the degrees of freedom are closed and limited to six positive and six negative alternatives of action for each local transformation event in Universe.

- Cite KEYNOTE VISION 65, p. 120, 21 Oct'65 op -Sec 5?7.0+]

"Here are some drawings I made to show the different degrees of freedom for a mast. If I wanted to have a mast on the face of the Earth it would take me a minimum of three legs, and a tension member to hold these legs down: so it takes four members. I can have one compression member and three tension members or three compression members and one tension. It always comes out four. I can put the hole in the ground and we will find that there is still the four. We will find that we might have to have the mast bending over like that, and it would take two tension members going up to hold it: that is called a gin pole; and then it takes a fourth member of gravity to pull this end down so there are four members operating. You could do that with two compression legs, sometimes called a Jack in the Navy, and one tension member and gravity: four members every time. So there are the four degrees of freedom and the local twist you will remember which gave us twelve.¹¹ I began to see then that we would always have these kinds of fournesses gM always operative."

- Cite OREGON Lecture p. 201, 10 Jul '62

RBF DEFINITIONS

Twelve Universal Decrees of Freedom:

"Suppose we start with universe as a closed system of complementary patterns, that is regenerative, that is adequate to itself, that has at any one moment for any one of its subpatterns twelve decrees of freedom. There is an enormous complexity of choice, wwill start playing this game and it is the most complicated game of chess that has ever been played. We start to play the game with universe but there must be integrity from now on. You made that move and from there you can make so many moves, ihe number of moves that can be made are really billions fold or quadrillion fold of the sum total of complexity of the moves that can be made in that universe."

- Citation &. context at Chess: Game of Universe. 9 Jul'62
/X 06 e>P f 537.

"We find that in the twelve degrees of freedom, the freedoms are all equal, but they are all of minimum effort.

(Adapted.)

- Cite OREGON Lecture #5 - p. 178 , 9 Jul'62
MHO RF FRW.JTI - 5e_c \$31./ j)

Twelve Universal Degrees of Freedom:

"Thus I found a mathematics of natural coordination fundamentally governing the universally constant and alternate minimum of 12 unique vectors of freedom, each of equally minimum energy involvement. Out of the 12 MMpM vectors of unique and alternate freedoms of nature's fundamentally accommodating cordina
tions, there emerged a compreteisive hierarchy of entirely rational mathematical relationships apparently governing all known fundamental transformation behaviors of nature.

• • • /"synergetic geometry" . . . which also proved to be everywhere the most economically accommodating to the inherently diverse local effects of the sum total universal coordinations, and respective progressions, of local energy investments."

- Cite "Tensegrity," PuRTFCLlu AMD ART NEWS, p.118, Dec *61

"For every point in universe there are six uniquely and exclusively operative vectors.

"Each vector is reversible having its negative alternate.

"Every point may export all or any of its six positive or six negative vectors by importing like numbers."

"Each point in Universe could be said to have twelve unique and exclusive vectors, but one set of six is operative and its alternate reverse set is only potential."

—113.

- Citation at Vector Oct*59

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Twelve Universal Decrees of Freedom:

'Each point in universe

could be said to have

twelve unique and exclusive vectors,

but one set of six is operative

and its alternative reverse effect set

is only potential, '*

- Cite COLLIER'S LTR, KCHALE, p. 113, Oct'59

"In regard to your degrees of freedom, these are at minimum twelve for the wire wheel which requires twelve spokes which are the six edges of the combined positive and negative tetrahedra whose vertices are inherently turbinal and there can be the explosive wheel

and the contractive wheel by which all the tensions and compressions are reversed. Then it is to be noted that we need twelve double rim increments between the external terminals of the spokes. This makes 24. My vector equilibrium model shows 24 circumferential vectors and 24 radials. This is the omnidirectional closest packing model of twelve spheres around one. This means a total of 48 vectors representing the two main classes of accelerations of physics: angular (circumferential) and linear (radial), i.e. now have 48 vectors which may be reversed, explosively or contractively, into tension or compression. And tension and compression are not equal opposites as tension tends to arcs of greater radius and compression to arcs of lesser radius, ergo the spiralling arcs of greater radius of tension must finally come back on themselves and are therefore inherently self-closing and finite and account for the comprehensive cohesive integrity of local systems and their intertwined comprehensive adhesiveness"

- Cite RBF Ltr* to Lewis E. Lloyd, Dow Chemical economist, Midland, Mich., 4 May'57

Tweto Universal Dpgmg ,9f Freedpm; (2)

"account for the universal cohesive integrity, despite that the compressive arcing to lesser radii of locally islanded associative systems tends to polar contractions which are locally divisive. We therefore tend to local islands of infinitely self-divisive intellectual-observer's considerabllity. comprehensively cohered by tension. Therefore, I would note that there are seemingly 96 total degrees of freedom of which apparently four are the constants and 92 the variables, as four are essential to the event definition of the system-integrity of the observer himself."

- Cite RBF Ltr. to Lewis E. Lloyd, Dow Chemical economist, Midland, Mich., 4 May*57

"I have been tremendously interested... in how we would take the organization of our total information and try to see total information as always interrelated. My own generalizations ... brought me to a clear cut discovery of twelve fundamental degrees of freedom governing the external and internal motions and transformations of all independent systems in Universe. In order to be able to think comprehensively and anticipatorily, in terms of total systems, we have to start off with Universe itself as a closed finite system which misses none of the factors. We must also include all the universal degrees of freedom... Nature coordinates in twelve alternatively equi-economical degrees of freedom.... six negative and six positive, which cover all variable interrelationships of Universe. They become the controlling facts governing general systems and thereby such supercomplex systems as the design of a nation's navy or a fundamental program for world resources. I have developed a completely workable generalized systems approach--- starting with the differentiation of Universe, including both the metaphysical and physical.... which has permitted progressive"

- Cite RDF, Univ, of Rhode Island 26 Aug. '66, p. 199.
 oft WES .r *FeenoM SEC. S37.3a*

"subdivisions in cybernetical 'bits' to bring any local pattern of any problem into its identification within the total scheme of generalized system events. This means that I always start all problem solving with Universe and thereafter subdivide progressively to identify a special local problem within the total of problems.... What ever we call seeing is done in our brains and not on the screen. With our enormous specialization we have powerful insights in a variety of unique directions, but we have very little integrated comprehension of the significance of the total information. I find that not only does our vision have a narrow electromagnetic spectrum range but that also we have a very

limited apprehending range within the spectrum of motive velocities. For this reason we see and comprehend very few motions among the vast inventory of unique motions and transformation developments of the Universe.

"Universe is a nonsimultaneous complex of unique motions and transformations. Of course, we don't 'see' and our eyes cannot 'stop' the 166,00 miles per second kind of motion."

- Cite RBF, Univ, of Rhode Island, 26 Aug. '66, p. 199.

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Twelve Universal Degrees of Freedom : General Systems: (HI)

"We don't see the atomic motion. We don't even see the stars in motion though they move at speeds of over a million miles per day. We don't even see the hands of the clock in motion. We remember where the hands of the clock were when we last looked and thus we accredit that motion has occurred. In fact, experiment shows that we see and comprehend very little of the totality of motions.

"Therefore, society tends to think statically and is always being surprised, often uncomfortably, sometimes fatally. Lacking dynamic apprehension, it is difficult for humanity to get out of its static fixations and specifically to see great trends evolving. Just now man is coming into discovery of general systems theory in his own right. The experimental probing of the poter' ials of the computers awakened man to realization of the vast complexes of variables that can be mastered by general systems theory. So far, man has dealt but meagerly and noncomprehensively with its powerful planning capability. So far, he has employed only limited systems theory in special open-edged systems--- 'tic-tac-toe' rectilinear grid systems."

- Cite HBF, Univ, of Rhode Island, 26 Aug. 'f6e . p. 199.

U, PWWET op S37.3»)

"My skyocean world map is only one of many devices that could provide man with a total information integrating medium. We are going to have to have some way for all of humanity to see total Earth. Nothing could be more prominent in all the trending of all humanity today than the fact that we are soon to become world man; yet we are greatly frustrated by all our local, static organizations of an obsolete yesterday."

- Cite RBF, Univ. of Rhode Island, 26 Aug. *66, p. 199.

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See Chess

Degrees of Freedom

Differential lag

Dimensional Reference Frame Free Will Gibbs

Omnilibrium

Man's Degrees of Freedom of Action

Phase Rule

Six Degrees of Freedom

Twelve Alternative Options of Action

Vector as 1/12th of Relevant System Potential

See Awareness, 10 Feb*73

Basic Event, Dec'71

Dymaxion, 4 May*66

Environment Events Hierarchy, (2)(6)

Game of Universe, 9 Feb'73

General Systems Theory, (1)

Gravity, (a)*

Individuality &, Degrees of Freedom, (1)

Inventability Sequence, (2)*

Line, 19 Jun'71*

Nucleated Systems: Idealistic Vectorial Geometry

Of, 14 Feb'72*

Nucleus. (1)(2) : 14 Feb'72

Other, 25 Aug'71

Polar Vertexes, 19 Feb'72

owering: One Dimension, 14 Oct'72*

Restrains, 12 Jul'62; Dec'71

Omniequilibrium, (1)

Structure, 25 Dec'68

Tetrahedron, 18 Feb'66

Timeless, 1 Apr'72*

Six Motion Freedoms <fc Degrees of Freedom, (A)

System, 16 Feb'78

See Tunability, Jun'66

Vector, Oct»59*; 1\$ Oct»72 Vector Equilibrium, 11 Jul<62 Jill, (D

See Heavenly Host Phenomenon

See Vector Equilibrium, 23 Oct'?2

Twelve Universal Degrees of Freedom, 7 Nov*73

Basic Event, Dec*71

Twelve:

(1)

See Decimal & Duodecimal

Heavenly Host Phenomenon Tensegrity: Twelve Pentagons Other-
ness: At Least Twelve Others

Sea Coupler, 20 Dec'73

Frequency: Initial Frequency, 6 Nov*72

Nuclear Uniqueness. 18 Feb*73

Structure, 25 Dec*o8

Tunability, Jun*66

Wire Wheel, 4 May'57

Thirty Minimum Topological Characteristics, (1)

Geometrical Function of Nine, (7)

VE k Icosa, 26 Aug'75

ftBF DuFIKlTIUKS

"... .."hen we stack planar groups of triangular aggregates of spheres on top of one another in such a manner that they will be structurally stable without binding agents ... we nest six balls in a closest-packed triangular planar array on top of the first triangularly arranged ten-ball aggregate. And on top of these six balls we nest three more. We now have a total of 19 balls. ./e may now nest one more topmost ball in the one ` nest* of the three-ball triangle.

".<e now have a symmetrical tetrahedreaal aggregate consisting of 20 balls without any nuclear ball occurring in the center of the tetrahedronal pyramid of ba 11 s.

•Vertical stacking withWa)

begun our symmetrical base triad. 20 is a multiple of ten and now we have a tetrahedron composed of 20 balls. Just as fingers alone might not have been the only reason for the choice of base ten, fingers and toes together may not have been the only reason the - ancient priests chose congruence in modulo 20, or that 20 was considered a magical number. It might have been the result of an intuitive understanding of closest packing of spheres, which is something more fundamental. For unlike our fingers which lie in a row, the packing of 20 spheres which can be grouped symmetrically together without a nucleus

- Cite draft Synergetics chapter 'Numerology,' Pp.2-4, Oct'71

HBFD EDITION

"is a fundamentally significant phenomenon."

"In a tetrahedron composed of 20 balls there is no nucleus.

I think this is why 20 appears so abundantly in the different chemical element isotopes. And 20 is one of the Magic Numbers in the inventory of chemical element isotopic abundance in Universe."

- Cite draft Synergetics chapter, "Numerology," pp.2-4, Oct'71

RBF u:rlM710:»t

Twenty-ness:

'•The vector equilibrium and the icosahedron are the same twenty-ness."

- For Citation and content see Universal Integrity: Vector Equilibrium and Icosahedron (1), 1 Apr'72

Twenty-ness in Mass Ratio of Electron and Proton:



"It is relevant in this exploratory speculating to consider that since enzymes are molecular event integrities and involve electron binding proclivities, this introduces further identification with the fact that the icosahedron's non-closest- packability tends mathematically

to be identifiable exclusively with the migrating, trading independence of the electron and its volumetric relationship to the vector equilibrium, i.e., 18.51 : 20, which is akin to the fractional number relationship of the electron's mass to the proton's mass."

- Cite SYNERGETICS draft at Sec. 2 Oct*72

Twentynesa:

SYNERGETICS Sec. 1055: Twentyfoldness of Ename System Indestructibility," 2 Oct*72

"Many humans alive today are old enough to realize what has happened and can recall many things that have happened contradicted by popular thought.

"In the game of twenty questions as played in my childhood, the first question to be asked was, Is it animate or inanimate?

The words animate and inanimate had been invented by man long before chemistry and biology started. Early humans apparently assumed there was obviously a fundamental difference between warm soft flesh and cold hard stone: ergo the quickest way to narrow the field of potential answers was first to ask, Is it animate or inanimate?

"As humans learned more and more about self and environment, they identified various species by names. At this late 20th century--- with Darwin's work only 100 years old--- humanity has acquired a great deal of knowledge about biological phenomena. A contemporary of Darwin, Dalton, was the leading physicist of the time. Dalton wrongly assumed that the hydrogen atom was the 'building block' of all the 60-other then-known chemical elements. Looking for the building block, or the 'key'¹, to any subject seemed popularly logical."

- Cite THINKING OUT LOUD: PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES. World Mag. 11 Sep*73

"Darwin's theory of evolution was based on the concept of the single-cell amoeba as the building block. In their early days physics, chemistry, and biology were three different worlds.

"Suddenly, scientific instrumentation increased the macro-micro range of eye-piece-visible exploration. It was only as recently as World War 11 that the interrelatedness of physics, chemistry, and biology dawned. In 1940 appeared the hyphens--- bio-chemiswts bio-physicists, et. al., The instrumentation produced overlapping of these previously separate worlds. Post World War I biology developed knowledge of the genes controlling the design of biological species. Further biological exploration focused on the even more fundamental virus. For example, teams consisting of physicists, chemists, geneticists, biologists-- really across-the-board teams of different specializations--- zero in on virology.

"The virology exploration brought discovery of the protein shell of the virus and, within it, the DNA and RNA tetrahedral design codifications of all biological phenomena. All this time there was thought to be a fundamental □ cosmic threshold lying between"

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag., 11 Sep'73

"animate and inanimate phenomena. The individuals co-working in virology have been too busy and too specialized to philosophize on the significance of the incidentally-discovered fact that no threshold exists separating animate from inanimate. The inanimate crystalline behavior of inanimate atoms crosses right over the threshold. We know that humans, too, physically consist entirely of atoms and that atoms are completely inanimate.

'Inanimate

"What is «aMHHXabout all biological organisms has become clearer and clearer, and what is physically animate has become not only less clear but is apparently zero or physically nonexistent. There is no experimentally demonstrable physical animism. Cinema cartoons can be 'animated' to simulate superficially the presence of animism in exclusively atom-structured organic mechanisms. Apparently the original hypothesis erred in assuming that both animate and inanimate were physical. There have been quite a number of weighings of people as they died. Many cancer-doomed paupers have been willing to have their beds placed on scales. The only difference manifest between weight before and after death is that caused by air exhaled from the lungs or urine that has been passed. What-"

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag.. 11 Sep*73

"ever life is, it doesn't weigh anything. I am not credulous when I hear 'pure science* research chemists talking about finding the key chemical constituents of life in Earth-intercepted stardust, or the means by which to synthesize the key enzymes of life and thereby to institute and control the design of life. This chemistry is not life; it is physical. That is, it comprises 100 percent of the physical inventory. Life is metaphysical, weightless, limitless. Each life is an eternally individual, unique pattern of integrity.^{1*}

- Cite THINKING OUT LOUD (3): PHYSICAL TEMPORALITY AND ETERNAL PRINCIPLES, World Mag., 11 Sep*73

"Once you state what your realistic optimum recognition of totality consists of, then you will find how many bits or subdivision stages it will take to Isolate any items within that totality. It is like the childhood game of Twenty Questions ; You start by saying, 'Is it physical or metaphysical?' Next: 'Is it animate or inanimate?' (One bit.) 'Is it

big or little?' (Two bits.) 'Is it hot or cold?' (Three bits.) It takes only a few bits to find out what you want. When yam we use bit subdivision to ferret out the components of our problems, we do exactly what the computer is designed to do."

- Citation and context at Bits. Jun'66

See Irrelevancies: Dismissal Of

Bits: Biting

Reduction ad Absurdum

"The senith constancy of the transformational projection's topological trigonometry discretely locates the common senith points of any counonly centered concentric surfaced systems.

"if camera-equipped telescopes were mounted aboard Eartg-dispatched- and-controlled satellites, which satellites were 'locked*' in fixed formation flight positions around our planet Earth with one such fixed satellite hovering steadily over each vertex of

a one-mile-edged triangulation grid, and each telescope was trained in such a manner that die eyepiece of its eyepiece-to-optlcs' axis is pointed exactly toward the center of the plerjtt Earth, and its outer optics' end is pointed exactly toward whatever star, if any, may be in exact zenith over the point on the surface of Earth above which the satellite was vertically positioned, a human on Earth at any one of those points looking vertically outwardly into the heavens with a radarscope would discover that satellite as a blip in the middle of his scope-viewing-tube*s grid.

"Now let us have an around-the-world simultaneous clicking of the shutters of the cameras attached to each of the telescopes

$\frac{1}{2} \left(\frac{1}{\sin \theta} + \frac{1}{\cos \theta} \right)$ of each of
 those around-the-sartk-fixedly-hovering photo-satellites with”
 - Cite sYNtKGETICS draft St Secs. 1110.01-.03, 25 Jan'73
 RBF DEFINITIONb

"their telescope* pointed to whatever star* may be vertically out-
 ward from the Earth at their respective omni-Earth-triangula-
 ted, one-mile-apart, grid vertexes. Let us assume the photographing
 telescopes to be very long-barreled to shield those not pointing at
 the Sun from its intense luminosity. A composite mosaic of all those
 pictures could now be print-mounted spherically on the inside of
 a translucent 200-foot globe of Earth's conventional geographic
 data of continents, islands, etc., together with the conventional
 latitude-longitude grid. Because they were photographed outside
 the Earth's cloud cover they would present a composite and accurate
 spherical picture of what the navigators and astronauts call the ce-
 lestial sphere with the relative brilliance of the stars in evidence with
 astronomically calculatable corrections being made in the printing
 for the Sun luminosity effects.

"rfhile this picture was onentationally unique to its one moment in
 eternity in respect to the harth-to-celestial-sphere orientation, the
 Earth data per se ana the celestial sphere data per se remain constant
 at their magnitude of scrutability within the lifespan of any human.

- Cite iXiMtatuETICb draft at bees. 1110.0J-04, 2\$ Jan'73
 KBF UhFIftliluWb

"Because of the accuracy with which this spherical picture was made
 it would also be possible to take a transparent plastic 20-foot globe
 of the Earth with the latituae-longitude grid and the continents ana
 islands outlined, together with the marker points identifying the re-
 spective positions of the satellitemounted telescope cameras at the

time of the photographing, and to position the 20-foot Earth globe within the 200-foot celestial sphere globe within the miniature Earth's spherical center congruent with the spherical center of the 200-foot celestial sphere.

"it is then possible to orient the miniature 20-foot diameter Earth globe so that its polar axis is pointed toward the North Star, making a small correction to correspond with the astronomical correction for the strall aberration well-known to exist in this respect, which is negligible in this description of the properties of our triangular geodesics transformational projection. We may then rotate the miniature Earth 20-foot globe around its axis until a sighting from its exact center will register each of the stars of the 200-foot celestial sphere which the satellites photographed in exact verticality outward from Earth."

- Cite SYNEKUETiuo draft at bees 1110.05-06, 25 Jan'73

"The Earth's highest mountain top is five miles above sea level and the ocean's deepest bottom is five miles below sea level. We could now modify the surface of our transparent plastic 20- foot model of the Earth to show those aberrations which would show that some parts of the Earth's surface have a different radial distance from the Earth's center; but it would be in evidence that the stars would be in zenith over the same latitude-longitude grid points as would also be all of the satellite photographic stations.

"Finding that surface aberrations include only radial distance variations and changes in the spherical surface line-of-sight projections from the /fonter, we will now introauce a clear plastic shell model of a whale, and another of a crocodile ^{ag5gBS}---of such sizes that the crocodile is large enough to omnisurround or swallow the 20-foot miniature Earth globe, and the whale is large enough to swallow

the crocodile yet small enough to be inside the 200-foot diameter clear plastic celestial sphere; With omnidirectional spokewires we will now tensionally position the whale within the 200-foot celestial sphere and we will tensionally wire-position"

- Cite SYNEKGELICb draft at Secs. 1110.07-08, 25 Jan'73

"the crocodile within the whale, and the 20-foot miniature Earth within the crocodile with the miniature Earth oriented as before, its volumetric center exactly in congruence with the center of volume of the celestial sphere, with all the stars at the time of the photographing in register with the same satellites which photographed those particular stars.

"Now the whale's and the crocodile's surfaces will be at a great variety of different radii distances from the concentric volumetric centers of the 200-foot and 20-foot spheres. We are going now to coat the surfaces of the transparent whale and transparent crocodile with a photosensitive emulsion after which we have a high intensity light source flash at the common volumetric centers of the 20-foot and 200-foot spheres. This process will reproduce on the plastic skin of both the whale and the crocodile--- as well as on the celestial 200-foot sphere--- the triangular satellite positioning grid together with the latitude-longitude grid and all the Earth's continental and insular outlines. Then, traveling with a pencil beam strobic light on the outside of the 200-foot celestial sphere we will point vertically inward against each of the stars, thus project-

- Cite SYNEKGETIUb draft at Secs. 1110.08-09, 25 Jan'73

**ing their positions radially, i.e., vertically, inwardly to register on the skins of both the whale and the crocodile and on the 20-foot Earth globe. Now, with the human eye at the common concentric centers of volume of the 20-foot and 200-foot spheres, as well as both the

whale and the crocodile, we may sight outwardly--- which is inherently radially--- in all directions, and will observe that all the grids and all the geographical and celestial star data appear as one grid, being in exact radial register. We have all the same grids and data on all four of the concentric surfaces: 200-foot celestial sphere, whale, crocodile, and 20-foot Earth globe. That registering of all data is obviously independent of radial distance from the common center; ergo, the only variable in the system is the radius to any given point within the concentric systems.

"As we have demonstrated with geodesic domes and spheres, what is meant by compound curvature is 'omni-intertriangulated structuring (i.e., balanced connectors) of concave-convex surface points'. Given a unit radius sphere and the known central angle between any two radii of known length, then the length of the chord running between their outer ends may be calculated by trigonometry by running a line from the sphere center per-*

- Cite SFUERGETICS draft at bees 1110.09-10, 25 Jan<73
KBF UEFIINITIUMS

"pendicular to the midchord and solving for the right triangle thus formed, whose halved-chord outer edge is the side opposite its central angle which is half the central angle originally given, and we know that the sine of an angle is the side opposite. When radius is assumed to be one then the well-known sine of 1/2 the original angle given is the length of that half chord. With the chord length calculatable for a given central angle it is easy to calculate the length of any line running between the outer end of one of the radii to a position on the other radius at a known distance outward from the spherical center. With this knowledge we can design struts of suitable structural material, say aluminum tubes, and we may triangularly interconnect all the vertex

points of the triangular grid of the 200-foot sphere, then we can triangularly interstrut all the grid points on the inside of the whale, then we can interstrut all the grid vertexes of the crocodile, and finally intertriangularly strut the 20-foot Earth globe.

"Now again, viewing outwardly in all directions from the common volumetric centers of those concentric forms, we will see nothing changed because all the struts will be in register with all the"

- Cite bYNErtGETiUb draft at Secs 1110.10-11, 25 Jan*73
KBF uEFInrriuiiS

"lines of the four separate grids. We may now dissolve the plastic SKins from all four shells: the 200-foot celestial sphere, the whale, the crocodile, and the 20-foot globe, and we will find that all four hold their shapes exactly as before and, being intertrussed I intertrussea ana intertriangulatea are the same woras: Truss: Trace: ana Triangle.) between vertexes of the grid, and the grid now being omnitriangularly interstructured, we may again sight outwardly from the volumetric center and, if photograjiing what we see, we will see only the same lines in exact register that we saw at the time of the original first spherical printing.

"Since the speed of light permitted astronauts to understand and adopt the light year in their observational data, we have learned the great variation of radial distances outwardly to the different stars, in the Big Dipper one star is hardly 200 light years further from earth than the next one on the handle that is a distance of 200 quadrillion miles further away from you and me than is the other, if we ran rods radially from the volumetric center of our model outward perpendicularly through each of the stars shown on the 200-foot celestial sphere to a distance perpendicular outwardly from the 200-footer equal to their"

- Cite bYNERGETiCo draft at bees. 1110.11-12, 25 Jan'73

"distance away in light years from the Earth, with the 200-foot sphere's 100-foot radius equalling that of the nearest star other than the sun, and assume that the cameras had photographed only those stars visible to the naked eye, then a few of the rods would reach outwardly ten miles, but most of them would be much nearer in, with one of the Big Dipper's one mile out and another a half-mile out. It would make a vastly varied porcupine if we mtertriangularly interconnected the outer terminals of the lines of interconnection which would as yet be in exact register with the original grid as seen from system center.

"Now let us separate the four structures by opening up an approximate equator in the outer ones and rejoining the equatorial points. The celestial porcupine rolled into our deepest ocean and then resting on the bottom, its top would reach outwardly above the ocean surface to the height of Mt. Everest with its densest, most high-frequency trussed spherical core being only 200 feet in diameter and occurring at ocean surface. The triangularly trussed 1'75-foot whale would hold its shape and size as would also the bO-foot crocodile and the little 20-foot miniature Earth, Obviously they could not appear more differently

- Cite sTNEttGETiuS Secs. 1110.12-13, 15 Jan'73

"Our triangular geodesics transformation projection would show all of these four dissimilar systems in the flat plane in exactly the same manner and in exact register with that of the Earth alone as shown later in the icosahedral flat-out of the world nap, but with a number (or numbers of different styles) shown at each grid vertex, which number indicates the radius distance of that vertex outwardly from the center point of the system 'Earth.* Four different colors: blue for the

celestial, black for the whale, green for the crocodile, and brown for the 20-foot Earth globe, would identify the relative radius distances outwardly from the congruent systems* center which occurs at each vertex of these four utterly differently shaped and sized systems---all on the same map. This would provide all of the data necessary to reconstruct each of the four systems in exactly the same relative sizes. Every point in the four systems remains in exact perpendicular (zenith) whether in the spherical or planar flat-out phase or any interim transitional phase. This makes possible the design of an airplane or an ocean liner all on one map. And the flat-out map may have its triangular mosaic pieces rearranged in many ways, for instance, to center the oceans or to center the lands. And the building of that airplane or ocean liner, as with the geodesic dome, will generate"

- Cite blhEkCETlCo draft at Secs. 1110.14, 25 Jan*73

"compound curvature, omnifimte, tensegnty trussing far stronger and lighter than the presently designed and built XYZ-parallel coordinate grids and their parallel plane sectional designing.

"With omnidirectional complex computerized world satellite sensing, comprehensive resources inventorying and inter-routing, the triangular geodesics transformational projection can alone bring visual comprehending and schematic network elucidation.

"Just as triangular geodesics transformational projection can alone reduce the astronomical to the cosmic middle ground of eye-comprehensible coordination with the mind explorations and formulations in metaphysics in general and mathematics in particular, especially in relation to computer programing, so too, may the triangular geodesics transfer national projection enlarge the complex invisible microcosmic patterns to eye- and sense-comprehendibility."

- Cite SYNErtGEriCS draft at Secs. 1110.14,15-1&, 25 Jan'73

See Amino Acids

DNA-RNA: Twenty-sphere Models

Icosahedron

Magic Numbers: Isotopal Magic Numbers

Precession of Two Sets of 10 Closest-packed Spheres

Twenty; 20 :

(2)

See Equilateral, 11 Oct'71 Nothingness, 16 Nov'72 Omnilibrium, 19 Feb'72 Powering: Fourth Dimension, 15 Nov'72 Universal Integrity: VE 4 Xcosa (1) Tensegrity: Twelve Pentagons, Aug'72 Somethingness, 16 Nov'72 Vector Equilibrium, 2 Oct'72 ; 19 Nov*74 Fourth Dimensional Modelability, 24 Feb'75 Tetrahelix, (1)

Hex-pent Sphere, 15 Sep'76

Hex-pent Sphere: Transformation into Geodesic Spiral Tube, (1)

Rhombic Dodecahedron, 12 May'77

Vector Equilibrium: Potential 4 Primitive Tetravolumes, 12 May'77

"... Humans thus find themselves between an absolute, omnidirectional, equilibrious, dimensionless, metaphysical core contained within a spheric lone twilight of macro-almost- true and containing a spheric aone twilight of macro-almost- true."

(Synergetics: 504.14)

- Citation *St.* context at Truth, 22 Jun*75

Twilight Zone:

"...Ilan being pretty much in the middle, as is the truth itself in a kind of twilight zone on either side of the truth--- both macrocosm and microcosm, kind of closing in on it. No chemist is ever going to improve that situation

- Citation and context at Middlef .-eb'73

' ` And I speak of intuition as the phenomenon that occurs in the twilight song between the clearly conscious and the clearly subconscious. There is a twilight where there are drives and capabilities, where the genius that is in us makes us look in a direction intuitively."

- Citation and context at Intuition of the Child (1), Feb'73

Twilight, Zone:

"...There is a twilight zone that is neither clearly subconsciousness---- no consciosness at all--- and clearly something you and I tend to call consciousness."

- Citation and context at Conscious and Subconscious, 19 Oct'70

Twilight Zoqq:

"There are two Inherent twilight tones of tantalliingly a Imost-relevant recollections spontaneously fed back in contiguous frequency bands--- the macro-twilight and the micro-twilight."

- Cite INTRO. TO Oi-INIDIRECTIONAL HALO, p.125, 1959

3ee Conscious & Subconscious Considerable Set Considered Set Intuition & Aesthetics Intuition: Second Intuition Irrelevancies: Dismissal Of Relevant: Almost Relevant Relevant: Lucidly Relevant Set Threshold

(2)

See Cognition, 1960

Conscious 4 Subconscious. 19 Oct'70*

Halo Concept, 1960; Nov ` 71

Intuition of the Child (1)*

Middle, Feb*73*

Reality as Structural Interaction of Principles. 1963

Truth, Feb'73; 22 Jun»75*

Zoned System: Zone Limits, Feb¹73

Intuition Sequence (3)-(6)

Point, 9 Jun*75

See Heavenly Twins

Twin-spin

KBF UEFIINTIONS

"There is a unique $5^{\circ} 16'$ -ness relationship of the A Quanta Module to the symaetry of the tetrahedron-octahedron allspacefilling complementation and other aspects of the vector equilibrium that is seemingly out of gear with the dlsequillb- rioue icosaneareon. it nas a plus-or-minus Incrementation quality in relation to the angular laws common to the vector equilibrium.*

Twinkle Angle;

' 'There is a $5^{\circ} 16'$ -ness in relation to the A Module which is part of the symmetry of the terahedron-octhhedron and which is seemingly out of gear with icosahedron. It is the sanfi 5 degrees and 1t> minutes which has a plus and minus quality m relation to the icosahedron but we don't usually think of much connection between the angular laws of the vector equilibrium and the icosahedron. But the $5^{\circ} 16'$ is in there. Common to both is the $5^{\circ} 16'$ where it goes minus this or plus this.

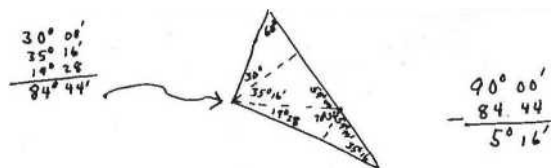
"There is a very very small fraction of difference between 6° and the $5^\circ 16'$. We are talking about the A Module relations as the foldable triangle consisting of four smaller triangles which fold into the A Module. And the basic triangle, or $\frac{1}{120}$ th of a sphere which is the six right triangles subdividing each of the 20 equilateral triangles of the icosahedron. It occurs spherically, but it doesn't make any difference whether it is spherical, the angles are the same: the thing would fold over if it weren't for the 6° ."

- Cite RBF tape transcript. Chicago, Blackstone Hotel - Synergetics V. 1 June *971. Pn. 15.16.

|
A + B. rtsoutes-Scc.

Twinkle Angle:

"The faces of an A particle unfold to form a triangle with $84^\circ 44'$ as its largest angle. This is $5^\circ 16'$ less than a right angle. $5^\circ 16'$ is Fuller's 'twinkle angle.'^{1*}



Cite "0", p. 20. Signed R.B. Fuller, Copy-

right 1955

AiB QUJ>»/T4 MOOMLFS -SFC.

See Equinagnltude Phaeeee

See Cosaic Neutral, 16 Dec*73

Dihedral Angles of Tetra & Octa, 16 Dec*73

Se® Co-orbiting

See Tension, 28 Jan'69

KBF UbFlhlTluNS

Twisting;

"We always have the twisting--- the vectorial near-miss--- at the corners of the tetrahedron because not more than one line can go through the same point at the same time."

The Leak in the

- Citation and context at Tetrahedron: Tetrahedron¹ a Cornera, 20

Twist-pass;

See Domains of Convergences, 7 Nov'73

See Jitterbug

See Onnlequillbrum, (2)

Twlft Vertex of \mathbb{E}_{xlt} ;

See Tetrahedron: Leak in the Corners Vertexial Connections Vectorial Near-mis3

See Local Twist

Motion: Six Positive k Nefptive Motions

Tepee: Half-spin Tepee Twist

Torque

Turbining

See Interprocess, 29 May'72

Tetrahedron: Leak in the Corners, 20 Dec'73*

Two:

"Interval and differentiation are introduced with two.

- Citation and context at Prime. 17 Feb'73

Two;

"We should not use this illustration (#45) in SYNERGETICS. It doesn't say anything. What is the cube doing in there? My arrow at the bottom caption is meant to illustrate Peter Pearce's characteristic® tendency to confuse Euler and Synergetics with a failure to identify and credit Fuller. The extraction of two polar vertexes is presented by Pearce as an established generalized consequence of Euler; not as a unique aspect of Synergetic Geometry. This function of the two vertexes was not known to Euler; it was a discovery of R.B.F."

- Cite HBF to EJA, J200 Idaho, 25 May'72

Two:

'The difference between infinity and finity is always exactly two, or 72G degrees, or two times 36c degrees, or two times unity.**

- Cite RBF to $\pm Jk$

Beverly Hotel, New York 7 larch 1971

RBF DhFIKITIOhS

Two:

'It takes two to make a baby
But it takes God to make two."
God is twoing."

HL'..f-±-iT4b*~~X~~

- Citation & context at God. Cct'66

Twa:

"Substituting the word tetrahedron for the number two completes my long attempt to convert all the residual heretofore unidentifiable integers of topology into geometrical conceptability."

- Citation at Unity aa Two, 1960

Two: (1)

"My main conclusion when I first explored the field of topology (after energetic geometry experience) was that there is far more significance in the 2 of the F, V, E, 2 relationships than meets the eye. For instance, it could be written $(V - 2) + F \ll E$, and what is really important is that this 2 is (thus an?) extra 2 or pair for axis (isolation) that appears in the plus two balls in every layer of the vector equilibrium spherical agglomeration. .Vertexes + Faces + Poles - Edges, is my form of topological law, which also makes a value of 2 implicit for the central ball which is 0^4 radius $\times 10 + 2 = 2$ ($= 0 + 2$).

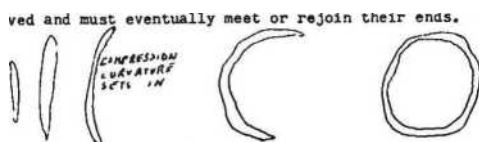
"This assumption turned out to be well supported when a hole was made in our planar bound solid, for it eliminated the axis, cored it out as with an apple, and left the neutral axis in space (but implicit) and the 2 seemingly dropped out (of?) the formula as would the neutral axis drop out of a victrola disc by putting in a central hole."

- Cite Ltr. from RBF to Duncan Stuart, 10 Jan*50;

as transcribed by DF; first parenthetical query by DF; second parenthetical query by EJA.

Two; $<^2$

"1 then went on to calculate that which really happens when a ring or doughnut construction is considered, is that all such rings are lines--- lines--- which are all inherently



Evolution of Point to Ring

"Note: Point shuttles 2 ways, passing midpoint twice for each terminal visit. . its occupational frequency swells the center of the shuttle trajectory space involvement."

- Cite Ltr. from RBF to Duncan Stuart, 10 Jan'50

Two Balls Coming Together:

See Balls Coming Together Lines Between Two Sphere Centers

bta-.

Bonus Two;

See Somethingness, 16 Nov'72

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1013.13, 11 Sep'75

See Powering: Second Powering Superficiality

No Two-dimensionality

See Geometry of Reality. May*49

Left i Right, 4 May*57

Omnidirectional. 17 Feb'72

Variables: General Theory of Variables, 19&0J NOT*71

Six Motion Freedoms & Degrees of Freedom, (1)

Two-and-a-half Split:

See Number:

Tyfans: (A)

"There are two kinds of twoness:

(a) the numerical or morphationally unbalanced twoness;

and

(b) the balanced twoness.

The vector equilibrium is the central synnetry through which both baiced and unbalanced asymmetries pulsatingly and complexedly intercompensate and synchronize. The vector equilibrium's frequency modulatability accomodates the numerically differentiated twonesses.

"There are four kinds of positive and negative: (1) the eternal equilibrium-disturbing plurality of differentially unique, only-positively-and-negatively-balanced aberratings; (2) the north and south Doles; (3) the concave and convex; and (4) the inside (micro-cosm) and outside (macrocosm) always cosmically complementing the local system's inside-concave and outside-convex limits."

"There is a fourfold twoness: one of the exterior, cosmic finite ("nothingness") tetrahedron, i.e., the macrocosm outwardly"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 223.05-.07, 10 Nov'74

Two Kinds of Twoness: (B)

"complementing all ("something") systems and the interior micro-cosmic tetrahedron of nothingness complementing all conceptually thinkable and cosmically isolable 'something' systems.

"A rock dropped into water precessionally produces waves moving both outwardly from the circle's center; i.e., circumferentially of the Earth sphere, and reprecationally outwardly-and-inwardly from the center of the Earth, i.e., radially in respect to the Earth sphere; which altogether interregeneratively demonstrate (1) the twoness of local precessional system effects at 90 degrees and (2) the Universe-cohering gravitational effects at 180 degrees.

"These are the two kinds of interacting forces constituting the regenerative structural integrity of both subsystem local twonesses and nonunitarily conceptual Scenario Universe.

"The four cosmically complementary twonesses and the four local system twonessjaltogether eternally regenerate the scientific generalization known as complementarity. Complementarity is sumtotally eightfoldly operative: four definitive local systems

- Cite SYNEKGETICS, 2nd. Ed., at bees. 223.07-.08, 10 Nov'74

(C)

"complementation and four cosmically synergetic finitive accountabilities.

"Topologically the additive twoness identifies the opposite poles of spinnability of ajl systems; the multiplicative twoness identifies the concave Insideness and convex-outsideness of all systems: these four are the four unique twonesses of the eternally regenerative, nonunitarily conceptual Scenario Universe whose conceptual think-aboutedness is differentially confined to local "something" systems whose inslideness-and-outsideness- differentiating foci consist at minimum of four event "stars." '

- Cite SYNERGETICS, 2nd. Ed., at Secs. 22J.08 and .09, 10 Nov'74

Two Kinds of Twonesa:

See Heavenly Twins

Inward & Outward Twoness

Twoness: Additive & Multiplicative

Two Kinds of Twoneeq:

(2)

See Syntropy & Entropy, (3)

Local Definability, Nov'7J

Twoneaa:

"Twonesa constitutes a wavilinear relatednesa

- Citation *k* context at System. 27 May*72

Twoness;

"Synergetics is the central symetry through which the asymmetry pulsates. There are several kinds of positive and negative. The eternal temple of positive and negative the North and South Poles; concave and convex; inside and outside. There is a fourfold twoness: one

the exterior cosmic tetrahedron and the interior cosmic tetrahedron; the other is the circumference around the pole. The additive twoness is the poles; the multiplicative twoness is the concave-convex; these are the eternity."

- Citation and context at Eternity (2), 23 May'72

Twoneaa:

"The word 'line' was nondeflnable: Infinite. It la the axla of Intertan- gency of unity ae plural and cfplmin two. Awareness begins with two. This ie where epistemology cones in. The 'line' becomes the axis of epln. Even two balls can exhibit both axial and circumferential de- grees of freedom."

- Citation at Line, 19 Jun*71

~~» C U « » L D F E J A . BeyeFlxHotet, New: fork~~

~~TwfiBlift-~~

"It is a surprising thing that all closest packing begins with two balls rather than omnidirectionally. Two balls coming together is where thought begins. . . it is a wedding thing. . . and it is very beautiful the way the two balls reoccur at each wave outwardly."

~~- cm aw -ff~~

~~]Rw-Yojpk-t?-JunalfilK~~

- Citation at Balls Coming Together, 19 Jun'71

RBF DEFINITIONS

Twoness

"... Twoness la the beginning and essence of consciousness, with which human awareness begins consciousness of the other, the other experience the other being, the child's mother. . . « Life and the universe that goes with it begins with two spheres: you and me . . . and you are always prior to me,"

- Citation and context at Other. 19 Jun'71

-Synergies-

Twonesa:

"Maybe twonesa is the axis of refeijnce.

~~- Cite RBF to PMA
Beverly Hotel, New York
15 March 1971~~

- Citation at Axis of Reference_t 15 Mar*71

Twonesa:

"A minimum of two cycles is essential to frequency
fractionation."

~~FinMCCTIH "Cowl In I leii," .lnr. -~~

- Citation & context at Fractionation. 1971

KBF DEFINITIONS

Twoness:

"The extension of edges through any one vertex of a tetrahedron form
positive and negative tetrahedra.

"A vertex passed through the opposite face will form another version
of positive-negative tetrahedra.

"These are examples of the essential twonees of a system.

(Adapted.)

(See Illustration. 19.)

- Cite SYNERGETICS ILLUSTRATIONS, caption #19 1967

Twoness:

"The discoveiythat a structural system may be described as the sum
of its surface angles /in increments of 72027 - . . bears out . . .
that the tetrahedron is the basic quantum unit. It also demonstrates
the fundamental twoness of the energy quantum's proton-neutron.

It also provides the experiment basis of the Theory of Functions in which a function can only and always coexist with another function as demonstrated experimentally in all systems as the inside-out, convex-concave, tension- wompression couples."

- Cite WWHt. -DR A rr TTrfrft-

~~—PTl S N i II i "i~~ii 11

- Citation at Functions: Principle Of. Jun*66

Twoness:

"The octahedron has a fundamental twoneas: its volume of four being made up of the prime number two."

Carbondale-Draft---

tin -Mftd «1 eh 4 H t y, p V, 7

- Citation at Octahedron, Jun¹66
- Cite riASA » pecan, p. ?3 fan*66

Twoness:

' 'The theory of functions holds for universe itself.

Universe consists at minimum of both the metaphysical and the physical. The fundamental twoness of physical universe was embraced in Einstein's one word, 'relativity,' and in a more specific and experimental way in the physicists' concept of complementarity."

- z-Cise Carbondale -Draft---

- • -RetTnTrTTr-Hedalaixilit—P, Y<3-

* citation at Relativity. Jun'66

Twoness:

"Topologically speaking, there are in all systems the additive twoness of the poles and a multiplicative twoness of the coexistent concaveness and convexity of the system's insideness and outsideness respectively."

(See Illustration # 17.)

CARBQNDai.fi BRATT IV.U

- Cite NASA Speech, p.62, Jun'66

Twoness:

"Twoness and Oneness can't make a system. They don't have insideness and outsideness at all."

- Cite Oregon Lecture #7, p. 248. 11 Jul'62

Twoness:

`` Because the permitted conceptuality involves a unit expenditure from Universe of a de-> finite twonesa. unit conceptuality must have a finite twoness penditure value, ergo prime conceptuality unity acquires an inherent value of two. Unity is inherently plural. Unity is always divisible as twoness. or fourness, or sixness, of inherent minimum relationships."

- Citation at Unity, i960

Twoness:

"Unity is complex and at minimum two."

- Cite Synergetics Corollaries, COLLIER'S. Oct'59

RBF DEFINITIONS

Twoness:

"... The system has inherent yet empty twoness."

- Citation and contMtt at Magnetic Field, May'49

"Synergetics is the central symmetry through which the asymmetry pulsates. There are several kinds of positive and negative. The eternal temple of positive and negative, the North and South Poles; concave and convex; inside and outside. There is a fourfold twoneas: one the exterior cosmic tetrahedron and the interior cosmic tetrahedron; the other is the circumference around the pole. The additive twoneas is the poles; the multiplicative twoness is the concave-convex; these are the eternity.

"A splash of water demonstrates waves and we get precession at 90° and gravitational at 180°.

"There! 'Two kinds of twoness.' Wouldn't that make a pretty good song?"

- Citation <5. context at Syntropy & Entropy (2) (3), 23 May*72
SYNeKlrici - sec lrz.3.osj

'We find all the hierarchy of all the crystal-izations to be rationally developed in respect to the prime system. This hierarchy, always can be topologically analyzed in the terms of two polar vertexes which we call the additive twoness and a concave-convex multiplicative twoness. after the removal of both of which twonesses we find a constant relative abundance of one vertex plus two faces and three edges times one of the first four prime numbers, times frequency of modular subdivision to the second power. . . "

- Citation &, context at Frequency, Jun'66
Twoness; Additive Twoness & Multiplicative Twoness:

"Topologically speaking, there are in all systems the additive twoness of the poles and a multiplicative twoness of the coexistent concaveness and convexity of the system's insideness and outsideness respectively."

- Citation at System. Jun'66

Ttfonesg.: WiUY.e *frf9n?sg & Mu.3AAPllgat.AYP Twapesa?

"...The difference between finiteness and infinity is two. The inherent disparity of convexity and concavity introduces an inherent multiplicative twoness. As the chart shows... the additive twoness is that of the two polar points... When the additive twoness and the multiplicative twoness are extracted from any symmetrical and omnitriangulated system, the numbers of vertexes will always be a rational product of one or more of the first four primes: 1, 2, 3, and 5. The number of faces will always be twice the number of vertexes minus two; the number of edges will always be three times the number of vertexes minus two."

- Cite Marks, p.138, Fig. 1-8, caption, i960

See Heavenly Twins

Inward &. Outward Twoness

Two Kinds of Twoness

Interrelationship Twoness: Third Kind of Twoness

Spin Twoness & Duality Twoness

See Axis of Spin, (5)

Cosmic Discontinuity & Local Continuity, 1? Jan'74

Eternity, (2)

Frequency, Jun'66*

Radial-circumferential, Aug'71

Synergetics, 29 Nov'72

Syntropy & Entropy, (3)

System, Jun'66*

Twoness, Jun*66

Vertexial Topology, Aug'?1

Twinnasa of Dynamic Reciprocities:

See Reciprocity, (2)

laa: Multiply the Universe by Two:

See Mirror-image; 22 Jul*71

Universe Divisible by Typ:

See Unity M TWO, 1 Feb*75

See Additive Twoness Binary Connectivity Coring Dual: Duality Euler's
Twoness Implicit Two Inward & Outward Twoness Magic Numbers
Minimum Twoness Minus Two

Multiplicative Twoness Plus Two Second

Triangle as A Priori Two Unity As Two Unity Is Plural Spin Twoness
Duality Twoness Interrelationship Twoness Environmental Twoness

See Tetrahedron: Two Tetrahedra

Polar Vertexes

No Twogon

Invisible Twoness

Interconnection of Any Two Lines Interconnection of Any Two Points
Fourfold Twoness

See Axis of Reference, 15 Mar*71* Balls Coining Together, 19 Jun'71»
Circuit, 6 Nov'72 Energetic Functions. 1954- rt Auv'77

Eternity (2)* ' g^H

Finite Furniture. Feb'50 Fractionation, 1971* Functions: Principle Of
Jun'66* God, Oct*66*

Integral, 11 Mar'69
 Line, 19 Jun'71*
 Magnetic Field, May'49*
 Number: Even Number, 26 Sep'73 Octahedron Jun'66*
 Other, 19 Jun'71*
 Prime. 17 Feb'73*
 Radial-circumferential, Apr'72 Reciprocity (2) Theta, 11 Mar'69
 See Unity, Feb'50; OMHB
 Zero Frequency, 29 May¹72
 Unity as Two, i960*
 Universe, 10 Dec'64
 Universe: Toward Oneness, 10 Dec¹64
 Scheherazade Numbers: Declining Powers Of, 1 Feb'75
 General Systems Theory, (1)
 Inside-outing, 17 Jun*75
 System, 27 May»72*
 See Two Balia Coming Together
 Two: Bonus Two
 Two-dimensionality
 Two-and-a-half Split
 Two: Multiply the Universe by Two
 Twoness: Additive Twoness k Multiplicative Twoneaa
 Two: Universe Divisible by Two Twoness of Dynamic Reciprocities
 See Three-way Weaving vs. Two-way Crisscross Two-way Rectilinear
 Grid

Txg-way Feedback:

See Dla-logue, 14 Feb*72

^TWQ-WnY:

See Curvature: Simple, (2) Decentralization 4 Centralization, 1 Apr'49

"To the Greeks a two-way rectilinearly intersecting grid of parallel lines seemed simpler than would a three-way grid of parallel lines. And the two-way grid was highly compatible with their practical coordinate needs for dealing with an assuredly flat plane Universe. Thus the Greeks came to employ 90-degreeness and unique perpendicularity to the system as a basic additional dimensional requirement for the exclusive, and consequently unchallenged, three- dimensional geometrical data coordination.

"Their arithmetical operations were coordinated with geometry on the assumption that first-power numbers represented linear module tallies, that second-power N^2 - square increments, and that third-power N^3 • cubical increments of space.

First dimension was length expressed with one line. Two dimensions introduced width expressed with a cross of two lines in a plane. Three dimensions introduced height expressed by a third line crossing perpendicularly to the first two at their previous crossing, making a three-way. three-dimensional cross, which they referred to as the XTZ coordinate system."

- Cite SYNERGETICS at Sec. 825.31 + 32, Sept'72

See Local Squareness Rectilinear Grid Systems Tv/o-way Crisscross'

Tycho Brahe:

1210 (p.738)

?» »»» UrTTHTTHAUC ~ ? ii A i >rtto

Type: To Save Time. Tape & Type:

See Creativity, May'65

See Omnidirectional Typewriter
(2)

See Buildings: Multiple Occupancy, 30 Apr'74

City (3)

City as Center of Abstract Intercourse, 14 Oct'69; (1)

Nature Has So Many Options. 19 Oct¹'70

Office Buildingw, 28 Jun'72

New fork City, (7)

Invented Jobs, 20 Sep'76

See Energy Magnitudes: Order Of, Jun'66

U

Ugly - Incompetent;

See Fleet of Sailboats, Aug'72

Ultimate Complexity:

See Individual Universes, <2)0}

Ultimate Computer:

“The ultimate computer— ultimate, meaning here: the most comprehensive* incisive, and swiftest possible, information storing, retrieving, and variably processing facility with the least possible physical involvement and the least possible investment of human initiative and cosmic energisation.”

- Citation and context at Atomic Computer Comdex (4), 13 May '73

Ultimate Entropy;

See Hell, kay'72

Ultimate Generalisation:

See Universe, (pp.14<j-!4?) Kay*72

See Absolute

Limit

Ultracoapc;

See Zero Wave, 9 Mar*73

See Atomic Computer Complex, (9)A

ui,fr*Bgphigt

See Hyphenated Science, 18 Apr'6j

See Kxtrasensoriallty

Non-aenaorality Tunability: Infra &. Ultra

yitraognlbg:

See Quantum Mechanics: Minimum Geometrical Fourness, (1)

Ultratable:

See Infratable & Ultratable

Ultravisiability:

See Infra & Ultravisiability

Uli!@:

See Intra 4c Ultra

Frequency? High Frequency

KBF DbFINITIuNb

'•The child in the womb is linearly connected to the mother by the umbilical cord. Exiting from the womb, the child graduates from the umbilical, linear dependency and goes into individual orbit. The umbilical cord becomes obsolete. There was nothing wrong with it. It was vital. But now it is obsolete. ..."

at Ecology Sequel (H), 5 Jun* 73

- Citation and context

Umbilical Cord:

"The umbilical cord is a linear plug-in. There is nothing wrong with it as a mechanism. But when you are born you go into orbit and the umbilical cord becomes obsolete.

"In the end we may find that the Einstein's Special Theory is special case, radial, and that his General Theory is orbital.

The Special Theory is the umbilical cord, the conceptual and locally dependent gestational phase. The GSferal Theory is the independently orbiting phase now released to only cosmical coordinates.**

- Cite RBF to EJA + holograph, 4 Mar'73

Umbilical Cord:

See Abortion

Metabilical Cord

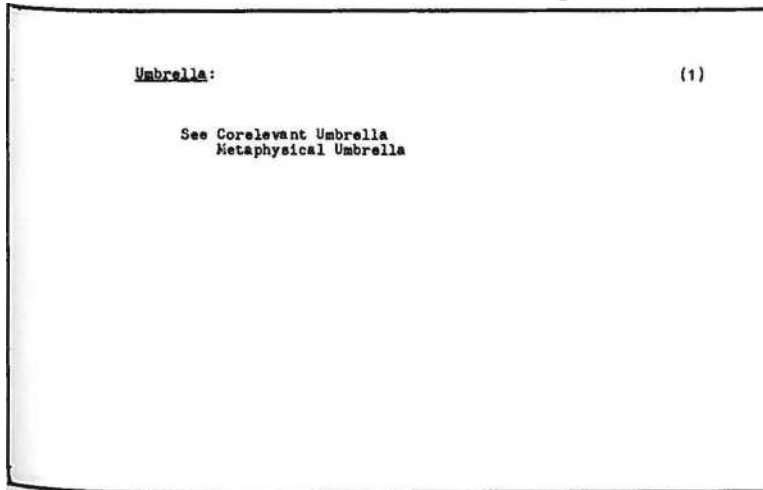
Young World: Generation Gap &. Umbilical Cord

Sea Ecology Sequence (H)» Gestation. 4 Mar'73 Woman is Continuous, 11 Aug'77

Upbraid?

"An unbrolla la a nobile environment-controlling artifact.

- Cite RBF to Ron Goodfellow, Philadelphia, PA: 29 Jul'76



umbrella;

(2)

See Windmills, 28 Jan'75 Now House, (1)(2)

yiwtplt&rable;

Stark_t 29 May'72

Unanswerable:

"'Why Universe?' is at present an unanswerable inquiry into the mystical,... All the time spent in speculation regarding the inherently unanswerable is inherently profitless and a squandering of the pppportunity to answer those questions which are answerable by man."

- Citation t context at Mystical. 20 Jun*66

Unanswerable;

(1)

See Problem: Statement of the Problem Why: The Unanswerable Why

UMaaKssaaXa:

See Decentralise ve. Centralize, 1 Apr'49

(2)

See Vector Equilibrium: Unarticulated VE Articulated 4, Unarticulated
Nonverbal

Un-asked-for:

See Birth: Non-self-requested

Unbalanced:

See Balanced

- Unbalanced

See Dyaaxlon Airocean World Map, (g)

(1)

Unbondlng-rebondlng:

See Articulated & Unarticulated Unstructurings & Restructurings

(2J)

Unbondlnz-rebondlng:

See Visual, 22 Feb¹ 77

"The principle of uncertainty is the degree of indeterminateness in the possible present knowledge of the simultaneous values of various qualities with which the quantum theory deals. It does not restrict the exactness of position measurement alone or velocity measurement alone; the velocity known while the position unknown. Every subsequent observation of the position will alter the momentum by an unknown and indeterminable amount."

- Synergetics draft glossary of terms, May'67

See Approximateness

Heisenberg

Indeterminate: Indeterminism

Measurement

Ujiclutqhablq Mechanical Svateqq:

See Gear Train: Locking it Blocking, 1fi Nov*72

Unconscious: Un<?<?nscflusnff8a»

See Subconscious

Sae Bumblebee, 6 Nov*72

Unconsidered;

See Irrelevancies: Dismissal Of, 6 Feb'76; 8 Feb¹76

Uncored: Uncorlng:

See Euler's Uncored Polyhedral Formula

See Domains of Volumes, 21 Dec'?1; 7 Nov'73

Undef triable:

See Nondefinable

- Citation and context at Race (4), 7 Aug'70

Undgraouriahment:

See Race, (2); (4)

Understanding:

"The derivation of the word is all wrong---like standing under, the French ¹ au dessous.* "The true sense is comprehension. Apprehension is partial awareness which is gratified only by comprehension."

- Cite 29 Sep*76 entry as rewritten by RBF 30 Sep'76.

Understanding:

"The derivation of the word is all wrong—like standing under the French 'au dessous.' The true sense is comprehension.

- Cite RBF to EJA; 3200 Idaho, Wash.DC; 29 Sep'76

Understanding;

"Many principles as yet undiscovered are nonetheless operative. Understanding is exquisitely total. Understanding includes a large increment of intuition to account for the as-yet-undiscovered but nonetheless operative generalised principles.

- Cite RBF rewrite of SYNERGETICS galley at Sec. 529.21.

7 Nov'73

Understanding;

"The geometric frame of referencing function... is served by the vector equilibrium in respect to which... each individual sees differently yet ever intuits to be rigorously referenced to an invisibly perfect prototype in pure principle in respect to which only approachable but never realisable Understanding of one of us by others occurs: 'And it Came to Pass.'"*

- Citation and context at Frame of Reference,. 4 Oct*72

Understanding:

"And everything about a human being that makes you sit where you're sitting in a quiet way is because we're seeking to understand and put in order. Understanding is finding order.

- **Citation and context at Order, Jun-Jul'69**

Understanding:

Citation and context at Man as a Function of Universe. Jun-Jul>69

Understanding;

- Cite Definitions prepared for SYNERGETICS by PETER PrJiRCE,
May»6?

Understanding:

"Understanding". . . consists of 'trying to find qll the prime interrelationships."

(Adapted.)

Cite NASA Speech, p. 92. Jun'66

Understanding:

"When we have found all the relationships between the numbenbf items of our consideration we have what we speak of as understanding. The word 'consider' derives from the Latin words for 'together' and 'stars.' ' /hen we understand. we have all the fundamental connections between the star events of our consideration, ' /hen n stands for the number of stars or items of consideration,

the number of connections necessary to understanding

is always

.² - n

—T~

-Cite SUW-ulHY VISION 65, p. 139, 23 Oct'65

RBF DEFINITIONS

Understanding;

"All experiences are finitely furnished with differentiated cognitions, recognitions and comprehensions."

- Citation and context at Finite Furniture, i960

"Out of this freedom alone understanding may be generated. Man recognizes understanding as an activated circuit of mutual comprehension by individual minds. Understanding must be plural. However, because individual experience is unique, understanding can be developed only in principle out of the compounding significance of plurality of experience. Thus, man knows that the voluntary interactions of understanding dealing in fundamental principles will always master involuntary mass actions, and that individual freedom ever anticipates and ultimately masters mutual emergency." .

- Cite PREVIEW OF BUILDING, Ifcl, pp.19-200, 1 Apr'49

See Culture, 1 Feb'75

Understanding Must Be Plural:

See Understanding, 1 Apr'49

See Intellect: Speed Of. 2? May'72 Understanding, 7 Nov*73

^understanding: Urge to Understand & to be Understood:

See Comprehension, Sep'72 Self-education, 1974

See Absolute Understanding

Cognition

Communication

Comprehension

Greater Understanding

Meaning

Misunderstanding: i.e., Being Misunderstood

Polyhedral Understanding

Recognition

Relationship Analysis

Rule of Communication

Verb of Optimum Understanding

See Communicating (1) Conception, Dec'69 Conceptuality, 2 Jul*62
Dynamic Frame of Reference (5) Finite Furniture, 1960* Frame of Ref-
erence, 4 Oct'72* Man as a Function of Universe, Jun'69* Metaphysi-
cal Experience, 13 Mar'73 Number: Tetrahedral Number, 23 Oct'65
Order, Jun'69* Competition, Jan*72 Synergetics, 20 Jan'75 Think-
ing, 6 Nov'73 Life, 25 Mar'71 Metaphysical &, Physical Tetrahedral
Quanta.

25 Mar'71

Metaphysics, 27 May'75 Belief, 6 Jul'75 Multidimensionality, (2)
Tetrahedron, Nov'71 Generalize, 9 Feb'76 Metaphysical & Physical,
22 Jun'77

ttBF DEFINITIONS

- Citation & context at Chaos. Jun'66

See Differentiable k Nondifferentiable Nondifferentiable

See Chaos, Order,

Jun*66

7 Nov'73

Undimensional Night;

See Windows of Nothingness, (1)

See Unexplained: As-yet Unexplained

Undiscovered Principle.:

(2)

See Generalised Principle, 7 Nov'73

Nature, 8 Mar*73

Understanding, 7 Nov'73

Undiscovered:

See Starting with Universe, 31 May'75

Uneconomic;

"Uneconomic means the mistaken for inefficiency and 'make work* living."

presumption of the necessity

scphat everyone can earn a

- Re seventh line of Industrial Hypocrisy, May'32: EJA suggested word should be "economic" instead of "uneconomic." RBF said No, and replied as above. — 3200 Idaho, DC, 25 Sep'73

Uneconomic:

See Inspectors of Inspectors Make-work

See Earning A Living

Fellowships: Life Fellowships in R & D Lifetime: Personal Lifetime Experience for Elective Investment

See Economic Accounting System! Human Life-hour Production, (1)

upgnplmwv

See Invented Jobe

Make-work

UntXBtC.tOd:

See Expected vs. Unexpected

Unexplained: A_a-vet Unexplained:

(1)

See Inexplicable

Mystery

Undiscovered Principles Unknowable

See Universe, 8 Mar'73

Unfainillarity / Unnatural:

See Natural, 20 Jan'75

PaftaiUws

(D

See Subtlety i Muchness of the Unfamiliar Unfamiliar / Unnatural

See World Game as Football Game, 23 Aug*70

See Intangible Touchable

See Modern, 1 Jul'62

Unfolded Nothingness;

See Nine, 16 May*75

Tetrahedron: Nine Schematic Aspects, 30 Aug*75

See Humanity, 30 Oct'73

**Duality of Universe, May'49 Comprehension, 10 Jan'74 Geometrical
Functions of Nlne,(3)-(6) Thinking, 10 Sep*75 Triacontrahedron, 12
May'77 T Quanta Module, (1)**

Unheard:

See Heai*d & Unheard

Unhinged. Unhinging?

See T Quanta Module, (1)(2)

Unhousable Half of Humanity:

See Building Induetry, (3)

See Constant Angle

Uniform Angle

Regular - Uniangular

Unl-aneular Vectorial Convergence:

See Powering, 16 Nov*72j Jan*72

UnldlrflCtlQn?!:

**See In & Out: Go In to Go Out , 16 Dec'73 In, Out 4c Around, 17
May¹77**

Unified Field Theory:

See Einstein: Unified Field Theory

- Citation 4 context at Octahedron as Annihilation Model, 30 Dec*73

See Vector Equilibrium, 23 Oct'72

RdF DEFINITIONS

"Any incremental module rule could be made into the spherical uniform boundary scale. You just never break open the system."

- Citation & context at Vectorial fc Vertexial Genmeti-v, 2? Jan*75

See Boundary Layer

Increment

Module: Modular Subdivision

Time-sizing

See Projective Transfer mation Model, (II) Transformational Projection, 24 Jan'73 Vectorial &. Vertexial Geometry, 27 Jan'75* Dymaxion Airocean World Map, (2)0} Vector Equilibrium, 26 Aug¹75

Uniform Modulation:

See Vector Equilibrium, 23 Oct'72

See Aesthetics of Uniformity

Reproducible Standardization

Unify: Unification:

See Scenario Universe, 22 Apr'68

RBF DuFIMITIUNS

- Citation and context at Interference. 5 Jun'73

See Noninterference

Freqencyless

Unione;

See Labor Unions

Unique;

"•In* is unique to individual systems. One 'out* is common to all system..."

- Citation and context at In and Out. 4 May'57

Uniqueness:

"The infinite variety of evolutionary complexities inherent to the orderliness of the complementary principles operative in Universe is of unending synergetic uniqueness

- Cite MEXICO »63, p. 102, 10 Oct»63

^uniquo Direction:

See Vector, 1\$ Oct'64

- Citation *it* context at Good & Evil Sequence (1), 18 Aug*70

See Ninety-two Elements: Four Unique Frequencies Family of Unique Frequencies

See Domains of Actions, 21 Dec'71

Resonance. 18 Jun'71

Good 4 Evil Sequence, (1)*

Chess: Comparison with Game of Universe, 7 Oct'71

See Pattern Uniqueness

See Individual Universes, 28 Oct'73 Personality, 9 Jan`75 Nuclear Domain &• Elementality, (1)

Unique Perpendicularity:

See Powering 6 Jul'62

Two-way Rectilinear Grid, Sep'72

Uniquely Variant Integral:

See Individual Fan, 10 Dec'64

Unique Way of Playing the Game:

See Individual, 13 May*73

See Elementality

Nuclear Uniqueness

Pattern Uniqueness

Uniquely Variant Integral

See Elementality, 25 Aug'71 In k Out, 4 May'57* Ninety-two Elements, undated Tetrahedron, 1965 Vector, 26 May*72 Intuition, 26 Dec'74 Structure, 27 Dec'74 Vector Equilibrium, 23 Oct'72 Prime Number, 16 Feb'78

See Unique Direction

Unique Frequencies

Unique Patterns

Unique Perpendicularity

Unique Way of Playing the Game Uniquely Variant Integral

Unit:

'Unit means system integrity. Organic means regenerative system integrity. As minimum or prime systems consist of four event foci and their always and only coexisting fourness of triangularly defined planar facets, and sixness of wavelinearly defined minimum set of unique componentation relatedness, unity is inherently plural. Unity is plural. A system is a local phenomenon in the Universe. Each of the conceivable or imaginable awareness or thinkability entities or phenomena inducing or producing onenesses of twonesses are subvisible

and potentially further subdivisible, or as-yet unresolved, ergo unrecognized systems. Functions always and only co-occur as subsystem relativistics, characteristics, inherencies, and proclivities. Functions occur only as parts of systems. The Universe is constituted of a complex plurality of nonsimultaneous and only partially overlappingly occurring systems, not one system."

Unit;

"Tension is unit; universally cohering and comprehensively finite."

- Citation at Tension, Dec*71

Unit;

"Each cyclic 'sizing'¹ increment is one unit of frequency and each cyclic increment inherently constitutes one unit of experienced physical energy."

- Citation t context at Time-size Cyclic Modules, Jul*71

Unit:

"In structural systems, the tetrahedron uniquely articulates the prime number 1, and is therefore logically to be identified as the most economic quantation unit in universal energy accounting."

- f.iiu

- Citation at Tetrahedron, 1960

Unit;

"A sphere is unit, but a line is not because the terminals of a line must represent arbitrary cut-offs,... Tin only possible symbol of unity in plane geometry is the circle."

- Citation 4 context at Curved Space. 1938 rFBF DEFIHXTIuHS

Unit Answer:

"The question is survival, and the answer, which is unit , lies in the progressive sumtotaling of man's evolving knowledge.

- Citation and context at Survival. 1938

Unitary Communication Tools:

See World-around language, 13)

"Unitary conceptuality requires spontaneous aggregating of relevant magnitudes and frequencies of experience recalls."

- Cite SYNERGETICS text at Sec. 780.11, 22 Oct'72

Unitary Conceptuality of Allspace Filling;

"Allspace filling means all unitarily conceptual space filling because Universe, though finite, is an aggregate of nonsimultaneous and only partially overlapping event transformations which, being nonsimultaneous and differentially rate-frequenced, are never momentarily subject to total unitarily synchronized-- ergo, simultaneous, apparently static system--- conceptualization."

- Cite SYNERGETICS text at Sec. 780.40, 20 Oct*72

Unitary Conceptuality;

(1)

See Nonunitarily Conceptual Simultaneity

See Structural Sequence, (C)(D) Thinking, (II)

- Cite RUF to EJA, Haverford, Penna., 11 Cbt, '71.

See Conservation of Energy

-^c,a^snl;

(2)

See Environment, 29 lar'77

United ^uat<iona:

"The United Nations is just an assemblage of 139 different sovereignties geographically deployed around our planet in an integrated nervous system and regenerative blood system of life support---in a world where all the sovereignties are just so many blood clots that will have to go.

"Using another metaphor: we now have 139 completely independent admirals trying to run our one spaceship Earth... having the port side trying to sink the starboard side and the stern trying to break off from the bow."

- Cite RDF to White House Fellows. Watergate Hotel. Wash. DC:
28 Jan*77; as rewritten at 3200 Idaho Ave., 20 Mar*77

United Nations:

See Habitat'76 UN World Conference Unsettling

United Nations:

(2)

See Countries, 12 Aug*70

Nations, Oct'70

Political Mandates: Inventory of, 27 Dec'73

Desovereignisation Sequence, (3)

Planetary Democracy, (1)

North-south Mobility of World Man, (1)

New York City, (6)

"World Sphere"

See Rhombic Dodecahedron #1: United Sphere

"It is more and more in evidence that the United States is not a nation, and we talk very improperly of it as a nation.

It is the beginning of a very important phase of crossbreeding world man. Here is cross-breeding world man on this continent, his young life having been very negative of regarding an older world, but not knowing just what ought to take its place; but now really finding out what can be done. . . . There's no question about it: this young world is going to move forward, and going to move forward very powerfully everywhere, with good working information, to work for what is truly constructive. So that's what you're witnessing."

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69 Saturn Film transcript, Sound 2, Part 3, pp.80-82.

United States: One of the Most Difficult Sovereignities to (1) Break Up:

"I actually feel very sorry for the politicians and pay very little attention to them. I am impressed that when I talk to the Russians, they said to me When President Johnson was in, Johnson is really nearer to our kind of man but there's no use in our meeting with him because any agreement we made with Johnson, the Russians would never ratify. We can only deal with Republicans if we're going to have anything that will stick. I think this is very much the viewpoint of China and Russia; they think there's no use in dealing with people who are in anyway liberal. . . . And I'm convinced that all the sovereignties will have to go! That's clear. We will perish. They were absolutely valid in terms of my roots here, projecting our ignorance. But in terms of our discovering that the metals are not part of the roots; they are very unevenly distributed around the Earth. In order to be able to play this new game it has to be World Game. All the boundaries have to go. Therefore, I simply say, one of the most difficult of the great sovereignties to break up is the United States. Particularly due to the fact that it is operating under a misconception. It calls itself a nation. A nation is a group"

- Cite RBF at DSI Conference, NYC, pp.11-12, 28 Jun'72

United States: One of the Most Difficult Sovereignities to (2) Break Up:

"Of human beings who have been isolated from other human beings for thousands of years and who have developed great inbreeding local characteristics. We are the most crossbreeding phase of world man. We are world man. To call ourselves a nation, nothing could be more nonsense. At any rate, the most difficult of the situations to get corrected is the American political situation because America is moving and becoming world man. Nobody is staying around to watch the politicians. The politicians are getting more and more decentralized, where nobody locally knows what they're doing. . . In order to be able to break up American sovereignty. I think Mr. Nixon is much more capable than Mr. McGovern would be. . . Nixon's re-election might serve history. I feel sorry for Richard Nixon. I feel sorry for all those people. Because I feel he's one of those little. . . rather a small man. Rather preoccupied with Mr. Nixon and he just wants to win anything, just as long as he wins. I feel that his lack of real vision means that the United States will come apart more rapidly. That's all. It has to go. Sovereignty has to go."

- Cite RBF at DSI Press Conference, NYC, p.12, 28 Jun*72
See America

Capital Worth of U.D.

Census of 1810

Labor: American Labor President of the U.S.

United States: Most Difficult Sovereignty to Break Up:
See Desovereignization Sequence, (6)

See China (C)(D)

Locomotion: Radius of Man's Locomotion, (1) (2)

Unit of Environment Control:

"The tetrahedron gives one unit of environment control per structural quantum. The octahedron gives two units of environment control per structural quantum. The icosahedron gives 3/ units of environment control per structural quantum.*1

6/2.10

1 Ci9*NoTM73^{MTICS} teXC at Sac»- 1 1 1 — rewrite,

See Interconnection of Systems, 25 Aug'71

HBF DEFINITIONS

Unit Magnitude:

"No matter how high the internal frequency of the finite Universe, the overall vector equilibrium is of unit magnitude. This magnitude corresponds to that of the speed of radiation uninterfered with in vacuo."

- Citation and context at Atomic Computer Comdex (3), 13 May*73

Unit Man:

"... The integrity of the total experience of life will be of the order apparently experienced by some of the first very great men such as Christ, or the theoretical unit man who is thus reported."

- Citation and context at Young World. 9 Jul'62

See Industrial Man, 1936

Industrial Principle. 1 Jun'49

Young World, 9 Jul'62*

Unit Mechanical Organism:

See Community as Unit Mechanical Organ!

Unit Radius:

"Because (a) aIrradiation has a terminal speed, ergo an inherent limit reach; because (b) the minimum structural system is a tetrahedron; because (c) the unit of energy is the tetrahedron with its six-degrees-of-minimum-freedoms vector edges; because (d) the minimum radiant energy package is one photon; because (e) the minimum polar triangle--- and its tetrahedron's contraction--- is limited by the maximum reach of its three interior radii edges of its spherical tetrahedron; and because

- (f) physics discovered experimentally that the photon is the minimum radiation package; therefore we identify the minimum tetrahedron photon as that with the radius « c , which is the speed of light: the tetrahedron edge of the pKoton becomes unit radius « frequency limit."

- Cite RBF marginalia on SYNERGETICS galley at Sec. 1106.23 as clarified by him on telephone to EJA; from La Jolla to Was DC., 17 Jan'74

See Prime Vector

Photon: Tetrahedron Edge as Unit Radius

Radial Unity

Sphere of Unit Vector Radius

^unLL Rasllns- Unit Vector

See Triacontrahedron, 13 May* 77

T Quanta Module, (1) T Module, 31 Jul'77

Unit Surface;

"All systems--- whether octahedron, Icosahedron or crocodile--- have unit surface."

- Cite RBF in Robert Snyder film (140-minute version). 4 May'71

..Unitary totality is implicit in the law of conservation of energy..

- Citation and context at Ayogadro: Generalised Ayogadro Sys|ea
Unit Vector:

See Unit Radius: Unit Vector Radius Prime Vector

Unity:

"Unity relates to realisable experience which is omnidirectional.

- Citation & context at Other. 25 Aug'71

Unity:

"where frequency is one, this means it isn't frequent;
so it isn't frequency, it's unity."

ft«V-

- Citation & context at Frequency. 31 May*71

Unity:

"The notion that staging out with unity as one (such as Darwin's single cell) will provide simple and reliable arithmetic compounding (such as Darwin's theory of evolution: going from simple to complex- amoeba-- monkey~> man) is an illusion that« pervades the elementary educational concept."

._2ki«reh 197 V

~ Citation context at Synergetic Advantee: Principle .Of

KBF DEFINITIONS

Unity;

"... The only thing you might call infinity here is a further subdivision of infinity: so it is really never infinite because you are not looking at one part. It is never just Plus One. It is always plus the rest of Universe when you separate that one out. You can separate unity up further and further. You can multiply the subdivisions of unity."

- Citation & context at Infinity & Finitv (1) (2), 9 Jul'62

Unity:

"I didn't see how you could have the word unity and have It singular. Something had to be united. I felt that we didn't have functions that weren't part of a system and the Universe was clearly a plurality of systems, not one system."

- Cite Oregon Lecture #4, p. 1J4. 6 Jul*62

"srsrs-M -Sec

RBF DEFINITIONS

Unity:

- Citation 4; context at Experience, Feb*50

CQB Plex Unity:

"Unity la a complex, volumetric plurality at minimum two Unities may be treated as complex star points. A point is an as-yet indifferntiated focal star embracing a complex of local events."

- Cite COLLIER*R, p. 113, Oct'59

"Unity is complex and at minimum two."

- Cite SYNbKGETICD Corollaries, Sec. 240. 1970

Unity vs. Complex:

See Thinkaboutability, 8 Feb*76

"The sphere is maximal complex unity and the triangle is minimal simplex unity. This concept defines both the principles and the limits governing finite solution of all structural and general systems theory problems."

- Cite SYNERGETICS draft at Sec. 707.01, 16 Oct'72

"The sphere is complex unity and the triangle simplex unity. Here and here alone lie the principles governing finite solution of all structural and general systems theory problems. .. Not until we have universal, finite omnitriangulated, nonredundant, structural system comprehension can we enjoy the advantage of powerful physical generalizations concisely describing all structural behaviors."

- Cite-ftBP Llx''tO" Dhuji Dadao, 15 **ebw—*\$6, p. 5__ .

- Citation and context at Spherical Barrel: Sphere as Complex Unity: Triangle as Simplex Unity_f 1%⁰

See Spherical Barrel: Sphere as Complex Unity: Triangle Aa Simplex Unity

Unity la Plural:

"As the sum of & polyhedron's angles, 720° is unique to the tetrahedron; 720° is the angular name of the tetrahedron.

720° is two cyclic unities* The tetrahedron is the geometrical manifest of 'unity is plural and, at minimum, two*' The tetrahedron is twoness because it is congruently both a concave tetrahedron and a convex tetrahedron."

. Cite RBF galley correction to SYNERGETICS at Sec.224.12, 28 Oct'73

- Citation and context at Field. 14 Feb'73

Un_{it}Y^T_a ,PlwaX:

"Unity is plural and at minimum two. There is a prime one but it is one-half of unity."

RBF to EJA, Bely Hotel, New York, 26 Jan '72

- Cite

Hbr u-Flhl'.IOKS

- Cite RBF inscription on Synergetics Illustration //I, New Delhi, November, 1971

"720° is the angular description of two cycles of unity, unity being the 360° of total angularity around a point and as such the unit cycle of all time wherefore 720° is exactly two cycles, wherefore the tetrahedron as the minimum system, with total angularity of twice 360° or 720°, bears out our long-held hypothesis that 'unity is plural and at minimum is two.*"

- Citation at Cyclic Unity, Jun'66

- C i feeDRAFT x I-U-,8

- Cite NASA SPEECH, p. 63. Jun

HBFBFIMTlu/S

41MB Unity Is Plural;

"une of the concepts I had regarding nature's coordination was unity is plural and at minimum two. I didn't see how you could have the word unity and have it singular.. Something had to be united."

- Citation & context at Unity. 6 Jul'62

"I felt that we didn't have functions that weren't part of a system and the Universe was clearly a plurality of systems, not one system. At any rate, my working assumption that unity was plural and at a minimum two actually changed the grand strategy in quantum wave mechanics."

- Cit Oregon Lecture #4, p. 134.6 Jul'62

KBF DEFINITIONS

HHBB Unity as Plural:

unit

"Because the permitted conceptuality involves a
expenditure from universe of a de-finite twoness,

unit conceptuality must have a finite twoness penditure

value, ergo prime conceptuality unity acquires an inherent value of two. Unity is inherently plural.

Unit *f* is always divisible into twoness, or fourness,

or sixness, of inherent minimum relationships."

Cite OMNIDIRECTIONAL HALO, p. 143 1960

I Unity is Plural:

"Unity is dynamic and has inherent requirement of a plurality of components to be united."

-Cite HOW CAN MU DEMOCRACY WORK, p. 1.

28 Apr*48

See Intenuclear Vector modulus Line Between Two Sphere Centers
Plural Unity Triangle as A Priori Two Unity as Two Cosmic Inherency
Unity as Thirty

Unity Is Plural:

(2)

See Awareness, 10 Feb¹73

Complementarity, 2 Mar*68

Cyclic Unity, Jun'66*

Field, 14 Feb'73*

Frequency, 1960; Jun'71

Pure Principle. 10 Feb'73

Subfrequency (1)

Time, Jun'66

Two, 7 Mar'71

Twoness, 1960

Virgin, 27 Dec'74

Convex & Concave, 7 Nov'73

Geometrical Function of Nine, (1)

Thirty Minimum Aspects of a System,(B) Omnidirectional Terminal
Case Corner. 13 Nov'75 Human beings Complex Universe, (3) i4)16)
(7)

(5)

"Synergetics constitutes the original disclosure of an hierarchy of rational quantation and topological interrelationships of all the experiential phenomena which is omnirationally accounted when we assume the volume of the tetrahedron and its six vectors to constitute both metaphysical and physical unity."

- Dictated by RBF to EJA Beverly Hotel, New York, 28 Feb 1971. and corrected in SYNERGETICS draft U torch. »71

S'? UERGKTicS

Sfc- an. or yALSS

See Most Economical Way of Behaving Relative to Unity 4c Self

Unity as Thirty:

See Thirty Minimum Aspects of a System,(B)

- Citation &, context at

Twelve Universal Degreee of

1 Feb'75

unity. *a T*a:

"... This multiplicative twoness and additive twoness of unity.*

- Citation and context at Cosmic Discontinuity & Local Continuity, '55 Jan`74

in life and the resulting model is is twoness."

U111U -A& Tyg:

"Unity as two is Inherent tetrahedral.... Otherness

G.ometry of Thlnklnr. 16 D.c'73

- Citation and context at

Unity As Two:

"The word 'line' was nondefinable:infinite. It is the axis of intertangen-
gency of unity as plural and minimum two. Awareness begins with
two. This is where epistemology comes in. The 'line' becomes the axis
of spin. Even two balls can exhibit both axial and circumferential de-
grees of freedom."

fHB Unity as Two;

"It is very easy to be greatly misled when you see two spheres in tan-
gency. There is only one line between the two. This is where you see
that unity is two because the line breaks itself into radii of the two
spheres."

- Citation & context at Tangency. 31 May'71

unity Aa P-'

"Unity as represented by the internuclear vector modulus is of neces-
sity always of the value of two, that is, unity is inherently two for it
represents union of a minimum of two energy centers."

- Citation and context at Isotropic Vector Matrix; Internuclear Vector
Modulus, 1971

KBF DEFINITIONS

flHHV Unity as Two:

'•Substituting the word tetrahedron for the number two completes my long attempt to convert all the residual heretofore unidentifiable integers of topology into geometrical conceptability."

(For final concert see Geometrical Conceptuality, 11 Nov'73

— - Cite Omnidirectional Halo, p. 156. i960

- sec ,/i.)

Unity as Two:

"`The concept one as unity is only available in respect to one-half of twoneea. There is no experience without the finite furniture of twoness."

- Citation and context at MB Exnerimce, Feb'50

Unity as Two:

"Unity (represented by the internuclear vector modulus) is of necessity always of the value of two; i.e., unity is inherently two, for it represents union of a minimum of two energy centers.

The nuclear biological unity: 2."

- Citation & context at Internuclear Vector Modulus, 1947

See Additive Twoness

Axis of Intertangency Internuclear Vector Modulus Line Between Two
Sphere Centere Multiplicative Twoness Triangle as A Priori Two Two
Kinds of Twoness Unity Is Plural Vectorial Unities Doubleness of Unity
Secondness □ Otherness

See Cosmic Discontinuity t Local Continuity, 15 Jan'74* Comprehensive Universe (1) Experience, Feb'50* Field, 14 Feb'73 Geometry of Thinking, 16 Dec'73* Invisible, 16 Dec'73 Isotropic Vector Matrix: Internuclear Vector Modulus, 1971* Line, 19 Jun'71« Tangency,

31 May'71* Synergetics, 29 Nov'72 Geometrical Conceptuality, 11 Nov'73* Universe: Toward Oneness, 10 Dec*64 Twelve Universal Degrees of Freedom, 1 Feb'75* You & I as Pattern Integritys, 22 Jan'75 Vertexial Spheres, 8 Anr'75 Triangle, Jun'71 Omnidirectional Terminal Case Corner, 13 Nov'75 Pronouns; I ³³ We = Us, (1)

Unit: Unity: (U)
 See Circular Unity
 Cyclic Unity
 Energy-time Relationship Units
 Energy Unit
 Ideal Unity
 Initial Unity
 Initial Unit Cognition
 Mensural Unity
 Most Economical Way of Behaving Relative to

Unity and Self One

Photon: Tetrahedron Edge as Unit Radius
Plural Unity
Science Opened the Wrong Door
Spherical Barrell: Sphere as Complex Unity:
Triangle as Simplex Unity
Spherical Unity

(1B)
See Subfrequency
Subunity
Two: Twoness

**Volumetric Unity Vectorial Unities Vector Equilibrium as Unity deduction of Kyriadness to Unity One as Unity Sphere of Unit Vector Radius
Congruent Unity Radial Unity Volumetric Domain Unity Prime Vector**

See Experience, Feb'50*
Frequency, 31 May'71*
Hexagonal Vector Pattern, 8 May'72
Industrial Man, 1938
Infinity & Finity (1) (2)*
Limit, 29 May'72
Other, 25 Aug'71*
Energy Has Shape, 25 Sep'73
Synergetic Advantage: Principle Of, 24 Mar¹71*
System, 26 May'72*
Tension, Dec'71*
Tetrahedron, 1960*
Vector, 10 Nov'73
Cycle, Jun'66
Insideness «. Ojrtsideness, 25 Aug'71
Curved Space, 1938*
Time-size Cyclic Modules, Jul'71*
Vector Equilibrium Growth, 13 Nov'75
Tetrahedral Growth, 13 Nov'75
See Unit Answer

Unitary Communication Tools Unit Conversation

Unit Insideness it Outsideness Unit Magnitude Unit Man

Unit Radius: Unit Vector Radius Unit Surface Unit Totality

Unity: Complex & Simplex Unity is Plural Unity: Principle Of Unity as Two Unity of Universe Unitary Conceptuality Unity It Self Unity as Thirty Units of Environment Control Unity vs. Complex Unit Mechanical Organism Unit Cosmic Energy

Univalent.:

See Chemical Bonds: Single Bond Monovalent

See Isotropic Vector Matrix,
Tetrahedron, 5 Mar*73

9 Mar'73

- Citation and context at Octet Truss_T 1955

Universally Extensive / Infinity:

See Universally Extensive, 1955

- Cite RBF to EJA *k* Michael Denny; Nicholas Restaurant;
N.I. City, 7 Oct*76

"Whereas radiation, i.e., entropy, casts shadowe and gravity, i.e.,
eyentropy, does not; and whereas the teneional integrity of Universe
and all its substructurings is continuous and omniembracing--- while
compression is islanded and discontinuous--- it may also be that
while light and radiation has velocity, that gravity is timeless and
eternally instant."

- Citation 4 context at Instant Universe (1)(2)»

- fillip HI Pin ~VH 01, Nnv*7.1-

ttBF DEFINITE UNS

"When, however, we humane deliberately undertake to think about
the whole Universe, we find an eternally regenerative intertransform-
ing, nonsimultaneous process consisting, to our thus-far-discovered
knowledge, of a billion galaxies, each with WO billion stars, bome-
where within this spherically apprehended cosmic scheme of a bil-
lion times 100 billion stars--- that is 100 quintillion stars--- there is
our small-sized star, the Sun, around which orbit nine known planets,

one of which is our fantastically tiny Earth. And in this great eternally regenerative cosmos all those stars are giving off enormous amounts of energy. Yet we find the whole energy exporting to be importingly cohered by universal gravity."

- Cite GEOVIEW i, "No Title," (Part 1), World Mag., p.34» 22 May'73

Universal Integrity; Manifest Ratios and Potential Ratios;

"The tetrahedron, octahedron and icosahedron

knifest quantum ratios of energy field

intertransformative relationships.

"The vector equilibrium

*** potential ratio of absolute comprehensive idealized volume to realized quantum values."**

- Cite RBF rewrite of note relating to Assam Holograph of

7 Nov '71; rewrite done at Kennedy Airport, Nr, 1 Apr *72.

"Demonstrating the Boltzmann principle, the main engines of our Universe are celestially and eternally pulsed between the gravitational concentration of energy and the radiational exporting of the stars. Physic's gravitational constant is greater than the radiational constant by a very small percentage. The eternal integrity of the Universe seems vested in the fractional supremacy of cosmic coherence over its disintegrative proclivities."

- Citation and context at Boltzmann Sequence (3), Dec'72 ' 'The synergetic integrity of Universe in which the gravitational constant of 6.6666667 is always inherently more comprehensively, implosively, powerful in syntropically cohering the Universe than is the radiational constant of 6.6666665 in entropically disintegrating the Universe by explosion."

- Cite RBF holograph for Herman rfol. Boston. 1:20 a.m.

8. May '72 '

'•The gravitational is comprehensively embracing and circumferentially contractive, ergo advantaged over the centrally radiational by a 6.26 : 1 effective energy advantage; i.e., a circumference-to-radius vectorial advantage of contraction versus expansion, certified by the finite closure of the circumference, ergo a cumulative series of the independent disassociating disintegration of the radii and their separating and dividing of energy effectiveness. (This is an inverse a corollary of the age-old instinct to Divide and Conquer.)"

- Cite SYNERGETICS Draft at Sec. 251. 05, Jan *72.

"The gravitational is comprehensively embracing and circumferentially contractive, ergo advantaged over the centrally radiational by a 6.28 effective energy advantage; i.e., a circumference-to-radius vectorial advantage of contraction versus expansion, certified by the finite closure of the circumference, cumulative series versus the

independent disassociating disintegration of the radii."

- Cite RBE to EJA. 21 Dec. *71, Washington DC, incorporated in SYNERGETICS Draft at Sec. 251.05.

"The principle of universal integrity states that the wide arc tensile or implosive forces of universe always inherently encompass the short arc vectorial, explosive, disintegrative forces of universe. . .

"The gravitational constant will always be greater than the radiational constant--- minutely --- but always so.

- Cite RBF holograph on back of Synergetics text draft Section Chicago, Illinois, 24 March 1971

[zsi.oy

"The many mildly differing values empirically arrived at for both Planet's constant and for the gravitational constant seem to indicate that the radiational constant is just a little less than 6.666c#; and that the gravitational constant is complementarily just a little bit greater than 6.666<k_

- Cite Nehru Speech, p. 28. ¹3 Nov'69

TEXT CITATIONS

| | |
|-----------------------------|----------------------|
| <u>Universal Integrity:</u> | <u>Principle Of:</u> |
|-----------------------------|----------------------|

See SLI-'S, b. Kass., AMhefioJt, 22 July '91 Talk 12, p.

| | |
|---------------|--|
| 231.01-231.02 | 1011.40 a266.02 |
| 251.04-251.0? | <u>1052.10</u> -1052.24 s541.16-541.19 |
| 310.02 | 1053.17 |

541.07

638.02

780.24

972.01-972.02

1009.30

1009.35-1009.37

1009.72

See Gravitational Constant Integrity of Universe Newton vs. Einstein
Radiational Constant Synergetic Hierarchy VE &. Icosa

See Powering: Fifth Dimeneion, 29 Nov*72

Universal Integrity: Second-power Congruence of Gravitational & J
Radiational Constants:

"Second-power Congruence of Gravitational and Radiational Constants: The relative mass-energy content magnitude of a polyhedral system is arrived at by multiplying the primitive, frequency-zero, a-priori-state volume (relative to the tetrahedron-equals-one) of the geometric, concentric, structural system's hierarchy, by the second power of the (both minimum and maximum) limit linear velocity of all classes of radiation when unfettered in a vacuum; i.e., multiplying initial volume by the terminal rate at which a spherical wave's outermost, unique-event-distinguishability progressively and omniexpansively occurs, as expressed in terms of the second power of relative frequency of modular subdivisions of its initially-occurring, polyhedral system's radius; ergo as manifest in Einstein's equation $E = Me^2$.

"Energy equals a given mass with its relative mass-energy compactedness tighteningly modified by the velocity of energy-as-radiation intertransformability potential (not just linearly, but omnidirectionally); ergo as a potentially ever-expansively enlarging spherical wave's outermost-event, one-radial-wavelength-deep surface; ergo the end power of system frequency (because wave surfaces grow omni-outwardly as of the second power of the radial, linear frequency) rate of gain."

- Cite RBF rewrite of SYNERGETICS gallery at Sec. 1052.10, 9 Jan'74

Universal Integrity: Second Power Congruence of Gravitational, j » ---
and Radiational Constants:

"Finding that a systert is growing around a nucleus in terms of a second power is what Einstein wrote when he wrote his equation, $E = Me^2$. Energy, he said, equals a given mass, its relative tightness as modified by the velocity of energy as radiation, not just linearly but

omnidirectionally--- by a wave which would be second power. His waves are growing outwardly of second power. These little points and dots will be identified as an energy phenomena of the quantum wave, really as photons. You have units of photons and you have the numbers for any given wave, and you begin to get any given relative concentration of given masses. With unit energy, you have much more of it packed up in tighter packages in small frequency against the large frequency.

"Now we have another kind of second-power relationship which has always been very impressive when you think about it. The word second power now gives you something to do with radials and surfaces. Newton discovered, regarding gravity, a certain relationship of masses and unfortunately his relationship is stated in a negative way. He talks about an inverse ratio. The word inverse ratio makes it very difficult conceptually. You talk about it and it is

Universal Integrity: Second-power Congruence of Gravitational (2) and Radiational Constants

"not what it is but something else, the opposite of what you say it is. It could have been stated that the gravitational relationships are in the terms of the second power of the relative distance between the given masses, as stated in the terms of the radius of one of the masses. That is the way you could say it today. We find that the gravitational law is in the terms of the second power of radius and terms are just converting Einstein's mass phenomena into terms of radius also--- which is the way he did it. We would be able then to know where relative mass was-- how much energy, how many quantum were in it; and you would then suddenly see the gravitational state in terms of the second power, and this relative concentration of the masses.

"The gravitational one, then, is the contractive, quantitative one of second power of relative masses stated in quanta or photons, and the other one is the Einsteinean one, which is the radiation of the other condition.

"You have two main conditions of energy: energy divergent and energy convergent, and we find both of them in the second power. We suddenly find this very neat relationship. It seemed very"

- Cite Oregon Lecture //7, pp. 240-241, 11 Jul'62

HBF DEFINITIONS

Universal Integrity: Second Power Congruence of Gravitational

---And Raaiutffinul constants. (Cont.)

surprising to me when I found this, that people weren't tremendously familiar with it. The trouble was again that we had a fixation of our arithmetic and geometries that made you tend to overlook it and nobody had really taken the time to compound a lot of spheres. I just began counting the shells. I didn't know what was in it, but having counted them I just found it. It wasn't very difficult to do once you made the experiment."

- Cite Oregon Lecture #7, pt. 240-241. if J_ul'62

Universal Integrity: Vector Equilibrium and Icosahedron: (1)

'•The vector equilibrium and the icosahedron are the same twenty-ness. But the icosahedron is either a positive or a negative phase of the pulsatingly alternating first-degree structural self-stabilization in the asymmetric form of the vector equilibrium whose alternating pulsations are propagated by the eternally opposed radiant-attractive inter- self-transformable potential of ideally conceptual unity of Universe.

"The icosahedral phase of self-structuring is identifiable uniquely with the electron whose mass relationship to the proton is as 1/1836, whereas the icosahedron's volume is to the vector equilibrium's volume as 20/18.51. This difference is to be identified with the ratioing of the electromagnetic constant to the gravitational constant.

"The number of icosahedral electrons always are equal in number to the protons which are in the vector equilibrium's idealized form of the same surface layer phenomenon."

- Cite RBF Assam holograph, rewritten at Kennedy Airport. 1 Apr '72
Incorporated in f LUKriGuTIdS at Secs. 1055.11-15, 11 Oct'72

Universal Integrity: Vector Equilibrium and Icosahedron: (2)

"The icosahedron manifests only the external layer of omniintertriangulated closest packing of spherically conformed energy quanta and the vector equilibrium is closest nucleated, omni-intertriangulated, radial packing--- i.e., in mass-attractive concentrations.

"While the icosahedron's electrons display the same surface number of spherically conformed quanta, the icosahedron's surface array is omnitriangulated while the vector equilibrium's surface is arrayed two-fifths in triangulation and three-fifths in open, unstable square tangency. As spherical agglomerates decrease in radius, as for instance does the vector equilibrium contract to the icosahedral phase, their sphere centers approach one another and Newton's mass-attraction law, which shows a second-power gain as the proximities are halved in distance, imposes an intercoherence condition whereby as their overall system radius decreases, their circumferential Inter-mass-attraction increases proportionately."

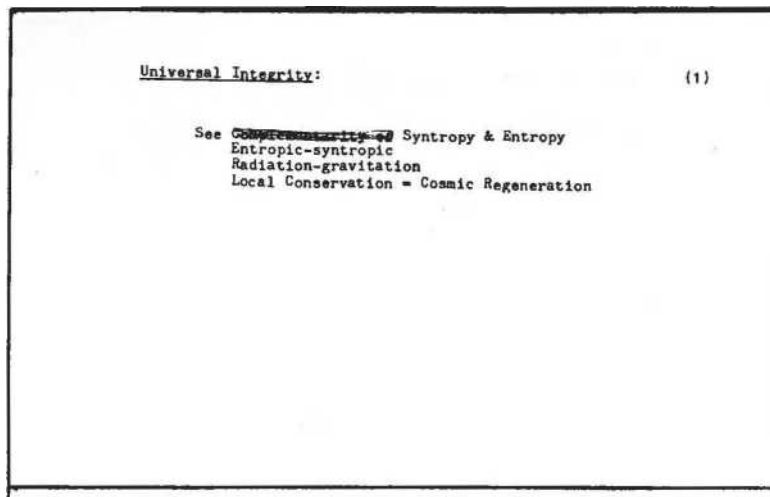
- RBF holograph written over the Himalayan Mts. entering Assam, 7 Nov *71, as rewritten by RBF at Kennedy Airport, NY, 1 Apr 72 Incorporated in SYNERGETICS at Secs. 1055.11-15, 11 Oct»72

Universal Integrity: Vector Equilibrium k Icosahedron:

"The vector equilibrium (vequilib) and icosahedron are the same 20-ness. But the icosahedron is the structurally asymmetric form of radiant-attractive unity--- • *. the number of electrons, i.e., the icosahedron form are always equal to the in number to the protons which are in the vequilib idealised form of the same surface layer phenomenon. The icosahedron is circumferential closest packing (i.e., surface packing--- equal gravitation-all-sj ere closest-packed area is less mass-attraction increased) ana vequilib is closest of nucleated packing or radial packing--- i.e., in mass-attraction concentration; while the icosahedron and the electrons are the most deployed of same surface number.

"As objects get smaller their circumferential mass attraction increases,"

- Signed R.B. Fuller, over the Himalayan Mountains entering Assam, 7 Nov^f71



See Instant Universe (1)(2)*

Metaphysical k Physical, 19 May'75

Gravity: Speed Of, 21 Oct'72

Universal Joint:

"The tetrahedron has a . . . capability of remaining symmetrically coordinate and entertaining a pair of completely disparate rates of change (in respect to rest of universe) and not changing its size, so it becomes a universal joint to couple up disparate actions in the universe,"

- Cite OREGON Lecture //6 - p. 209 , 10 Jul'62

Natureo

Coordination-, p.

- Citation and context at Tetrahedron: Coordinate Symmetry 10 Jul*62

. The two-axis universal joint, long known to man and often employed by mechanics as a flexible membrane--- sandwiched between two diametrically opposed yoke-ended shafts, with yoke planes symmetrically oriented at 90 degrees to one another--- constitute an octahedronal tensegrity, but its shafted axes tend to make it appear as a single-axis system."

(Adapted.)

~~gDiiObOiiiTr: py viz.e(jt-17~~

- Cite "Tensegrity," PORTFOLIO + ART NErfS, p. 121, Dec '61 TEPStce.Tf SEC tFd.So'l

"Tetrahedron has the extraordinary capability of renaming symmetrically coordinate and entertaining 15 pairs or completely disparate rates of change of three different classes of energy behaviors in respect to the rest of Universe and not changing its site. As such* it becomes a universal joint to couple disparate actions m Universe. So we should not be surprised at all to find nature using such a facility

and moving around Universe to accommodate all kinds of local transactions, such as coordination in the organic chemistry or in the metals. The symmetry, the fifteeness, the sixness, the fourness. and the threeness are all constants. This induced 'motion,' or position displacement, may explain all apparent motion of Universe. The fifteeness is unique to the icosahedron and probably values the 15 great circles of the icosahedron."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 623.13, 9 Nov'73

See Couple: Coupling

Interjointed

Interconnection of Systems

Tensegrity: Depolarised Orientation of Tensegrity- Octahedron Universal Joint

Universal Fabric Joint

See Tetrahedron: Coordinate Symmetry, 10 Jul'62* Co-orbiting of Earth & Moon around Sun, Apr*71

"Vision is an unlimited universal language; speech is local and limited. Though we have no sound name for an object, we can see and understand much of its behavioral pattern. To a person speaking only French, a horse race in Japan looks just like a horse race in France or any other country. You don't need to know the language; the horses are numbered."

- Cite CUT: ING THE M.TABILICAL COrtD. Sat. ftev/World n.B6-21 Sep'74 * P ' »

"Any physically whole child is so beautifully equipped and adaptable that it can learn any one of the thousands of languages spoken around Earth's surface. Before they can learn those special tongue languages they often may be heard babbling a tongue of their own while lying on

their backs themselves earlier in a beautiful morning. Tape recordings of these babbling of babies all around the world may gradually disclose an a priori spontaneously universal language. Recordings of porpoise and whale language sounds and their decelerated sounds which are similar to the tape recorder 'squeakies' of the fast traveling of tape, may disclose similarities between the child's babblings and their mammalian relatives of the sea."

- Cite Dreyfuss Preface, "Decease of leaning." 28 April 1971, pp. 20-21.

See Anglo-American

World-around language

Universal Language:

See Visual Symphony (1)

Universal Maalatrom:

See Halo Concept, Jun'71

"Universal mind kaleidoseepically test-resonates

Its anticipatory provisions

For an infinite variety of complementary, Covariant differentiations of totality--- On one hand, into a myriad of omni-environmental evolutionary accommodations of---

On the other hand— local individual organisms

Consisting of a plurality of maximally complex functions Planetarilly situate as biological, Self-reproducing and regenerating entities;

Some being furnished with integral brain controls,
And one special control group
Wired by the hot line of intuition
To universal mind's front office switchboard,
And with each individual organism

Having its own unique evolutionary life sequences Of local self-realizations

And group attainments
Gradually evolving individually
By trial-and-error discoveries
To final remergent synchronization with totality."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH,
Liiuri. ilH-oli-197. , 15 Aug'72

See Eternal Designing Capability Eternal Design Complex Science:
The Great Design Supreme Intellect Synergetic Integral Transcendental Cod Cosmic Intelligence

See Pendulum Model va, Scenario Model, 2J Dec*68

Univereal Perspective;

See Teleology, 1938

"Comprehensively Anticipatory Design Science's Universal Requirements for Realising Omnihumanity Advantaging Local Environment Controls Which Are Omniconsiderate of Both Cosmic Evolution Potentials and Terrestrial Ecology Integrities."

- Cite RBF revised title, Phila. PA, as submitted to UN Project 31 May'74

Universal Requirements of a Dwelling Advantage:

(1)

"The star radiations impinging upon us regenerate all life. Even as children, we feel intuitively the mysterious import of the stars: but have no knowledge whatsoever of the technological complexities by which this regeneration is accomplished. Most people live out their lives thinking of the stars only as an aesthetic and not realistically-relevant, decorative feature. 'Stargazers are nuts.' Each human as a metaphysical complex of events, recalls deduced principles and speculative assumption. Events impinge upon individuals from both outside and inside themselves. Those of internal microcosmic origin usually impinge subconsciously. Most of those of external macrocosmic origin also impinge subconsciously.

"The environmental events come in all kinds of frequencies and magnitudes— 99 percent are sensorially unapprehendable by humans. Comprehensive anticipatory design scientists, dealing on behalf of their fellow humans, must cope effectively with all these frequencies visible and invisible.

"Nature has a very basic pattern governing frequencies and energy event magnitudes. The biggest energy events occur least"

- Cite RBF to Michael Ben-Eli, A J, Dec*72

Universal Requirements of a Dwelling Advantage; (2)

"frequently and the smallest energy events most frequently. There are frequently enormous amounts of mosquitoes to be dealt with and very infrequent hurricanes. This frequency-magnitude relationship provides the scientific basis for establishing anticipatory design requirements. It is also fundamental that the design scientist must accomplish his task without diminishing individual human freedoms and contrariwise must reduce prevalent restraints upon humans, while providing each individual's gains without doing so at the expense of any other individual. In 1930, I published my 'Universal Requirements of Human Dwellings' which is predicated upon general systems theory. Covering all the above parameters and more, it has been revised mildly and has been republished periodically since 1930. Most recently it is included in my book, 'No More Secondhand God.'

- Cite RBF in Michael Ben-Eli interview, AD, Dec'72

Universal Requirements of a Jewelling Advantage:

Nine Chains to the Moon, p.38 - 1938

See Energy Magnitudes: Order Of Environment Events Hierarchy

Universal Research Fellowships:

See Fellowships: Life Fellowships in R A

'All the interior structural geometry of the model thus devised consists of universally symmetrical equilateral and equiangular inside truss structure, united individually at their external vertexes and all Joined internally at a universal vertex center, represents the unique stabilised, nonredundant four-dimensional force diagram of any dynamically radiant or convergent spherical organization. It provides a mathematical module system 'tri-' and 'bi-'secting central angular unity and graphic model of the decimal, twelve, or duodecimal system, essential to mathematical facility in radionics. It relates simple geometry to dynamic graphical requirements of electronic.'

- Citation in context at Dymaxion Airocean World Map. (d);
14 Apr '43

Universal Vertex Center Model:

See Vector Equilibrium

Uni-versal:

"... the harmonic integration of knowledge whose kinetic is uni-versal,"^H

— — — i r-yr⁻⁷ feT - A »rcl

- JCI

- Citation & context at Survival. 9 Apr¹⁴⁰

U|U-Y?r»al

(1)

See Universe: Toward Oneness

See Survival, 9 Apr^{140*}

Duality of Universe, May*49 Periodic Experience, (13) Verse vs.
Prose, 11 Dec'75 Scenario Universe, 19 Jul'76

See System Totality
Whole System
Onmiuniversal

See Simplicity, 1954
Performance: Equation Of, 1938
Technology 6c. Culture, 25 Oct'77

^unlvflrgal-
(3)

See Universally Extensive
Universally Extensive / Infinity
Universal Integrity
Universal Integrity: Principle Of
Universal Joint
Universal Language
Universal Mina
Universal Requirements of a Dwelling Advantage

Universal Research Fellowships

Uni-versal
Universal Maelstrom
Universal Vertex Center Model
Universal Perspective

Universe:

"All physical reality is specialcase. Thia ia why Universe has a Capital U." ¹

(532.18)

- Citation & context at Crystallography. 11 Dec'75

Universe:

"Universe Is the integral of all metaphysical and physical phenomena,"

- Citation & context at Intellect? Equation Of, (A), 17 Jun*75

Universe:

- Citation i context at Starting with Universe, 15 Aug'74

UfllYgrg?:

- Citation & context at Topology:

Synergetic & Eulerian_f 2 Jun'74

Universe:

"All the cosmic triangling of all varieties of angles always averages out to 60 degrees. That is the probability of all closed systems of which the Universe is the amorphous largest case."

- Citation and context at Sphericity of Whole Systems. 26 Sep*73

Universe:

"Universe includes all the phenomena thus far observationally known to exist. Universe is the aggregate of all the consciously apprehended and conjnunicated human experiences including both the explicables and the as-yet unexplained."

- Cite VERY FOGGY OUTSIDE, 8 Mar'73

RBF DEFINITIONS

UP1Y«F»»:

- Citation and context at Synergy. S Mar¹73

Universe:

"Universe in turn must be All that isn't me, and me.

"The only difference between Universe and environment is me, the observer ..."

- Citation and context at Environment (1) 19 Feb'73

Universe:

"I find then that the minimum number of points or stars which would have insideness and outsideness would have to be four. Two do not. Three do not. It takes four. So minimum system turns out to be tetrahedron. This is my definition of Universe. So Universe is a system of the first subdivision of Universe into a thinkable set."

- Cite Tel Aviv Address, p.11, 16 Jun'72

Universe:

"Then Einstein's saying the beginning and the end: Experience.

... By Universe I mean all of humanity's consciously apprehended and communicated experiences. What else are we talking about? That includes dreaming. It includes the experience of growing. Each day we have more facets of information about the total. The numbers of words in the dictionary is always increasing. So it includes growth and infers more growth in inclusion.

You can just generalize those. You don't have to say what the individual fact is. The point is that the experiences are multiplied. It includes the people who move the furniture of the information around and put it in conditions it had never been before--- called telling a lie, or prevaricating. But they will have to be dealing with that furniture of experience."

- Cite RBF Tel Aviv Address, p.7, 16 Jun'72

Universe:

"... Universe consists of a vast inventory of nonsynchronous and non-coexisting irreversibly transforming dissimilar events.

- Citation 4 context at Thinkability, 26 May'72

Universe:

"The Universe is constituted of a complex plurality of nonsimultaneous and only partially overlappingly occurring systems, not one system."

- Citation and context at System. 26 May'72

Universe;

"The whole of Universe is a consequence of our not seeing instantly. As a result of the recall lags the physical is always imperfect."

- Citation *It.* context at Equanimity Model. 26 May'72

Universe:

"When we get to the fifth-degree generalization, Universe.

We have increased our numbers-of-experiences base To all the experiences

Ever known to and remembered by humanity, Including all the experiences

With all the atoms and their nuclear components.

“Thus, the human mind

Has collected, combined and refined

All experiences of all humanity, In all-remembered time, Into one single concept, Universe † Which is, ipso facto, The ultimate generalization."

- Cite BKAIN & MIND, pp.146-147 May '72

Universe:

”And it's a fifth-degree generalization

To employ the word ¹ Universe*

To embrace both the relativity and complementarity.”

- Cite BRAIN & MIND, p.139 May *72

Universe:

'"Universe is the aggregate Of all of humanity's Consciously apprehended And communicated experiences, c/hich aggregate

Of only partially overlapping events Is sumtotally a lot of yesterdays Plus an awareness of now."**

- Cite BRAIN to KIND, p.131 Fay '72

Universe:

’’The physicist finds

That the proton and neutron

Not only always and only co-occur,

And are interchangeably transformable, But also could not occur independently Any more than a triangle could occur With only two points.

”We cannot have disorder

Because Universe is not monological; It is pluralistic and complementary, And we are founded on The orderly base

Of the proton-neutron tripartite teams Of six unique energy integrity vectors."

- Cite BRAIN & MIND, pp.156-157 May '72

Universe:

"The definition of Universe as a Scenario of nonsimultaneous and only partially overlapping events, all the physical components of which are ever transforming, and all the generalized metaphysical discoveries of which ever clarify more economically as eternally changeless."

--Clid-jab¹ n angina-lilt, firn 1?°, im in imnntsd in fiYTiFlinnTTO"

- Citation at Metaphysical ic, Physical,. 26 Jan*72

Universe:

. . . As far as we can see the Universe is the n/nimum eternally self-regenerative system, so we can only think of it as a complete success. It includes everything we experience, and all of it has logical and really sublime integrity."

w iiiufGl pr O.

--Cttg UBF i n- Hii i i j Faniull Plujbuj Inter*

- Citation and context at Tragedy_f Feb'72

Universe:

"In order for the Universe to be eternal--- rather than finite as the physicist findsit--- it is continually transforming. Therefore, it is a npimum perpetual motion machine. It is a minimum self-regenerative system; ne energy created and no energy lost. In a regenerative Universe, where man learns more, we have the intellectual factor--- the metaphysical part of the Universe coming into awareness of the complexity of a system which has 92 regenerative chemical elements, and has all the mass attrition and all the differ© principles operating."

- Cite RBF I-IXC Address at Dubuque, IA, 15 Dec. *71

RBF DEFINITION

Universe:

"To each of us, Universe must be all that isn't me, plus me."

_ Cite SYNERGETICS text at Sec. 305.0b; Oct'71

Universe;

'•To each of us Universe must be all that isn't me plus me.

"Universe is a scenario of events, The regenerative interactions Of all otherness and me."

- Citation and context at Environment. 28 Sep'71

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Universe:

"Happenability has the vector equilibrium as its minimum model, ergo the Universe, experience, can't be one quantum.

- CUaJUir UJT.II, Bum TslJnn, August > >/!-.

- Citation and context at Happenability, 25 Aug'71

Universe:

"Universe is the minimum of intertransformations necessary for regeneration."

Students International Meditation Seminar - Amherst, 22 July 1971.

- Cite RBF to

U. Mass.,

SYNERGETICS- UWWrME - J 6S

Universe:

"Of all the complexes that we know of in our Universe there is no[®] organic complex that in any way compares with that of the human being. We have only one counterpart of total complexity, and that is the Universe itself.

That such a complex miniature Universe is found to be present on this planet, and that it is born absolutely ignorant, is part of the manifold of design integrities.'*

(See later context at Human Being. 30 Oct*73)

- Cite Museums Keynote Address Denver, p. 8. 2 Jun'71

VMIVEAJF JFC 3M. *Fl*

Universe:

"Universe is ... a complex variety of frequencies, magnitudes and angular freedoms."

- Cite Museums Keynote Address Denver, p. 3. 2 Jun'71

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kBF UEFINITuhb

Universe:

"Our universe is the only, and the minimum, perpetual motion machine, it is self-regenerative."

- CIU HnllIUl 88-1 III, ft SMI. Xlf- -y-tUuurWK-
- Citation at Perpetual Motion Machine. 2 Jun*71

Universe:

"The significance of Einstein's radiational top speed is that there is a point of complete regeneration by which our Universe is the only and minimum perpetually self-regenerative system, a self-regenerative Universe of fantastic complexities and design of great integrity in which then the sum total of running through the total film takes hundreds of billions of years before it accomplishes its remotest re-wow."

--CTe"i'llseuws -Keynote-Address Denver, pi *3.—g—Jun17_1_

- Citation and context at Wow: The Laet Wow (C), 2 Jun»71

CS- VHWCRSE'-

Universe:

"You cannot get out of universe. Universes not a system.

Universe is not a shape. Universe is a scenario. You are always in universe. You can only get out of systems."

-Cite SYNERGETICS Draft

"Conceptuality: Space" - "May, 1971

Upivqr?e;

- Citation and context at

1 May'71

Invisible Tetrahedron

Univerge;

"Universe is the aggregate of eternal generalized principles whose non-unitarily conceptual scenario is unfoldingly manifest in a variety of special-case in local time-space transformative evolutionary events. Humans are each one a special-case unfoldraent integrity of the complex aggregate of abstract weightless omntinteraccommodative maximally synergetic non-sensorial universe of eternal titaeess

principles. Humanity being a macro---micro universe unfolding eventuation is physically irreversible yet eternally integrated with universe. Humanity cannot shrink and return into the 'womb and revert to as-yet unfertilized ova."

- Cite RBF Holograph on Sheraton-Blackstone paper. Chicago, Illinois, 24 March 1971

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Universe:

'To each human environment is everything that isn't me.

And universe is everything that isn't me' and me--- environment and me."

— Cite' IL Jr fir

Deweilji llULe.1, New York 15 March 1971

- Citation at Environment. 15 Mar'71

KBF DuFIMTIUKb

universe:

"Universe is the aggregate of all humanity's consciously apprehended and communicated experience with the nonsimultaneous, nonidentical, and only partially overlapping, always complementary, weighable and unweighable, ever omnitransforming event sequences."

- Cite RBF quoted by Jerry Judleson on p. 17 of Los Angeles underground paper, Spring 1971.

Universe:

'If for one instance we M could really come to understand our Universe and could perceive ourselves as really one with Universe, we wouldn't have to consider such a word as 'tragedy.' ... I don't think the Universe is a failure.

... As far as we can see the Universe is the minimum eternally self-regenerative system, so we can only think of it as a complete success. It includes everything we experience, and all of it has logical and really sublime integrity."

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- Citation and context at Tragedy, Feb'72

Universe:

la)

"Environment plus self events Compound as Universe. Compound takes time And the non-simultaneity Of experienced frequency Of event occurrences. Universe is definable only As the non-simultaneous And only partially overlapping Aggregate of all selves Consciously apprehended And communicated, To self or other selves, Everywhere, everwhen Variably rated transformative experiences. An aggregate of non-simultaneous And partially overlapping Ever complexedly transforming experience, Is an evolutionary sequence Which is defined as a scenario. The totality of experience

- Cite RBF draft, BRAIN &, MIND, pencil , 171

uauaaa:

"Which is scenario Universe

As a serially transformative cognition

Of individually different

And scenically static individual pictures

Conceptual frames

Is inherently nonunitarily

Or momentarily conceptual.”

- Cite RBF draft, BIXIN 4 MIND, pencil, 1V71

Universe:

”Universe--

The totality of experience*

Which i* non-unitarily conceptual—

Also and always

Subdivide* into two other

Classes* of experience

Other than self and non-self

One division of which

Is the physical class of experiences

And the other is the metaphysical class.

Self is metaphysical and

All that self observes is physical

Which is not to say

That the environment

Which is all the non-self

Is all physical,

For all the non-observable experiences

Of abstract cognition

Which consider and re-consider

The observable experiences—

Are metaphysical.’ ’

- Cite RBF Draft, BRAIN t MIND, pencilWI

Universe:

’The Universe is technology--- The most comprehensively complex technology.*¹

"The Universe is

The min-max, self-regenerative organism. The regeneration is A nonsimultaneous sequence Of only partially overlapping Physical transformation events--- Occurring in a vast range Of ever-and-again, synchronizing, Pulsative frequencies With associative concentrations Here and there Nonsimultaneously accommodating Disassociative dispersals In other heres and there's--- Like the 'high' and 'low' interalternations Of the forever changing atmosphere's 'weather.'"

"Human organism* are Universe's - Cite Dreyfus Preface

Most complex local technologies." 2fJ Apr*71

Uplereg:

"Universe is the aggregate of all of humanity's consciously-, apprehended and communicated experience with the nonsimultaneous, nonidentical, and only partially overlapping, always complementary, weighable and unweighable, ever omnitransforming event sequences." 6'

- Cite RBF quoted by William Kuhns in "The Post-Industrial Prophets: Interpretations of Technology " Harper- Colophon New York, pp. 225-226, 1971

Universe:

"Universe is a serial communicating system; a scenario of only partially overlapping, nonsimultaneous, irreversible, transformative events."

fA - Citation and context at Communication. Oct'70

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Universe:

" , , □ The synergetically mysterious, utterly amorphous, comprehensive integrity which we speak of as Universe."

- Cite RUF Ltr. To Prime Minister Indira Gandhi, 4 Jan '70, p.

Universe:

'The integrity to which--- and for which--- I give thanks is manifest as the intricate, macro-micro complex of omni- interaccommodative, transformative transactions of total cosmic evolution. The omni-interorderliness, per se, characterizing the chemical elements* component periodicities, as well as the electromagnetic wavelength and frequency regularities of the 92 regenerative chemical elements, which hold true--- and explanatorily reliable--- throughout the macro- and microcosmic behaviors of energy--- as radiation or matter--- is consistent throughout the thus-far explored multi-billion light-year ranges of the astrophysical, symphonic scenario Universe,'*

- Cit RHE Ltr. to Prime Minister Indira Gandhi, 4 Jan *70, p.1.

Universe:

"The minimum number of transformations is Universe."

- Citation and context at Perpetual Motion Machine. 4970

UpAverge;

"I always start with the Universe: An organization of regenerative principles frequently manifest as energy systems of which all our experiences, and possible experiences, are only local instances."

- Cite I SEEM TO BE A VERB, Bantam, 1970

UnlyerM

OMSSE add# the following to definition as found in Nehru Speech

"nonidentical. but always complementary. omni-transforming . . . weighable~and unweighable. . . event sequences.

"Each experience begins and ends--- ergo, is finite. Because our apprehending is packaged, both physically and metaphysically, into time increments of alternate awakeness and asleepnaas as well as into separate finite conceptions such as the discrete energy quanta and the atomic nucleus components of the fundamental physical discontinuity, all experiences are finite. Physical experiments have found no solids, no continuous surfaces or lines--- only discontinuous constellations of individual events. An aggregate of finites is finite. Therefore, universe as exoerientally defined, including both physical and metaphysical, is finite.

- OMSSE, Pp. 62,63. 1969

Universe:

"Can we think of, and state adequately and incisively, what we mean by universe? For universe is, inferentially, the biggest system. If we could start with universe, we would automatically avoid leaving out any strategically critical variables. We find no record as yet of man having successfully defined the universe--- scientifically and comprehensively--- to include the nonsimultaneous and only partially overlapping, micro~macro, always and everywhere transforming, physical and metaphysical, omni-complementary but HOnidentical events.

"Man has failed thus far, as a specialist, to define the microcosmic limits of divisibility of the nucleus of the atom, but, epochally, as accomplished by Einstein, has been able to define successfully the physical universe but not the metaphysical universe. The scientist was able to define physical universe by virtue of the experimentally-verified discovery that energy can neither be created nor lost and, therefore, that energy is conserved and is therefore finite. That means it is equatable.

- Operating Manual for SSE, Pp. 60,61 1969

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Universe:

"Each experience begin and ends: ergo is finite. Because our apprehending is packaged, both physically and metaphysically, into time increments of alternate awakeness and asleepness as well as 'into separate finite conceptions such as the discrete energy quanta and the atomic nucleus's components of the fundamental physical discontinuity, all experiences are finite. Physical experiments, Zfve found no solids, no continuous surfaces or lines--- only discontinuous constellations of individual events. An aggregate of finites is finite. Therefore, universe, as experientially defined, including both physical and metaphysical, is finite."

- Cite OPERATING MANUAL, Pp. 62,63, 1969

RBF DEFINITIONS

Universe:

' 'The Universe is regeneratively transformative technology.'*

- Citation & context at Automation,. Dec'69

Universe:

"Real Universe is that multiple of unique, orderly, nonsimultaneously occurring, but partially overlapping, and only imaginatively detectable scenario of physical and metaphysical events constituted by the aggregate of all hurcany's consciously apprehended and communicated experiences."

- Cite ARCHITECTURE AS ULTRA INVISIBLE REALITY, p. 150, Dec. '69

Universe:

- it has been overlooked by specialization that our society needed to realize that disclosures of nuclear physics show that every positively weighted particle has its negatively weighted complementary, but non-mirror-imaged, counterpart behavior—all of which combines to disclose that the integrated weights of physical Universe add to zero. This makes it synergetically clear that while man” makes-’hi8’non8imuitaneous, separate, positive and negatively balancing measurements of physical phenomenon that sum totally— ergo synergetically— Universe and its experiences cannot be considered as being physical for they balance out as weightless; and weightless experience is metaphysical— physical phenomena having been identified by the physicist as being always uniqliely weighable, i.e., ponderable— i.e..detectable by the mass attracted levering of an indicator needle.”

Nehru Speech, P. 40, 13 Nov’69

Uwivess e - sec.

Universe:

"••• .we must start with scientific fundamentals and that means with the data of experiments and not with assured axioms predicated only upon the misleading nature of that which only superficially seems to be obvious. It is the consensus of thought of those who have proven themeelves to ba great scientists that 'science is the earnest attempt to set in order the facts of experience.• Holding within their definition, we define Universe as: the aggregate of all humanity's consciously apprehended and communicated, nonsimultaneous and only partially overlapping experiences. But all experiences are terminated, ergo, finite,An aggregation of flnltes is finite. Our Universe as defined is finite but nonslmulteously conceptual. The single-frame picture of a caterpillar does not foretell its transformation into a butterfly. Nor does one picture of a butterfly tell the viewer that the butterfly san

fly. Universe as defined is a scenario. Those who ask 'what is outside Universe?' are asking a single- picture question which is as ignorant as asking 'which word is the dictionary.* Summarizing, Universe is a finite but non-simultaneously conceptual scenario.'*

Nehru Speech. P.7, 13 Kov'69

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Universe:

"We find that ¹ Universe¹ itself has to be complementary because there is the conceptual and the nonconceptual automatically.¹

Citation and context at Oeneralitaton Sequence (2), Jun-Jul>69

Universe:

"Universe ... is the minimum reality."

- Context and citation at Spiral. 28 Jan '69

Universe;

"This design law holds true for the simplest generalized thought regarding the always and only coexisting and covarying functions X and Y; and ranges through the simplest special case experiences of humanity with the proton vs. rjptorytaptained teams of energetic complementarity to the complex and endless scenario of completely intertransforming, nonsimultaneous and only meagerly overlapping event experiences, both metaphysical and physical, spoken of comprehensively as Universe.ⁿ

- Cite Generalized Laws of Design, p. 1/ 22 Apr'68

Universe:

"•.. I soon came

To what I assumed to be both The largest askable and The largest answerable Question:

'What do you mean,'

I asked myself, 'By the word Universe?

If you can't answer

In terms of

Direct experience

You must desist

From the further use

Of the word Universe

For, to you

It will have become Meaningless.

"The twentieth century physicists in defining the physical Universe"

- Cite HuW LITTLE I KNOW, Oct'66

Universe: (B)

` ` As consisting only of energy, Deliberately excluded the metaphysical Universe--- Because the metaphysical Consists only of imponderables, Whereas the physical scientists Deal only with ponderable--- Therefore their physical Universe Excluded for instance All our thoughts--- Because thoughts are weightless.

` ` But thoughts are experiences. Wherefore I saw that To be adequate To my intuitively formulated And experience founded controls Of my ever bigger Question and answer routine. That, my answering definition Of Universe must be one which

-Cite HOW LITTLE I KNOW, Oct'66

RBF DEFINITION

Universe:

(C)

"Embraced the combined Metaphysical and physical Components of Universe."

- Cite HOrf LITTLE I KKO.tf, Oct'66

Universe:

"Not being simultaneous

Universe cannot consist of one function.

FunctionJ only coexist.

Universe while finite is not definable."

- Citation &. context at Definable. Oct'66

Univorse:

"My definition of universe includes both the objective and the subjective: i.e., all voluntary experiences--- i.e., experiments--- as well as all involuntary experiences--- i.e., all happenings."

- Citation 1 context at Happening. 20 Jun*66

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RBF DEFINITIONS

Universe:

"Angle and frequency modulations,

either subjective or objective in respect to man's consciousness, discretely define all events or experiences

which altogether constitute universe."

- Citation & context at Synergetics. Jun*66

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Universe:

"Universe is the aggregate of all of humanity's consciously apprehended and communicated, non-simultaneous experiences."

(N.B. Above is possibly the most economical net version.)

- Cite NASA Speech, p. 31, Jun'66

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Universe:

'•People say to me, 'I think you have left something out of your definition of universe.¹ That statement becomes part of my experience. But never will anybody disprove my working hypothesis because it will take experimental proof to satisfy me, and the experiment will always be a part of the experience of my definition, ergo, included. This gives me great power because my definition of universe includes not only the physical but also the metaphysical portion of the universe which the physicists thought they had to exclude from their more limited definition of the finite physical portion of universe. . .

"Our experiences are all finite because they all begin and end. An aggregate of finites is finite. Therefore the universe which includes both physical and metaphysical is finite."

- Cite NASA Speech, p. J2, Jun*66

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Universe:

"Universe consists at a minimum of both the metaphysical and physical,"

- Citation *it* context at Relativity, Jun*66

Universe:

"We have proceeded logically from our original definition of universe as a finite but non-simultaneously occurring aggregate of all human experiences, which is, therefore, a non-conceptual total universe.

to discover the patterning characteristics of the first conceptual subdivision of universe into a structural system.

,/e have subdivided universe, first, into systems and we have reduced systems to basic event experiences and to quantum units.

We have come to the realization that all the structuring can be identified in terms of tetrahedra and of topology.' '

. Cite TV /K

—, *pll Jun** 66

Universe:

' 'Universe ... is in itself an intellectual conception

- Cite DESIGN STRATEGY, p. 311, 20 Jan '66

Universe;

- Citation k Context at Fuller, R.B: What I Am Trying To Do 8 Jan¹ mucin TnnFTns. 'Ihfl HPW Inrlrer, JI JUii, lAfl p KT

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RBF DEFINITIONS

Universe;

"I have found, my whole life, that I've had a problem dealing with society, because I'm dealing with that which is not obvious to the rest of society.

I have found that the universe is actually operating in an entirely different way from the way society thinks it is. Society's living in a sort of 'fault.' The kind of 'fault' I'm thinking of is like an earth fault, like a great cliff, a great discontinuity in the earth's surface. There are great discontinuities in the public's image of what the universe is. '*

- Cite MERGERS & ACQUISITIONS Vol. So. 1, p. 4, 1965

Universe:

"Since by my own definition Universe is the historically synchronous aggregate of all men's consciously apprehended and communicated (to self or others) experiences, and since the experiences are each finite but nonsimultaneous, Universe is a nonsimultaneous yet dynamically synchronous structure, which is unitarily nonconceptual as of any one moment, yet as an aggregate of finites is sura-totally finite. Thus we realize that finite structures are mostly nonconceptual in any momentary sense, though certain local structures in Universe are momentarily conceptual, such for instance as the continually transforming historical aggregate of men's experiences packaged together in the words 'Planet Earth.'"

- Citation and context at Structure Sequence (3), 1965 Incorporated in SYNERGETICS "at Secs. 303 + 324.

Universe:

"Conceptuality of Fundamental Structures" (Cite KEPES4 adds the following to the definition of universe as found in Nehru Speech, page 7:

. universe is the historically synchronous aggregate of all men's consciously apprehended and communicated (to self or others) experiences and since the experiences are each finite but nonsimultaneous, universe is a nonsimultaneous yet dynamically synchronous structure, which is unitarily non-conceptual as of any one moment, yet as anw aggregate of finites is sum totally finite. Thus we realize that finite structures are mostly non-conceptual in any moment*

sense though certain local structures in universe are momentarily conceptual such for instance as the continually transforming historical aggregate of men's experiences packed together in the words "planet earth."

- 1965

Universe:

". . . . Because of the fundamental nonsimultaneity of universal structuring, a single, simultaneous, static model of universe is inherently both "nonexistent, conceptually impossible," as well as "unnecessary." Ergo, universe does not have a shape. Do not waste your time, as man has been doing for ages, trying to think of a unit shape "outside of which there must be something," or "within which, at center, there must be a smaller something." All the words in the dictionary do not make one sentence; all the words cannot be simultaneously considered, yet each of the words is valid as a tool of communication; and some words combine in a structure of meaning."

"Conceptuality of Fundamental Structures" -

Cite XEPES

Caption, Fig. 1, p. 66

1965

SYvEXcencs —

Universe:

"The physical universe is a machine--- in fact, universe is the minimum and only perpetual notion machine."

- Cite MUSIC, p. 13 , 10 Dec'64

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Universe:

"The physicists began to demonstrate very effectively that the perpetual motion machine wouldn't work because they were always losing energy and so the local system was always running down. What the physicists, however, did when they posited energy universe, the Law of Conservation of Energy: no energy can be created and no energy can be lost, they developed universe as the first and only successful perpetual motion machine.

"In other words universe is the minimum perpetual motion machine. There is a minimum set of patterns that is a consequence of this set of patterns reacting with that set of patterns. In order to have a monkey wrench you also have got to have a store, and in order to have a store you have to have other things. You have to have all the great complex of events and we get then to a minimum set of complementary events where the system then regenerates itself and we come to what we might call universe, it is interesting then to discover that this tends to be a clearly defined inventory, of relative abundance of the various chemical element patterns in the universe so that you need then a great deal of the pattern hydrogen and you don't need so much of the _____ pattern uranium." cite Oregon Lector #5, PP. 11-12

9 Jul'62 167_168

Universe:

"... There may be no absolute division of energetic universe into isolated or non-communicable parts; there is no absolute enclosed surface or absolutely enclosed volume."

- Cite MCHALE, Plate J6, caption 1962

- Citation to context at Sphere Integrity: There is a Model 1962

SYnterries-

Universe:

"Universe ... is inherently inconceivable unitarily."

- Cite OMNIDIRECTIONAL HALO, p. 134, 1960

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Universe:

"Universe is the ultimate collective concept, that is, the collection of all intelligible, inherently separate evolutionary event aspects which latter apparently occur exclusively and only through differentiating considerations which progressively isolate the components of whole and inclusive sets, super-sets, and sub-sets of generalized conceptioning m retrospectively abstracted principles of relationships.

Cite OMNIDIRECTIONAL HALO, p. 1J1 , I960

- *-See 3a7II*

Universe:

Universe is the minimum as well as the maximum closed system of omni-interacting, precessionally transforming, complementary transactions of synergetic regeneration.

Local perpetual motion systems are impossible, since Universe is the minnum regenerative set of perpetually intercomple- mentary transformative functioning."

- Cite OMNIDIRECTIONAL HALO, p.135, 1960

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Universe:

"A zero tetrahedron is vector equilibrium is Universe.

- Citation at Zero Tetrahedron I960

Universe:

"The total of experiences is integrally synergetic. Universe is the comprehensive a priori synergetic integral. Universe continually operates in comprehensive coordinate patternings which are transcendental to the sensorially minuscule apprehension and mental comprehension and prediction capabilities of mankind, consciously and inherently preoccupied as he is only with special local and nonsimultaneous pattern considerations."

- Citation at Synergetic Integral, 1960

unease - sec. 'J

RBF iJaFIKITIONHS

Universe;

Universe is the comprehensive integral-aggregate system embracing all the separate integral-aggregate systems of all men's consciously apprehended and communicated experiences

"Universe is finite because it is the sum total of finitely furnished experiences."

- Cite OMIDIRECTIOKAL HALO.pp. 131,132, 1960

Universe:

'...'Universe as the coordinate integral of all experience

- Citation and context at De-finite. 1960

Universe:

"Universe is finite.

Local systems are de-finite

Universe is a non-simultaneously potential vector equilibrium."

Cite COLLIER'S pp 113, 114 Oct'59

Universe:

"Universe is a non-simultaneously potential vector equilibrium."

- Citation at VedtPD Equilibrium Oct*59

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Uqlyerg; (1)

"That most comprehensive question was, 'What do you mean by the word 'Universe¹?' *If you cannot answer, you had best abandon use of the word 'Universe' for it will have no meaning.' My intuitively adopted rules for self questioning and answering were that the answer must be made exclusively from man's experience patterns. I learned many years later that the Nobel physicist Percival Bridgman had identified this same rule adopted by Einstein as 'operational procedure' subsequently a much abused phrase. My answer (or discard of the word 'Universe' as a communication tool) was operationally inherent: 'Universe is the aggregate of all consciously apprehended and communicated (to self or relayed to others) experience of man.' If my finite answer holds against all specific experience challenges as being comprehensively anticipatory and adequate, the Universe is finite, and all its components definable. Each life as we know it is definitive, i.e., consists of a plurality of terminable, ergo definite, experiences, beginning with each awakening and terminating with each surrender to sleep (no man can prove upon awakening that he is the man who he thinks went earlier to sleep, or that"

- Cite INTRODUCTION to OMNIDIRECTIONAL HALOJ p.122, 1959

"ought else which he thinks he recollects is other than a convincing dream). The intermittent beginnings and endings of conscious experience constitute an aggregate of definitive experiences-- and the aggregate is therefore finite.

'•In the recent moments of historical experience, men as scientists adopted the law of conservation of energy: as predicated upon the sum-total experience of physicists which recalled no contradiction to this hypothesis. They thus accomplished a finite packaging of all physical behaviors of physical Universe as predicated also upon the hypothesis that all physical phenomena are entirely energetic."

- Cite INTRODUCTION to OMNIDIRECTIONAL HALO, pp.122,123, 1959

Universe:

''Universe is synergetic.''

- Citation and context at Synergy. July'59

Universe:

"The whole of Universe is the minimum consideration and the relationship of its regenerative subsystem functionings are alone elementary."

- Citation t context at University. 15 Apr'55

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Universe:

"Universe is the sum total of all men's progressively sensed, imaginable, and teleologically translated experience by inherency of man's available circuit tuning limits and relative feedback lags. All man's experiences may not be consciously tuned in. Ergo,Universe is both ultra- and intra-tunable. Ergo. Universe is simultaneously untunable and only progressively thinkable."

- Cite RDF draft Ltr. to Jim (Fitzgibbon?), Raleigh, NC, 1954-59

Unlyepge:

- Citation and context at In and Out_P 4 May*57

Universe:

"The closest approximate meaning of the concept Universe, which is satisfactory to me at the present consideration and

formulation is: that portion of the intercommunicated

aggregate of all conscious and operationally described experiences of all history's beings, including my own, which is now totally recallable only in fragments as progressively and spontaneously tunable within my own angular orientation and zonal discernment limits of the multidirectional and multi-magnitude, sensorial-frequency-

spectrum inventory of the frequently accumulating, integrating

and accommodatingly rearranging, memory album of all) discernibly unique patternings whatsoever."

. Cite RBF holograph, Clemson, S.C., 5 Feb. 195t>.

Universe:

' 'Universe: the starting point for any study of synergetic phenomena."

- Cite ITEM "0", p. 3. May'55

"The Universe— the sum of man's thoughts."

- NCS Synergetics papers, p. 50H, 1955

Universe:

"Universe is inherently infinite..."

- Citation and context at Plurality. 5 Mar*55

Universe:

•'Universe is the sum total of all men's sensed and teleologically translated experience. Whole Universe may not be simultaneously tuned into treatable thought pattern."

- Cite RBF Ltr. to Donald W. Robertson, 8 Jan '55.

Universe:

Ha a synergist... we must start mathematically with the largest pattern concept, i.e., Universe.**

* - Citation and context at Synergiat, 1954

Universe:

"Universe ia tenaional integrity."

- Cite PREVIEWS, Ifcl, P. 21J

1 Apr'49

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Universe:

**• . . our modern concept of the universe as a comprehensive sytem of energy processes."

- Cite DIMAXION COMP SYSTEM (1944)

P. 3

SYNERGETICS - UNIVERSE SEC. 310.11

Universe Centera;

See Gravity: Speed Of, 21 Oct*72

Universe Citizenship:

"... The new world of Universe citizenship, and ite natural emancipation from slavery chained to ponderous thingness."

- Citation and context at Property. 29 Jun'72

See World Cltixen World Man Home: At Home in the Universe

See Tetrahedron Discovers Itself 4 Universe World Looks at Itself Dichotomy! Dlchotanoxing

See Consider, 31 May'71
Time, 27 Dec¹73
Universe Ue.alxng ItaeJ.fi

See Design, 3 Nov'64

TEXT CITATXUNb
Universe Differentiator;
Dec. 1222.20
Unlvaraa Differentiator:

See Tetrahedron, 5 Mar*73

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See System Encloaure, (1) Thought, May'72

"Only the physical is alterable; the metaphysical is unalterable. All the physical is continually intertransforming in orderly ways discoverable only by the weightless metaphysical mind. The local physical systems are everywhere energy exportive, which is humanly misinterpreted to be entropic and dissynchro- nously expansive only because the exported energies are electro- magnetically (i.e. nonsubstantially) dispatched only as information--- which is purely metaphysical--- to be always eventually imported as information by electromagnetic reception in elsewhere-newly-born regenerative assemblages of cosmic systems. The local exportings appear to be dissynchronous only when viewed from too short a time span to permit the tuned-in occurrence of the next synchronous moment of the aeons-apart frequencies often involved in celestial electromagnetics."

- Cite SYNERGETICS 2nd. Ed. draft at Sec. 325.05, 15 Nov'74
"All the synergetic metaphysical consists of two phases:

(1) subjective information acquisition by pure science exploration,
and (2) objectively employed information by applied science
invention.'*

- Cite SYNERGETICS 2nd. Ed. draft at Sec. 325.03, 11 Nov'74

See Angle & Frequency Modulation, Oct'71 System, 24 Kay'72

See Progressive Invention of Universe

UniTgrgg ftfl &n Invention:

(2)

See Great Intellect, May»72 Individual Universe. Religion,(1)

"The picture is of Universe as a kaleidoscope of sun-total symmetry
only, the relative aspects of which may be dynamically and infinitely
reordered without exemption of, or addition to, the component total-
ity. Every shift (in the energy balance accomplished by man at Earth's
crust) affects all Universe....

It is an astronomical kaleidoscope--- the little fellow is shaking and
from within."

- Citation &. context at Epigenetic Landscape,. May'49

•'All the thus-far observationally known to exist phenomena.
Universe is the aggregate of all humanity's alltime, consciously
apprehended and comunicated experiences, including both the
explicable and the as-yet unexplained. Communication in this def-
inition can be either self-to-self, or by selves to others. It is only by
such etemal-generalized-principles- discovering mind's conscious
communication to the brain's neuron bank that each generalized-
principle-discovering experience becomes an integral special-case
asset of humanity's awareness-processing facility. All the foregoing
integrate as the known. Human awareness first apprehends, then
sometimes goes on to comprehend. No guarantees."

- Cite RDF rewrite of SYNERGETICS galley at Sec. 1056.15, 15 Jan'74

"U `` Universe: All the Known, all the thus-far observationally known-to-exist phenomena. Universe is the aggregate of all of humanity's all time, consciously apprehended and communicated experiences, including both the explicable and the as-yet unexplained. Communication in this definition can be either self-to-self, or by selves-to-others. It is only by such conscious communication to the neuron bank that each experience becomes an integral part of humanity's awareness-processing facility. All the foregoing integrate as the known. Human awareness first apprehends, then sometimes goes on to comprehend. Mo guarantees."

- Cite SYNERGETICS draft at Sec. 1056.15, 13 I<ay»73

Cite MUSIC, P. 56, 10 Dec»64

5YV«?»«Tic£- ViAtffXJF

UBAISESS: **Toward Oneness:**

See Uni-versal, 9 Apr'40

University, 15 Apr'55

Unlverao ae Perpetual Motion Michlne:

See Perpetual Motion Machine

Universe ia Technology: (1)

"There are 40 million engineers and scientists of our planet, which seems like a lot. That ought t o take care of us. But they are only one percent of humanity. We now have four billion people---99 percent of humanity---who don't understand what science and technology are doing. And for a very simple reason; because they don't understand where science and technology are at. Humanity in general doesn't know that all the science and technology are finding out is that the Universe is the most incredible technology.

"Just think of how your ears---now while I'm making these whirring and stirring sounds---and your hearing is getting into some kind of coincidence with some of your memory call-ups, the most incredible call-ups.

"I've been here for almost 82 years and this stuff is still working.... None of you are conscious of pumping your blood through your veins; none of you are conscious of pushing your hair out through your head, and you don't even know why you're making hair; You don't even know why you have it.

You are organically, 99.99 percent incredibly beautiful automation."

- Cite RBF talk at A. Mus. of Natural History, NYC, 1 May'77; EJA transcript p.7

Universe is Technology: (2)

"The automation of humans is here correlating with all the rest of the great design of our ecology---all the great complementaries of the whole Universe.... The 99 percent of humanity assume that technology is something new-- that it is a new word. They've only learned words fairly recently and they associate it with weaponry and with machinery in which they find themselves being exploited. So a large amount of humanity is now thinking: Let's give up technology!... which would mean absolute human suicide. It's all over!"

Cite RBF talk at Am. Mus. of Natural History, NYC, 1 May'77;

EJA transcript p. 6

"For it is the integratable interrelationships Of all the generalized laws Which apparently govern The meat verb 'Universe'"

Or the Vastly greater

— Because comprehensively anticipatory—

Verb intellecting

Which verb of optimum understanding

lay be 'God. ' ”

- Cite HOW LITTLt, I KNOW, Oct. '66, pp. 52-53.

All-motion Universe

Atoms: All the Experiences with All the Atoms

Balance of Universe

Between-stage of Universe

Complex Universe

Comprehensive Universe

Contracting Universe

Coordinates of Universe

Described Universe

Dead Center of Universe

Duality of Universe

Energy Universe

Eternal Universe & Physical Universe Exempt: We are Not Exempt
from Universe Expanding Universe Experience Universe Environment

See Forget the Universe

Generalization: Fifth Degree

Home: At Home in the Universe

Human Beings & Complex Universe

Imaginary Universe vs. This Universe

Individual Life as One Way Universe could Have Turned Out

Individual Universes Individual vs. Universe Inside-out Universe In-
stant Universe Integrity of Universe

Man as One Way Universe Might have Come Out Miniature Universes
Naked Universe Negative Universe New Universe: Disclosure Of in
Next Decade No Magic Universe

(1 0-z)

Perpetual I-Iotion Machine
Physical Universe
Plastic Tube of Universe
Progressive Invention of Universe
Real Universe
Rest of Universe nest of Universe Other than Earth Rules of Universe
Scenario Universe
Shapeless: Universe Does Not have a Shape Starting with Universe
Tuck in the Universe
Unity of Universe
Vacuum of Universe
World / Universe

Academic Disciplines. 11 AUK¹⁷⁶
See Angle & Frequency Modulation, Oct'71

Automation. Dec'69*
Communication, Oct'70*
Coordinate Integral, i960
Definable, oct'66*
De-finite. 1960*
Design. 23 Sep*73

Einstein, 23 May*72
 Environment (1)*; 28 Sep* 71*; 15 Mar*71*
 Equanimity Model, 26 May'72
 Fuller. R.B: What I am Trying To Do, 8 Jan'66*
 Generalization Sequence (2)*
 Generalization, 13 Mar*73
 Generalization: Fifth Degree, 10 Oct*64
 Happenability. 25 Aug'71*
 Human Being, 30 Oct*73*
 In & Out, 4 May'57
 Happening, 20 Jun'66»
 Invisible Tetrahedron, 1 May*71*

unlrirM?

(2B)

See Metaphysical &. Physical, 20 Jun*66; 26 Jan*72*
 Octet Truss, 24 Sep'73
 Order & Disorder, 5 Jul*62
 Perpetual Motion Machine, 2 Jun*71*; 1970*
 Relativity, Jun'66*
 Sphericity of Whole Systems. 26 Sep*73*
 Starting with Universe, 15 Aug'74*
 Synergy, tful'59; 8 Mar*73*
 Synergy of Synergies, May'72
 Synergist, 1954*
 Synergetics, Jun*66*
 Synergetic Integral, 1960*
 Sphere Integrity: There Is No, 1962*

Structure Sequence (3)*
Spiral, 28 Jan'69*
Sweepout: Spherical Sweepout, 3 Oct'73
Syntropy &. Entropy, 31 May'74
System. 26 May*72*
Technology, 28 Apr*71J 13 Mar*73; Dec*69
Thinkability, 26 May'72*
Tragedy, Feb*72*
See Wow: The Last Wow (C)* Zero Tetrahedron, 1960* University, 15 Apr'55*
Topology: Synergetic k Eulerian. 2 Jun'74* General Systems Theory, 18 Dec*74
Angular Topology: Principle Of. 14 Feb'66 Generalized Principles, 1 Jul*75 Intellect:
Equation Of, (A)* Evolution, 22 Jun'75 Dance, JO May'75 Convergence & Divergence,
1 May'77
See Universe Citizenship

Universe Considers Itself

Universe Designs Itself

Universe Differentiator

Universe Dividers

Universe as Energy & Information

Universe Evenwts

Universe as an Invention

Universe as a Kaleidoscope

Universe: All the Known

Universe as Perpetual Motion Machine

Universe: Toward Oneness

Universe as Verb

Uni-verse: Uni-versal

Universe Centers

Universe is Technology

University:

"Advantaged by X-ray eyes, videoscope live-feedback self- seeing, plus TV documentaries of physiological exploration, understanding in terms of one's own synergetically coordinate being may quite probably elevate the health, physical education, and recreation facility of the university to operate as the prime synergetic center of upcoming university life. What students want is to discover and enjoy their relationship to the Universe through the university."

- Cite HYPER, World Mag., 10 Apr'73

University:

"Instead of giving degrees for increasingly advanced masteries and philosophies of special inquiry, we might start a true University literally seeking 'verse' (towards) the complex 'uni' in which our degrees are given for the ability to get back into the fundamentalities with our resources of experience. The most valuable degree would be that which is given to those who can carry back the wealth of experience into the unfractured and comprehensive clairvoyance of treatment of the four-year-old. The whole of Universe is the minimum consideration and the relationship of its regenerative subsystem functionings are alone elementary."

- Cite "Letter to Mr. X.," 6 Burns St., 15 April 1955*

University: New York City as a Vast University:

"... What is going on with the cities, all the physical has gone out«, the metaphysical coming in--- it is not just exchanging of goods, as for instance, the mammoth stores beginning to deploy also, to get to where there could be some good parking by going out of town to the new

shopping centers leaving a downtown hole. Into that center must-come the educational centers. This is what is happening in New York City, for instance. New York City is becoming a vast university, where Columbia owns all of Radio City-- it owns much of that part of the real estate of New York. Then New York University owns all Washington Square and going south of that. We simply find New York tending to become a big dormitory University, though it has different names, this is it. And much of this University is not the enrolled student, but just the adult or even the young coming in to find out what it is all about, to have some experiences. There is no question about the major part of our education being something that occurs outside of the organized educational facilities."

- Cite RBF Address THE HABITABLE CITY, 14 Oct. '69.

University Student:

The Prospect for Humanity, VDSD Doc. 3, p.6, Aug'64. "'Trend No, 2"

See Education

Education: Knowing Where the Bridges Are
Fellowships: Life Fellowships in Research &
Development
Museum
Tenure

»niY«r?UY=

(2)

See City. tBJ; (3)

Divide & Conquer Sequence (4)

Research (1)

Unknowable:

"Nature is all that we think we do know plus all that we obviously don't know. That there is an a priori unknown is proven by the successive revelations of additional generalized principles implicit in Universe, knowledge of which is only discovered by intuition and mind as being an eternally operative relationship manifest by the oft- reconsidered complex of information-generating experiences on recallable inventory in the brain's neuron bank. All that is known has always emanated from the unknown. Q.E.D: Experientially!

"Human history has witnessed a dramatic degree of conversion of 'Don't Know' to 'Do Know' MMR But all the 'Do Know' harvest ever multiplies the inventory of obviously a priori 'Will Never Knows' because inherently unknowable. The more we knew, the more mysterious it becomes that we can and do know--- aught. The a priori characteristic of the entirely mysteriously-occasioned life its awareness--- which develops only to how little we know."

- Cite VERY FUGGY OUTSIDE, 8 Mar'73

Unknowable:

See Incomprehensible

Inexplicable

Mystery

Unexplained: As-yet Unexplained

Unknown

Unknowable:

(2)

See God, 1 Apr'74 Humans, 8 Mar'73 In & Out, 19 Jun*71

"That there is an a priori unknown is proven by the ever unscheduled, unexpected succession of revelations of additional theretofore unknown, unconceived-of, generalized principles all of which are discovered and experientially reverifiable as implicit in Universe. It is also retrospectively manifest that this progressively amplifying knowledge, discovered by intuition and mind as constituting eternally operative cosmic relationships, were revealed only because of intuitively pursued, frequent reconsiderations of information complexes redrawn from the ever-recallable special-case inventory stored in the human brain's neuron bank. All that is known emanated exclusively from the previously unknown."

- Cite SYNERGETICS draft at Sec. 1056.03, 13 Fay*73
HBF Dr'lKITlOt.S

"C ` ` All the Unknown: The a priori mystery experientially and operationally manifest as a cosmic source by the scientific record of all the known, which have always been unpredictedly and successively harvested exclusively from the a priori unknown, which nonsimultaneous, that is, succession, of discoveries thereby discloses that no discovery has as yet exhausted the a priori mysterious exclusive source of all the scientific knowledge--- all of which discoveries are always experimentally reverifiable to be forever a priori existant and waiting to be reverified as being eternally coexistent with all the other principles,"

- Cite SINEftGtTlC'b draft at Sec. 105b. 14, 13 fay'73
See Curtain of Unknown-ness

Science: Left Hand t Right Hand Unknowable

Undiscovered: Undiscovered Principles Unexplained

See Irrelevancies: Dismissal Of, 7 Nov'73

Unlearning;

****I have spent a great deal of my life unlearning. I'm the most unlearned man I know, because I've spent so much time qt it.I've found that * all the information that I had been given originally at school regarding our presenece in the Universe. . . has proved to be misleading information, to say the least.ⁿ**

- Cite THIS IS YOUR GRAND STRATEGY, 4 Feb *68, p .1.

See Degenius How Little I Know Learning Naive

Unlearning;

(2)

See Mutual Survival Principles, (3)(4)

RDF DEFINITIONS

Unlimited;

'Only the eternally unlimited could comprehend and elucidate the eternally unlimited.'

- Citation and context at rfhy: The Unanswerable Why. 8 Kar'73

Vision vs. Speech, 21 Sep¹⁷⁴

Unlimited:

See Endless

Limitless

Limit-limitless Nonlimit Scenario

Universally Extensive

Unlimited-'

See Hydraulics, 20 Apr'72

(2)

See Nonunitarily Conceptual Scenario Universe

See Universe, 2 Jun*74

Unnatural:

(1)

See Natural

Artificial

Unfamiliarity / Unnatural

See Irrational Number, 14 Jan*74

Nature Has So Many Options, 19 Oct*70 Official Reality, 1963

Unofficial 'ar-

See War: Official &. Unofficial

Unoeel the GravitationalB:

See Generators, 19 Feb'72

Unpredictable:

"... The individual has inherent unpredictability that cannot be reduced to formula... While the human's actions are antientropic, his reactions are entropic, ergo unpredictable."

- Citation and context at Individuality_f May'65

HBF DEFINITIONS

Unpredicted:

"The larger complex of Universe ia never predicted by the lesser."

- Citation and context at Custom; Lest One Good Custom Corrupt the WflrM. 3 Oct>73

KBF DEFINITIONS

Unpredicted:

"... I found there was a synergy of synergies. There was nothing in the atom that predicts chemical compounds; nothing of chemical compounds, per se, that predicts biological protoplasm; there's nothing in the protoplasm, per se, that predicts either elephant or pine tree. There's nothing in the elephant that predicts island universe of stars. I find that as we get to larger and larger systems the total system is not predicted by the parts."

- Cite KBF at SIRS, U.Mass, Amherst, 22 July '71, p. 22

Unpredicted:

"Annihilation is the reverse of synergy because you have exactly the same number of parts of the same length---

But you are just not predicting them."

- Cite-RHF. m tat-
- Citation at Annihilation,. 2fJ Feb'?1

Unpredictability:

SYNERGETICS, See. 400.23, 26 May*72

Sec. 1050.10

Unpredicted: Sequence of Unpredicted Events

See Hierarchies, 16 Jun'72

Unpredicted, 22 Jul'71

Concentric Hierarchy Limits, 30 Dec*73

Generalized Dichotomy: Grand Strategy, (1)

UOTrsflectaigg: Unpredicted:

(1)

See Synergy

Starting With Universe

Synergy of Synergies

Age: Unpredictable Ages

Unpredicted: Sequence of Unpredicted Events Annihilation

Entropy □ Unpredictability

Synergy: Degrees Of

Toenail in No Way Predicts Huoans

Inexplicable

See Age. 25 May'72

Alloy, 18 Mar'69

Annihilation. 28 Feb'71*

Between, 22 Jul'71

Building Industry, (6)

Concentric Hierarchy Limits, 30 Dec'73

Custom: Lest One Good Custom Corrupt the World,

3 Oct'73*

Discovery, 28 Apr'71

Education: Evolutionary Touchdowns, May'65

Eternal Designing Capability, (2)(3J

Evolution, 15 May'75

General System Theory, (A)

God, 26 May'72; 3 Apr'74

Hierarchies, 16 Jun'?2

Human Unsettlement. (5)(6)

Individuality, May'65*

Invention, Dec'61; 9 Feb'64

Life, 25!..ar'71
 News & Evolution, (3)
 Planetary Democracy, (1)(2)(4)
 Progressions, May'49
 See Science: History Of, Kay'72
 Starting with Universe, 31 May* 71
 Synergetic Hierarchies, (A)
 Synergetic, 9 Nov'73
 Technology, 17 Jul'73
 Thinking, (I)
 Transnational Capitalism & Export of Know-how, (2)
 Triangle, (A); 20Jun'66
 Energetic Functions, 8 Aug'77
Unpremeditated Tuning:
 See Ecology, 15 Feb'73
 unpublished:
 Sea Fuller, R.B: Unpublished Mathematical Discoveries
 See Nuclear & Nebular Zonal Waves, 1955
 Unreality:
See Reality 4 Unreality
 See Nonpolarized » Unrecognized
Unremembered » Nonexiatent:
 See Remembered, 1968
 11 Sep'75
 11 Sep*75
 See Point, 9 Jun'75

One-dimensional Polarity, Two-dimensional Polarity,

Untetataa-- Uneeeeablilty:

See Macrocism, Kay*72 Modern, 1 Jul'62 Cybernetics, 7 Nov'75

Unselfishness:

"Selfishness is inherently antisynthetic."

Synergy can be socially realized Only through spontaneous unselfishness."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH
Jan '72, pp. 7-8

Unselfish Art, .:

See Conversation Sequence, (1)

See Consideration for Others

Deselfed

Generous

Spontaneous Unselfishness

See Conversation Sequence (1)

Wisdom, Jan'72

Un-self:

See Non-self

RBF uDEFINITIONS

"...The now evident evolutionary insistence on world-around unsettlement of humanity from yesterday's remotely deployed agricultural, mining, manufacturing, seaport or mountainpass tie-downs and evolution's insistence upon omni-integration of an ever more dynamic nations-homogenizing world society---all of which evolutionary reality seemed in marked contrast to related aspects of Habitat and its technological focus almost exclusively upon nationalistically-emphasized, local, immobile, and 'one-off' tailoring of human settlements."

- Citation & context at Montreal EXPO*67 Dome. (B); 20 Sep'76
See Proximity & Remoteness

Dynamic vs. Static

Mobile Rentability vs. Immobile Purchasing

Privacy vs. Community

Deployment: Man's Increasing Deployment Pattern

See Ekistics, 11 Nov*75

Montreal Expo*67 Dome, (B)*

Building Industry, (6) Dymaxion Car, (1)(2)

Upaettllne:

See Human Unsettlement

Unspoken Communication;

See World-around Communication Transcends Politics, (1)

Unstable OisnteKratlon:

See Deestructuring, 18 Jul'72

uauabls:

See Amorphous - Unstable

Stability

Stable & Unstable

Structural Instability No Square Stability

"Scenario Universe embraces all the nonsimultaneous, only local-in-time-and-place structurings, deestructurings, unstruc tunings, and re-structurings. All the somethingnesses are structures. All the nothingness is unstructure. All the somethingnesses are special case. All the nothingness is generalized."

- Citation & context at Structural Sequence, (D), £ Sep'75

Unstructurings & Restructurings:

**See Someth!ngness & Nothingness Articulated &, Unarticulated
Unbonding-rebonding**

UasuashraiiHl:

<2)

See *ave System Propagations, Hay* 72

Unteachablft:

See Teachable vs. Unteachable

QQ

.Untitled Pic Poem on the History of Industrialization:

See Nucleated flube, 7 Oct*71

See Nothingness - Untuned Soaethingness Nothingness Nontuned

See Death, 28 lar'77; 29 Mar*7?

Irrelevantes: Dismissal Of, 8 Feb¹76

Nothingness, 16 Nov'72; 22 Jun'75

Point, 9 Jun'75

Primitive Dimensionality, 1 Mar'76

Seven Minimum Topological Aspects, 12 Feb'76

Somethingness & Nothingness, 7 Oct*75

Space. 2 Jul* 76

Tunability: Intra & Ultra, 1954

Unused Angles

See Virgin ^D Unused Angle

Unweiehable:

See Weighable k Unweighable Weightless

^unyln<ij.ng TI_W:

See Fireplace Log, 7 Nov'74

Unwinding;

See Winding & Unwinding Unbandage the Sphere

Unwrap the Orbitala:

See Generators, 19 Feb'72

See Fourth Dimensional Coordination, 10 Sep¹74 Spherical Tetrahedron, 10 Sep*74 Dyniaxion Airoceun World F.ap, (d)

"It takes just ten triple-bonded tetrahedra to make a helix cycle, which is a molecular compounding characteristic of the Watson-Crick model of the DNA. When we address two or more positive {or two or more negative) tetrahelices together, the positives nestle their angling forms into one another (as do the negatives nestle into one another's forms). When so nestled, the tetrahedra are grouped in local clusters of five tetrahedra around a transverse axis in the tetrahelix nestling columns. Because the dihedral angles of five tetrahedra are 7° 20* short of 360°, this 7° 20' is sprung-closed by the helix structures' spring contraction. This backed-up spring tries constantly to unzip one nestling tetrahedron from the other, or ethers, of which it is a true replica. These are direct (theoretical) explanations of otherwise as yet unexplained behavior of the of the DNA."

- Cite MEXICO '63, p. 61, 10 Cct 'o3

"We see three such columns /tetrahelices/ and we see they tend to nest into one another. If you make three of them they do nest very neatly, but when they nest together they bring about a condition where around one vertex--- if they are really nested down well---

we get five tetrahedra around one common axis. We know that if we take a tetrahedron that its edge angle is 70 degrees and 32 minutes and five times that is about six degrees less than 360 degrees. In other words, five tetrahedra round a common edge axis do not close up and make 360 degrees, but when we bring them together in a helix like this--- due to the fact that the helix is a spring, the total helix as a spring will contract enough to allow these five to connect, because part of the five are in one column and part of the five in another column. The sets of springs will collapse enough; and no matter how long they are we find that these springs will collapse and let them come together. You are doing it against the spring and they are on the spring so therefore they would like to tear it apart."

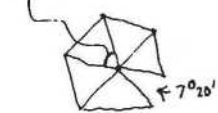
- Cite OREGON Lecture <76, pp. 199-200.

TTKAHEUX- JSC. QVy.oi f

angle' of D.N.A," (Signed - R.B. Fuller)

-f'20

70° 32'



70° 20'

360° 00'
- 352° 40'

70° 32'
x 5
352° 40'

- Cite MBW¹ - p. 20, copyright 1955

__ sec. <W'1.oZ\

See tqui-magnitude Phaees 'i'tetrahelix Viral Steerability

W

•'There are no specific directions or localities in Universe which may be opposingly designated as UP or DOWN. In their place we must use the words OUT or IN."

- Citation k context at In k Out. 1J Nov'69

~ tfaCH⁻, - p. ITT"13 Nov¹69

"If he persists in the up-and-down language man may never communicate accurately with other men for they do not employ the same meanings, either from moment to moment, or in respect to their individual 'ups*' and 'downs.' . . . Only when man learns to say 'in' and 'out' relative to designated common centers {for example, of Earth} is the meaning constantly reliable. The sky is outward to all men, at all places, at all times, on any planet. While enjoying an infinity of individual 'ins,' we, anywhere in the Universe, also enjoy one common nonsimultaneous, omnidirectional aggregate called 'out.'"

- Citation and context at Dynamic Frame of Reference (4), May*49

"As taught in the late twentieth century geometry commences with plane geometry. This is because geometry was conceived and methodically formulated in history during the early times when humanity envisioned the world as a mountained and valleyed island floating upon an infinitely deep watery plane which extended laterally in all horizontal directions to infinity. Above everywhere was the sky. But the experience of remotely converging lines of perspective suggested reflexively to man that an optical aberration existed whereby though you could not see that far, all the upward bound parallel lines perpendicular to Earth must ultimately converge, as do all parallels, receding from where one stands.

"The parallel up lines were assumed to converge in Heaven--- a haven--- a sky harbor. Until the twentieth century humanity, all those separate individuals within their respective lifetimes, each saw less than a millionth of the total surface of our spherical space vehicle Earth. All the foregoing conceptioning is so logical that, despite theoretical knowledge to the contrary and their quick denial of such misconceptions, approximately all humans as yet 'see' the world in that image."

- Cite NcHRU SPEECH,p. 16, 1J Nov'69

"Witness that they all use the words 'up' and 'down. They speak about 'Getting down to Earth,' 'the wide, wide world,' and always spell the Earth with a small 'e' because it is simply the stuff under our feet, 'down here,' which stretches away laterally to infinity.

"It is not surprising that we continue now to start our children's geometry--- meaning world measuring--- with plane geometry. This, however, is intellectually devastating, and constitutes the parting of the ways with one road leading into the scholar's 'pure' mathematics, and the other continuing as the reality, which disagrees with all that is found by physics, mathematics, and chemistry to be the natural orderliness of Universe. The 'practical' man who was disgruntled by the awkward misconceptions of mathematics is one who is so dull as not to be bothered by the measurable discrepancies and keeps on 'brilliantly and courageously' doing all the short-sighted, expedient 'things' which, applauded by the most powerfully advantaged seifists, are so swiftly consigning man to extinction as 'unfit' for survival in the vast reality of the Universe of weightless, invisible, omni-interaccommodative generalized principles, which are"

- Cite NEHRU SPEECH, pp.16-17, U Nov*69

"forever faithfully governing electromagnetic wave frequency radiating propagations and mass attraction's concentricity, much of whose integrity has become understandable by humanity's metaphysically comprehending mind.

"Foremost of the debilitating effects of predicating all the students conceptually calculatable logic upon a plane geometry foundation is the spontaneous

persuasion of the reasonableness of forthright bias which it engenders. Thus, for instance, loyalty, which is powerfully one-sided, has come to be rated as a noble attribute.

Loyalty can take outright lies in its stride. It thinks nothing of defending a fallacy. How does that all come about? Prove your contention. All right!

"All the entities and conceptual formulations of plane geometry commence as follows: 'A triangle is an area bound by a closed line consisting of three edges and three angles. A circle is an area bound by a closed line everywhere equidistant from a point.' Areas bound by closed lines are the essence of plane geometry. Only that which is bound by a"

- Cite NEHRU SPEECH, pp.17-18, 13 Nov'69

'closed line is definable, valid, calculatable, and useful.

Why is this so? Because the plane outside the bound area leads in all lateral directions away to infinity and, therefore, is undefinable. On the inside of the boundary line was definability, finity. On the outside was only undefinability, infinity. The 'Ins' were reliable. The 'Outs' were dangerously unpredictable.

'Only the phenomenon on one side of the line was valid. So there is your taught-in bias of all the /qylrd around's schooled society. The outlaws and the in-laws. I am okay. You?

Ky family in; yours out. Our Town . . 'The damned foreigners,' etc. Now we at least know theoretically that both sides of the line are valid.``

- Cite NEHRU SPEECH, p.18, 13 Nov'69 "I have questioned many scientists and have never heard one deny that he realistically sees the Sun set, which is to say that he sees the Sun 'going down.' All scientists as yet use the words up and down. These words are now meaningless for they were invented by man to accommodate

his sense of the world stretching away to infinity as a plane around him, to which he is perpendicular. Because he has thought of the world that way for two million years, he goes on celebrating spontaneously that of course all the perpendiculars to the world plane are parallel to one another and all the parallel perpendicular lines point in two opposite directions: 'upward' or 'downward.' But all scientists agree that there are no regions of the Universe which are uniquely 'up' or 'down' and also that none of the perpendiculars to a sphere are parallel to one another.

"But, ask the scientists annoyedly, 'What else can I say?'

'The answer was found by world-around flying aviators who 'come in for a landing' and go out to fly their courses at greater altitudes in the world surrounding skyocean. In, out, and around are the words that indicate conceptually all "our"

- Cite BEAR ISLAND STUHY, galley p./», 1yb8
KBF UEElIIIThulls

"sensing of directional behaviors of physical Universe. When these directions are modified by relative angle and frequency changes, they accurately satisfy our needs in respect to all conceptual systems of consciousness--- subjective or objective--- and all systematic considerations of experience, from instrumental probings of the atomic nucleus to celestial nebulae.

"As do the others of Spaceship Earth's involuntary and unwitting astronauts, the scientists go on speaking reflexively about 'The four corners of the Earth' and the 'Wide, wide world.'

"Frequently the flight control scientists on the spherical deck of Spaceship Earth are heard to say--- on the manned and rocketed capsule television programs--- "Well, boys, how are things up there this morning!/' as the astronauts orbiting the 1,000 miles-per-minute speeding Spaceship Earth approximately every hour, pass

through a spiraling series of positions, each of which eight-Earth-diameter-miles apart checkpoints are halfway around the Spaceship Earth from where the scientist is speaking, through one of those points which are in the direction of the 'upwardly' inquiring scientist's feet."

- Cite iJEAIT 1BLAED STURY, galley pp.4-5, 196S
See Air Space

Grid: Crisscross, Right-angle Grid In & Out

In, Out < k Around

Linear vs. Omniembracing

Planarity if Civil & Agrarian Law

No Up & Down

up for DQTO: Up & Down Language;
(2)

See Death. 29 I'-ar'77

Dynamic Frame of Reference. (3)(4)* Nature in a Corner, 17 Nov'75
Spaceship, (1)

Spaceship Earth, 22 Jun'74 Synergetic Hierarchy, 5 May*74

Us:

See Down

Dynamic Frame of Reference

Out

Up & Down

Sea Chain Reaction

Periodic Table of Closest Packing Superatomics

See Mite as Model for Quark, 3 May*77 Nuclear Domain *k* Elemenatlilty, (1)

Ufhfln PrQCBSafla: Inventory Of:

See hew York, 1970

Urban Sprawl:

See Building Business. (1)

Population of Cities, 10 Sep'75

Urban:

(1)

See City

Community Settlements

See Empty, ty'70

Us:

See Pronouns: I « We - Us

See Avoidance va. Interference

So® Synchronisation, Apr*71

JlatXul: Uaefulneaa:

(1)

See Holding Patterns of Usability More You Use It the More It Improves Nonuse

See Conservation of Intellect: Uw Of, 1962 Wood Technology, (2}

See Soviet entries

USSR;

(2)

See China (A)-(D)

Disarmament, (1)

UUlitleB: Public Utlllttec:

See Houses &. Infrastructure Electrical Network

Utopia or Oblivion:

"The good life for any man depends on the good life for all men."

- Cite RBF quote in OLD MAK K1VEH proposal, 22 Sept. 1971.

Utopia or Oblivion:

- Cite Museums Keynote Address Denver, p. 7. 2 Jun'71

- Citation and context at Survival, 1938

Utopia or Oblivion:

(D)

See All or None

Consideration for Others Extension vs. Extinction Meek Have Inherited the Earth Survival

Utopia or Oblivion:

(2)

See Civilization, May'28

Design Science. 1960 Industrialization, Jun'66

Leaders Can Yield to the Computer. 1 Apr'73

Mechanics, 1928

Pollution: Infinite Room to Pollute. 13 Nov'69

Survival, 1938"

Other, 5 Jun'73

V

Vacant - Available:

See Invisible Quantum as Tetrahelix Cap Closer, 23 Nay'75

Vacuum:

"The word vacuum relates specifically to gaseous phenomena.

MHB Nature's abhorrence of a vacuum induces physical relationships only in respect to the gaseous state. The vector equilibrium is the nothingness phase of all states of the physical Universe: It is the generalisation of nothingness, within which generalisation the absolute vacuum is a special case event in the gaseous state."

- Citation & context at Vector Equilibrium as Starting Point. (2) 11 Sep'75

Vacuum:

"Partial vacuum results as the physical atmospheric gases are removed beyond whose zero evacuations the electromagnetic tensing induces reverse flows of physically demonstrable positive energy. Vacuum » Novent » Invisible. At the indispensable center of the sphere Universe turns itself inside-out. The invisible, a priori, multiplicative two-ness, differentially disclosed in the synergetics topological systems' hierarchy is manifest of the integrity of the

sizeless, timeless, nonconceptuality always complementing the conceptual system take-out from nonsimultaneous, nonconceptual scenario Universe's eternal self-regenerating." - Citation at Topological Hierarchy. 19 Feb'72

Vacuum;

"Vacuum - novent - invisible. The center of the sphere turns inside out.?"

- Cite RBF to EJA + BO'R, 3200 Idaho, Was DC, 17 Feb'72

Vacuum:

"Because I don't talk apace, I don't have to have a vacuum. I don't start with space. I start with nothing. Things are always special-case temporary realisations of q specifically detailed dimension and behavior complex of generalised laws applied to a local inventory of physical resources. I start thinking with a No-Sise conceptual model of a whole system."

- Cite RBF to EJA -tBu'R. J200 Idaho, X, 1? Feb »?2 as rewritten 1y Feb '7z

Vacuum-fulcrumed Qara:

See Rudderins Sequence, 15)

Vacuum - Novent - Invisible:

See Vacuum, 19 Feb'72

Vacuum of Universe:

"The Platonic solids do not stand in a vacuum of Universe.

They are in Universe and if you change that thing you change everything else."

- Citation & context
at Platonic Solids_f 12 Jul»62

liaiug: Vacuum!»<**n_f:**

(1)

See Invisible

Nothing

Novent

Oar: Vacuura-fulcruined Oars Ruddering Sequence

Space

Vacuum □ Novent - Invisible Cosmic Vacuum Cleaner De-vacuumizing
the Wake Cold & Vacuum Nonstate

v&smUffl: yflcumaialn£:

(2)

See Platonic Solids, 12 Jul*62

Rowing Needles, (1)(2)

Topological Hierarchy, 19 Feb*72*

Weather, Feb*73

Whole. 17 Feb*72

Wind Power Sequence, (5)

Vector Equilibrium as Starting Point, (2)*

Vagina:

See Evaginating, 22 Jun*75

Valance: Valent:

Sea Univalent Bivalent Trivalent Quadrivalent Octavftlent Bonds:
Bonding Chemical Bonds Monovalent Equivalent Ambivalence

Valid to the King:

Sa« Real, 20 Apr*72

Valid: Validity:

(1)

See

Omnivalidity

Valid; Validity:

(2)

See Bias on One Side of the Line. May*65 Self-debiasing, May*65

See Toilet, 28 Jun'72 Building Business, (4)

See Wright, F.L: On RBF, 8 Aug*38

See Balncing of Values

Energy Quanta Values Good &. Evil Morality Number-value Account-
ing Optimism: Reverse Optimism Man as a Function of Universe Plas-
tic Flowers Profit: Man-invented Game of Quick Profit Quantum Val-
ues Sin

Teleology

Unselfishness

Intervaluations

Anticipatory Discounting of Forwardly Reckonable Values

See Technology, 13 Mar*73 Topology, News t Evolution, (3)

Valvability?

"The fact that the rhombic dodecahedron can have its 144 modules
oriented as either introvert-exrovert, or as three way circumferential,
provides its valvability between broadcasting-transceiving and non-
interference relaying."

- Citation and context at Rhombic Dodecahedron. 30 Nov'72

wf .n.FIU'i'lUEL

Valve;

"The spheres turn into spaces and the spaces turn into

spheres: they operate as valves."

- Cite RBF to EJa, 3200 Idaho, DC, 20 feb '72

Valving:

- Citation & context at Mite & Coupler, 13 May*73

Valving:

"The frequency and magnitude of event occurrences of

any system are comprehensively and discretely controllable by valving, that is, by angle and frequency modulation.

angle and frequency modulation exclusively define all experiences which events altogether constitute Universe.**

- Citation at Angle at Frequency Modulation. Oct'71

Valving:

"Valving embraces the concept of generalized design whose ultimate properties are determined only by frequency and angular modulations."

- Cite MARKS P. 7. 1960

See Average Man, (2)

Fuller, R.B: Crisis of 1927, (1>

Sensitivity of the artist-scientists, Apr'77

Valving: Valvabllltv: (1)

See Angle & Frequency Modulation Antigravitational Valving Circuit!
Circuitry

Cold Valve of Time ve. Hot Valve of Energy Conscious Part Act as a
Valve Exchange Agent of Universe Frequency Modulation Intercept
vs. Insulate Interference-noninterference Relaying Information
Transaction & Valving Modulation

Radiant Valvability of IVM-defined Wavelength Relaying

Safety valve

Shunt

Step-up, step-down Transformation Tetratuning Tunability

Instrumentation

See Average Man, (2)

Cell: Biological Cell Nucleus, 1954

Child as Laboratory, (1)

Energy, 1962

Gravity, (A)

Hunger, 16 Feb'73

India, 12 May*75

Intellect: Equation Of, (B)

Omnidirectional Typewriter, (4)

Reading, (1); 29 May* 72

Rhombic Dodecahedron, 30 Nov*72*

Sensitivity of the Artists-scientists, Apr'77

Sieve, 30 Jan'75

Skiing. 20 Oct*72

Solid State, 13 May* 73

Transistor, 13 May'73

Trespassing, (2)

Universal Joint: Tetrahedron, 9 Nov'73

Water, May'65

Wind Stress & Houses, (6) Environment, 12 May'77 Eternity vs Energy,
2 Kay'78 Time vs Energy, Dec'40

"If our space vehicle Earth
Were nearer to the Sun,
We would be incinerated
By our energy-supplying mothership.
To compound the advantage of vast distance
As protection against Sun's incinerating us
We have the Van Allen belts: of which we learned
Only in the last few years.
These belts are the outermost
Of the biosphere's spherical mantles.
Within these Van Allens we have
The ionic veil surrounding our spaceship.
The Van Allen belts intercept the radiation

**WhicE would kill a naked man positioned outward of those belts. The
Van Allen belts**

Diffuse the radiation, by refraction, to below lethal level."

- Cite BRAIN & KIND, pp. 108-109 Uy *72

Vaa_*.U»n

**See Biosphere Inventory, 15 Nov ` 74 Radiation Sequence, (1) Space-
ship Earth, (d)**

Vancouver:

See Habitat'76 UK World Conference

Van!shi Vanishment:

(1)

See Locus of Vanishment

Vftniahs vAnlahment '

(2)

See VE & Icosa, 10 Apr'75

Magnitude, May*49

Vanity:

See Ego

(D)

Inferiority Complex Pride

Vanity:

See Intuition Sequence (3) Superstition, May*49 How Little I Know, 1 Feb'75
Climate & Intellect, May*49 Mistake, 7 Nov'75 Crowd-reflexing, 7 Nov*75

van't Hoff:

"Late in the nenteenth century the organic chemists led by van't Hoff discovered that all organic chemistry is tetrahedrally configured. In all the structuring we know of in organic chemistry--- plastics or gaso- lines or what-have-you--- the atoms form molecules by little tetrahe- dral arrangements: tetrahedra point-to-point (univalent), tetrahedra edge-to-edge (bivalent), tetrahedra face-to-face ((trivalent), or con- gruent tetrahedra (quadrivalent). These are the primary bondings. The range goes from C (carbon), which is relatively light, to C (car- bonaceous diamond), which is quadrivalent: four points of the tetra- hedra are congruent with one another.'*

- Cite Conceptuality of Fundamental Structures (Kepes), p.72, 1965

van't Hoff: Jacobus Henricus van't Hoff: (1852-1911)

"van't Hoff said he thought this oneness, twoness, threeness and fourness has something to do with tetrahedra. ... He went to work very hard and he lived to make optical proof with the microscope of the tetrahedral configuration of carbon. He was the first man ever to receive the Nobel Prize. One reason the chemists hadn't accredited him was that most chemists were metallurgists. Organic chemistry was a very new phase of chemistry and they hadn't found any bonding in the metallurgy, so the chemists were simply bored with this phase of chemistry and when this man comes along with some kind of crystallographic configuration of conceptuality it annoyed them very much. They had been getting along very nicely with just numbers. They had the kind of relationships where they did not have to have the tetrahedron shape. Then there is a great hiatus after van't Hoff and it goes up to 1932, and that is a half-century hiatus."

- Cite Oregon Lecture //2, p. 74. 2 Jul»62

van't Hoff:

"... van't Hoff showed that all Morganic chemical structuring is tetrahedrally configured in vertexial linkage ..."

- Cite Omnidirectional Halo, p. 161. 1960

van't Hoff: Coabinin van't Hoff: 1 Piling:

See Tetrahedral Coordination of Nature, 1965

TEXT CITATIONS

van't Hoff:

(See NASA Speech, pp. 56-57)

(See Oregon Lecture #8, p. 278)

Omnidirectional Halo, pp. 151, 161

van't Hoff;

See Chemical Bonds, Jun*66

Organic Chemistry, 10 Jul*62

Tetrahedron (p.15*)> I960

Viral Steerability: Tetrahelix, 1960

(1}

See Liquid-cryetal-vapor-lncandescent phases

See Rain, 11 Feb* 76

"In the general theory of variables, it has been recognized that the set of all the variables may be dividied into two classes: {1) the class of all the inclusive variables within a given system, the interior relefrants. and (2) the class of all those operative exclusive of tKe systera, the exterior relevants. It has been further recognized that the "variables outside the system may affect the system from outside. In varying degrees, specific levels of subclasses of these 'background' or outside variables are identified as parameters. But the 'background' concept is fallaciously inadequate; dealing with insideness and outaideness for 'background' is limited to the two-dimensional or flat projection concept, which inherently lacks insideness---ergo, cannot also have outaideness, which always and only coexists with insideness. Ergo, all two-dimensional copings with systems are inherently inadequate and prophetically vitiated."

- Cite SYNERGETICS text at Sec. 535*05; RBF rewrite of "Omnidirectional Halo, pp.152-153, Nov'71

Variables : Genertej-Theory of VgxBblgs--4l

"In the general theory of variables it has been recognized that the set of all the variables may be divided into two classes--- (1) the class of all the inclusive variables within a given system, and (2) the class of all those operative exclusive of the system. It has been further recognized that the variables b_i outside the system may affect the system from outside. In varying degrees specific levels of sub-classes of these 'background' or outside variables are identified as parameters. This background 'inside and outside' concept is a two-dimensional or flat-projection concept.

- Cite OMNIDIRECTIONAL HALO, pp. 152, 153 1960

See Feedback Comprehensivlty: Computera va. Humana.

13 Aug'64

varjablftft: Theory Of:

See General Systems Theory Parameters Halo Concept Irrelevancies;
Dismissal Of

See Constants

Electable Omniuniform Frequency Occurrences General Systems
Theory Infinite Systems Twelve Universal Degrees of Freedom Omni-
variability ./hole Systems as Minimum of Two Variables Intervariable
Limitless

Local Variables

See Einstein, 16 Nov'72

Infinite Systems, Jun'66

Integration, 10 Dec*64

Limit, 26 Sep'73

Navy Sequence, (1)-(7)

Spin Twoness &. Duality Twoness, 2? Dec*74

Coupler, 2? Jan'75

General Systems Theory, M(1); (B)

Life, 25 Mar*71

Metaphysical &. Physical, 13 Nov'75

Apprehension + Comprehension \square Awareness, 26 Jan'76

See Invariant

Constant

Variable

Uniquely Variant Integral

Covariation

Intercovarying

Octave Wave Limit of Variation

Third-power Rate of Variation Model

Varl-Intertransformabilitiea:

See Heres & Theres, 4 Jun'72

varaitY^{Toam} <?? Unlyfirao

See Spherical Triangle, (2)

Varaitv:

See Work, Dec*72

Vase:

(1)

See Vessel

See Flatland, 1 Oct'71

Vector;

- Citation t context at Synergetics. 17 Oct'77

Vectors'

` ` Do not refer to vectors as restraints. Vectors are capabilities, not restraints."

- Cite RBF to question by Dr. Michael Bruwer at World Game Workshop*77; Phila., PA; 22 Jun¹77

Vector:

"So-called edges and vectors are Inherently only convergent or divergent interrelationships between multiply-identifiable point-to-able, vertex fixes."

to

- Cite SYNERGETICS text at Sac. 905.3*. 16 Dec'73

Vector:

"Every vector has two ends which it joins as unity.**

- Cite Marginalia by RBF on first SYNERGETICS galley #71(Sec. 421.0, (not included in text for technical reasons only), 10 Nov'73

Vector:

- Cite SYNERGETICS draft at Sec. 223.75, 26 Sep'73

Vector:

"First powering expresses only one vector, i.e., one- twelfth of relevant system potential."

- Citation and context at Powering: One Dimension. 15 Oct'72

Vector;

"The local energy content of a vector is its mass times its velocity.**

- Cite RBF to EJA, Beverly Hotel, NY, 22 Jun'72

Vector:

"... Vectors, being the product of physical energy constituents, are 'real,' having velocity multiplied by mass operating in a specific direction; velocity being a product of time and size modules; and mass being a volume-weight relationship. On impact, mass at velocity transforms into heat and work. These energy factors can be translated not only into work, but into heat, or into time as well."

- Citation at Time. 27 May'72

Vector:

"A vector manifests a unique energy event--- either potential or realized --- expressed discretely in terms of direction, mass, velocity, and distance. A vector is a partial generalization being either metaphysically theoretical or physically realized, and in either sense an abstraction of a special case, as are numbers both abstract (empty sets) or special case (filled sets)."

- Cite SYNERGETICS draft at Sec. 521.01, 26 May'72

Vector:

"A11 the interrelationships of system foci are conceptually representable by vectors. A system is a closed configuration of vectors. It is a pattern of forces constituting a geometrical integrity which returns upon itself in a plurality of directions.*¹

~ Citation and context * PolyhedrMal Systems, 25/2 May'72

HBF DEFINITIONS

Vector:

"Time is in our dimensioning because our geometry is vectorial. Every vector [* mass x velocity, and time is a function of velocity."

~~Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Doc. '71~~

- Citation & context at Time. 21 U_ec'71
)ecZ—*-71

Vector:

"Vectors are not abstractions: they are resolutions."

(Synergetics: yt>2.40)

(New context at Time-size, 30 Oct'72

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Doc. '71.

Vector:

"The aize of a vector is ita overall'Javilinear length."

- Cite SYUERGİTICS Corollaries, Sec. 240. by RBF 11 Oct. *71 Haverford, Penna. *

yecraS- 5FC 53.1,ofc)

Vector;

Ko vectors " No size.

No size TM No vectors."

- Cite SYNRGİTICS Corollaries. Sec. 240, written by RBF, lhft± 11 Oct. 1971, Haverford, PA.

j_{-f<}: 511.0'8]

Vector:

' 'Every event is six-vectored."

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct.'71, Haverford, Penna.

\ / FCT » « S — SEc. S'U.Olj

Vector:

"There are six vectors or none."

'71,

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. Haverford, Penna«

'xJSCTOS - SEC 521.

Vector:

"You have six vectors or none for every energy event."

(EJA comment: A query to RBF in May'72 confirms that the intent of the above is that there cannot be less than six vectors. It does not mean that there can be an event with no vectors.)

- Cite RBF to Eja, Washington, DC, 7 Oct. '71.

Vectors:

"Sum totally the four hexagons of the vector equilibrium? have 24 radial disintegrative vectors and 24 chordally Integrative vectors. The unique planes of any two hexagons of the set of four interact with one another in such a manner that the line of interaction (Intersection) of the planes is congruent with the radially defined diameters of the two hexagons. This paired congruency of the 24 radial disintegrative vectors of the four hexagons reduces their visible number to 12. While the 24 chordal integrative vectors remain non-congruent and appear as 24. The congruence of vectors occurs many times in nature's coordinate structuring and de-structuring and often misleads the uninformed observer.*

- Cit RBF Marginalia, Bear Inland, 25 Aug. '71, Synergetics Sec.

I OH. 40

Vectors:

"Now we have what we call vectors. Vectors represent energy experiences, a vector is-a line going in a specific direction in relation to two ffnnts giving you an axis, say your head and your feet. That gives you an axis of reference and then you have a vector, an energy action moving at some angle in relation to that axis of yours. And the length of the line is arrived at by multiplying the mass times the velocity. Those then are energy vectors. And energy vectors are extremely useful because they do represent actual experience in relation to yourself as observer. It acts as a reference."

- Cite RBF at SIMS Seminar, U. Mass.. Amherst, 22 July '71, p. 19 *

MHHSMMHB Vector:

"Since neither light nor any other experiential phenomena are instantaneous, then an action and the vector by which it is manifest is linear. If it were instantaneous it would be less than a point."

- Cite RBF SYNERGETICS Draft Mar *71

Vector:

"A vector manifests a unique energy event expressed discretely in tern of direction, mass velocity and distance.*

- Cite RBF in SYNERGETICS Draft March 1971

RBF DEFINITIONS

Vectors:

"Vectors always and only coexist with two other vectors, whether or not expressed, i.e., every event has its nonsimultaneous action, reaction and resultant."

- Cite MF to originalls on SYNERGETICS Draft, Sec. 604, torch 1971.

V?c«<S - *SXI.os*)

Vectors:

"Vectors are curvilinear lines of very high frequency regeneration of energy events whose high frequency short wavelengths only superficially appear to be straight."

- Cite RBF to Hans Meyer in 11.M. Memo of 23 January 1971
as re-written, by RBF on insert of Section 601 of
SYNERGETICS Draft, March 1971.

TOKS - sec. sir. »3\

Vector:

"a vector is a very high frequency line of energy which looks superficially •straight.*"

(Adapted.)

- Cite RBF to Hans Meyer in H.M. memo of 23 January 1971.

VeciinT-Sec'

Vector:

"Vectors are spearlike lines representing the integrated velocities, directions, and masses of the total aggregate of nonredundant forces operating complexedly with a given energy event as the latter transpires within a generalised environment of other experiences whose angular orientations and interdistance relationships are known.

"Every physical event in nonsimultaneous scenario Universe is characterized by three, multidimensionally interlinked vectors which interact at angles other than 180° to one another as in the multidimensionally, helically zigzagging pattern of lightning.

- Cite NEHRU SPEECH, p,22, 13 Nov'69

Vector:

- Cite RBF to Verner Smythe, NYC, Reel 1, p.8_t 25 Feb'73

Vector:

" A vector is a line as a discrete unit of energy expressed in terms of mast., velocity and distance."

- Cite DEFINITIONS FOR SYNERGETICS BY PETER PEARCE , May'67
VfCToflJ -SEC. Si I. 61

Vector:

action kta and the vector.it creates ?

Therefore the terminal end of an
is not instantaneous.
action's vector occurs later."

(Adapted.'

- Cite NASA Speech, p. 52 , Jun '66

Vrcr.KS- SEC. sii. o3|

Vectors

"What do we mean by lines? We can say that because lines are directional energy events, they are vectors.

A vector always has direction, relative to other events, and its length, or energy magnitude, always represents the product of its velocity multiplied by its mass. The direction is an angular one in respect to an omnidirectional coordinate system having a specific central point and a specific set of external points at specific angles and distances from one another and from the central point."

ff J_{un}r66

. - Cite MJOWn T It

V£<TO<S - sec. 52.1.oIA

Vector:

"Because lines are directional energy events they are vectors. A vector always has direction, relative to other events and its length or energy magnitude always represents the product of its velocity multiplied by its mass. The direction is an anguX one in respect to an omnidirectional coordinate system having a specific central point and a specific set of external points at specific angles and distances from one another and from the central point."

~“ ~ T7 - Cite NASA Speech, p.49, Jun'66

MAI. F ~ VFC- SEC 5Zh0li

Vector:

"Vectors have unique direction in relation to other experiences; they hve mass times velocity and

they are discrete in length."

- Cite LEDGEMONT, pr> 6-7, 15 Oct '64

VEcTd/tS- SEC- 52I.o£|

Vector:

"Each vector is reversible having its negative alternate.

"Every point ipay export all or any of its six positive or six negative vectors by importing like numbers.

"Each point in universe could be said to have twelve unique and exclusive vectors, but one set of six is operative and its alternate reverse effect set is only potential."

Cite COLLIER'S, P. 113, Oct *59

- \$t c JU. oil

RHE DEFINITIONS

Vector:

- For citation and context see Isotropic Vector Matrix. Jun *66

Vector:

"Vectors are real experiences and they have inherent velocity and mass."

- Citation It context at Velocity, 12 Jul'62

Vectorial Advantage:

See Gravity, 21 Dec `71

Vectors - Capabilities:

See Vectors, 22 Jun*77

Vector Center Fix;

See Isotropic Vector Matrix, 30 Nov'72

See Dymaxlon Vector Constant

Synergetic Constant

See Twist Vertex

Uni-angular Vectorial Convergence Vertexial Connections

See Convergence, 16 Nov'72

Vectorial Expression of Mass & Frequency:

See Powering: Fourth Powering, 15 Oct'72 ; 9 Sep'75

"We, however--- inspired by Avogadro's identical energy conditions under which different elements disclosed the same number of molecules per given volume--- are exploring the possible establishment of an operationally strict vectorial geometry Held, which is an isotropic (everywhere the same) vector matrix. We abandon the Greek perpendicularity of construction and find ourselves operationally in an omnidirectional, spherically observed, multidimensional, omni-Inter- transforming Universe. Our first move in spherical reality scribing is to strike a quasi-sphere as the vectorial radius of construction. Our dividers are welded at a fixed angle. The second move is to establish the center. Third move: a surface circle. The radius is uniform and the lesser circle is uniform."

- Cite RBF insert to SYNERGETICS galley at Sec. 825.28, 22 Nov'73

See Avogadro: Generalized Avogadro System

Isotropic Vector Matrix

See Geometry of Vectors, Aug'71

Sixty-degree Modulatability, 19 Nov'72

Vectorial Geometry:

See Geometry of Vectors

"Each vector is composed of two halves, each half belonging respectively to the unique radius of one of the tangent spheres that is perpendicular to the point of tangency. The half-vector radii of the isotropic vector matrix are always perpendicular to the points of tangency; therefore they operate as one continuous vector."

- Citation at Isotropic Vector Matrix. 28 Oct'73

RBF DEFINITIONS Vector:

Half Vectors:

"In the isotropic vector matrix derived from the closest packing of spheres, every vector leads from one nuclear center to another, and therefore represents the operational effect of a merging of two force centers upon each other, Each vector is composed of two halves, each half belonging respectively to any two adjacent nuclear centers. Each half of the line represents those unique radii of each of the tangent spheres which alone are perpendicular to the identical points of tangency and therefore they operate as one continuous vector.

"Unity as represented by the internuclear vector modulus is of necessity always of the value of two, that is, unity is inherently two for it represents union of a minimum of two energy centers."

- Cite EARTH, Inc., p. 18, as re-written in SYNERGETICS,

"System, Isotropic Vector Matrix," Secs. 420.2 + 420.21 and "Corollaries," Sec, 240.40.

- Citation and context at Isotropic Vector Matrix: Internuclear

Vector Modulus. 1971

See Internuclear Vector Modulus Line Between Two Sphere Centers
Prime Vector

See Compression, 9 Jul'62 Infinity & Finitude, (1) Pauling, Linus, 7 Oct*?!
Tidal, 31 !!ay*7!

"When there is an interference of two energy events of similar magnitude, there is a coequal pattern of interference resultants, as when two knitting needles slide tangentially by one another. But when one converging body of an Interfering pair is much larger than the other, the little one `seems* to do all the resultant moving as viewed by an observer small enough to see the small converger's motion---as, for instance, human beings see a tennis ball hit the big ball Earth and

see only the tennis ball bounce away, the Earth ball being too big to be seen as a ball by the viewer and the relative bounce-off deflection of Earth's orbit from the tennis ball point of impact being too small for detection. As the magnitudes of energy vectors are products of the mass multiplied by the velocity, the velocity may be high and the mass small, or vice versa, and the vectors remain the same length or magnitude. A little body moving at sufficient velocity could have the same effect upon another body with which it interferes as could a big body moving at a slower rate. With these vectorial variables in mind, we see that there are three fundamental preconditions of the interference vectors: where one is larger than the other; one is the same; or one is smaller in energy magnitude than the other."

- Cite SYNERGETICS text at Sec. 517.06; Apr'71

See Graphable, 2 May'72 Quantum Mechanics: Minimum Geomet-leal Fourhess

(4)

Vectorial Modal for Magic Numbers:

See Magic Numbers Model

Vectorial Haar-nleii:

See Twisting, 20 Dec'73

- Cite SYNEREGTICS text at Sec. 513.01, Mar'71

Rectorial Orientation;

See Axle of Conceptual Observation

Orientation

Time-angle-size Aspects

See Synergetics, 24 Sop'73

Vector as 1/12th of Relevant System Potential:

"First powering expresses only one vector, i.e., 1/12th of relevant system potential."

- Citation 4 context at Powering; One Dimension, 15 Oct'72

See Twelve Universal Degrees of Freedom

See Powering: One Dimension, 15 Oct'72*

"...God is 99.9999 percent of Universe and the six total vectors come back upon themselves, for the vectors are real.

- Citation & context at Heaven. 23 >!ay'72

See In, Out & Around, Nov'71

Vectors / Restraints:

See Vectors, 22 Jun•77

See Vector Equilibrium: Unarticulated VB, 2 Nov*73

Vectorial Symmetry:

See Vector Equilibrium, 19 Feb'72

See Powering: Sixth Dimension, 28 Oct*73

Vector-tensor Measurability:

See Vector Equilibrium, (2)

"Vectors and tensora constitute all elementary definition."

- Cite RBF rewrite of SYNERGETICS text at Sec. 200.05; galley marginalia, 11 Oct'73

"We can make Platonic figures in nonsolid tensegrity where none of the lines go through any of the same points at the same time, and we realize that the only seemingly continuous, only mass-interattractively cohered, atomic 'Milky Way' tensor strands spanning the gaps between the only seemingly 'solid,' omni-islanded, vectorially compressioned struts, do altogether permit a systematic, visually

informed, and realistically comprehended differentiation between the flexible tensor and inflexible vector energy eventw behaviors, all of which are consistent with all the experimental information accruing to the most rigorous scientific discipline,^{1*}

- Cite SYNERGETICS draft at Sec. 713.05, 19 Oct*72

Vectors fc Tensors:

"In tensors and vectors of equal magnitude the spirallinearity of the vector is shorter in overall spatial extent than is the spirallinearity of the tensor."

- Citation fc context at Spirallinearity. 25 Mar'71
: Fixes -*Sec. Slo*)
- Cite RBF to EJA, Blackstone Hotel, Chicago, 25 Mar*71
TfwSas „ SFC.521, ;s|'|

. Dimension must be physical /and/ . • • dimension must be energetic.

Vectors and tensors constitute all elementary dimension."

- IM. -K- 7 11 J 1
- Citation & context at Dimension., 1 Apr'iy
VECTORS- sex
See Dimension, 1 Apr*49*

Spirallinearity, 25 Mar'71* J Nov¹?!

Vector Equilibrium, 23 Oct'72

Vector: Threeness of the Vector:

(1)

"There is a constant relative abundance for every vertex in the Universe. There will always be two faces and there will always be three edges. Which is to say then, that for every event in the Universe the number of lines (which are the vectors, the energy actions) will always be three--- or multiples of three.

'Now this is consistent with what we used to have in engineering where we learned that 'every action has a reaction.* But since the discovery of the speed of light ... we realize that every action has a reaction and a resultant. The resultant and the reaction are not the same. This, then, gives you something very interesting. Every energy action, every energy event is three-part: action and reaction and resultant. They are the vectors. Now we find that the reaction and the resultant are never a 180° continuance of the vectors. There is always something that transpires that makes it precess. So an energy action is some kind of a 'Z*--- an open 'Z* if you think of a *2' as three connecting lines. Now the ends of the same three could come around and make it look like a triangle. So it might be a 'Z' or a triangle. There are always three parts, but never at 180° so it's not a straight line

- Cite RBF to Verner Smythe, NYC, Reel 2, p.6, 11 Mar*69

Vector; 1'hreeness of the Vector: (2)

'It has been found that the proton and the neutron consist of three basic energy components. The proton has its electron and its antineutrino. That takes three vectors. The neutron has its positron and its neutrino. Each one is threefold. Now I take these two and I put them together. Each one of those is called in physics--- either could be called 'One-half quantum,' 'one-half Plank's constant,* or one-half spin.*

"I find when 1 join the two of them together they give me something that is very stable: it makes one tetrahedron. There are the six edges of the tetrahedron. ... A tetrahedron is one unit of quantum. This threeness of the vectors is always in here so this gets to be the basic model. The only difference here is that the prime numbers 1, 2, 3, and 5--- they take care of the hierarchy of all the polyhedral geometries, of all the structures of all the atoms."

- Cite RBF to Verner Smythe, NYC, Reel 2, pp.6-7, 11 Mar*69

See Quantum: Event-paired Quanta

Seo Coherence, 18 Feb'71

"In the coordinate vectorial topology of synergetics, exponential powers and physical model dimensioning are identified with the number of vectors which may intercept the system at a constant angle, while avoiding parallelism or congruence with any other of the uniquely converging vectors of the system."

- Cite SYNERGETICS draft at Sec. 962.07, 17 Nov'72

Vectorial & Vertexial Geometry: ¹¹

"That's how I arrived at the icosahedral version of my Dymaxion airocean world map. Its edge is an arc of $60^\circ 23'$ with symmetrical subsidence locally. All the changes are internal rather than outwardly. If you dismiss error outwardly in a circle--- or circumferentially--- you end up with three times as much error as if you dismiss them inwardly. The only way to improve on the isosceles version would be to have the 120 triangles of spherical unity, but that would mean breaking up the continents which I didn't want to do. It took me two years to find the airocean array.

"Any incremental module rule could be made into the spherical uniform boundary scale. You just never break open the system.

"Measurement " frequency.

'That's what I thought Avogadro was looking for: a geometry of vectors bringing in time through the velocity of the vector... the frequency of their discrete dimension!

"Avogadro accounts volume with number in a much better way than just putting water in a cube.

- Cite RRF videotaping session, Philadelphia, Pa., Jan'75 **"All three-phase vectors come together to make sum-total structures.**

"You look at any scratched surface and you will always see circles. Where there is light present there are lines that get lit up since they are precessional to the direction of the light. This gives you the sunburst effect in a hubcap or fender.

"Vertexial accounting x spherical accounting

"The rhombic dodecahedron, like the cube, fills allspace. It has a volume of six. It is the epitome of the behavior of closest packing. The rhombic dodecahedron is the domain of a sphere " spheric.

cut up

"The 25 great-circle planes W/the eighth-octahedra vector equilibrium corners into the A and B Modules. The fractions come out rationally.

"The triangle is invariable: connecting the bisectors produces similar triangles. This is not true of quadrangular"

- Cite dBF videotaping session, Philadelphia, Pa., Jan'75

Vectorial fc Vertexial Geometry: (3)

"bisection.

'Force diagram - music stand form.

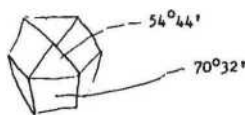
"So you have $70^{\circ} 32'$ and $109^{\circ} 28'$. The coupler fills allspace with a unity of $24 = 1/24$ th tetra. Two spheres kiss in the coupler. It provides 92 basic rearrangements of the A and B Modules to accommodate the 92 chemical elements.

"All number relationships are covered by the octant, insideouting, plus-minusing, and so forth, what are all the variables of the system? That is the question to ask. All of the variables of the system are in the coupler.

Plato tried to accommodate the number seven. He knew that $7 \times 35 = 245$, a very Interesting number.

- Cite RBF at Penn Bell videotaping session, Philadelphia, 27 Jan*75

| | | |
|----------------------------------|----------------------|------------------|
| RBF then drew on the blackboard: | 60° | (4) |
| 60° | $5^{\circ}16'$ (yes) | $+10^{\circ}32'$ |
| $-54^{\circ}44'$ | $5^{\circ}16'$ (yes) | |
| $5^{\circ}16'$ | $10^{\circ}32'$ | $70^{\circ}32'$ |
| YES-YES-NO: | | |



- Penn Bell videotaping session, Philadelphia,

See Avogadro: Generalized Avogadro System Geometry of Vectors
Force Lines: Omnidirectional Lines of Force Vectorial Geometry Field
leotropic Vector Katrux

See Actlon-rcaction-reiultant

Balancing of Vectors Congruence of Vectors Cosmic Vectors Doubling-
up of Vectors Edge Energy Vectors Force Lines: Omnidirectional Lines
of Force Four Vectors Define Minimum System Geometry of Vectors
Hexagonal Vector Pattern High Tide Aspects of Vectors Intervectoria1
Integrated Vectorial Resultant Isotropic Vector Matrix: Internuclear
Vector Modulus Javelin Limit Case Vector Chord System Line Negative
Vectors Physical Vectors Precession of Octa Edge-vector Prime Vector

See Radial

Spear Tensor Three-vector Teams Time Vector Trajectory Three-
phase Vectors Uni-vectorings Wavilinear

See Bow Tie, 14 Sep'71 Design. 25 Jan'72 Dimension, 1 Apr'49*
Event, 11 Oct'71 Interference. (1)(2) Otherness Point, 24 Sep'73
Polyhral Systems, 25 May¹72* Powering: One Dimension, 15 Oct*72
Powering: Sixth Powering. 26 Nov*72 Quantum, Jun'66; Quantum
Sequence, (3) Six, 7 Oct'71 Time, 21 Dec *71J 27 May'72* Time-size,
JO Oct*72 Velocity, 12 Jul'62* Multidimensional Accommodation,
11 Dec'75

See Vectorial Advantage Vector Center Fix Vector Constant: Dymax-
ion Vector Constant Vectorial Convergence

Vectorial Expression as Kass k Frequency

Vectorial Geometry Vectorial Geometry Field Vector: Half-vectors
Vectorial Model for the Magic Numbers Vector Modelability Vectorial
Near-miss Vectorial Orientation Vectors Are Real Vectorial Symmetry
Vectorial System Modular Frequency Vector Equilibrium

See Vector-tensor F.enaurability

Vector: Threeneas of the Vector

Vector: Three-vector Teams

Vectorial Topology
 Vectorial & Vertexial Geometry
 Vectorial 1/12th of Relevant System Potential
 Vector: One-second Vector Length
 Vectorial Model of Interference
 Vectors - Capabilities
 Vectors / Restraints
 VECTOR EQUILIBRIUM
Vector Equilibrium:

"The vector equilibrium is the zero starting point for happenings or nonhappenings: it is the empty theater and empty circus and empty Universe ready to accommodate any act and any audience.*"

- Cite smbRGbTICS, (2nd. Ed.) at Sec. 503.03; 11 Dec«75

"Ware arriving at a new phase of comprehension in which we will be discovering that all physical cases experimentally discovered are only special cases of the generalized principles of nuclear systems: i.e., the vector equilibrium.*"

(bee. 531.06; 2nd.Ed.)

- Cite RBF marginalia at "Quarks With Color and Flavor" in Scientific American. Oct*75

"What you speak of as the cubo-octahedron, I speak of as the vector equilibrium, its radial and chordal vectors being of equal magnitude and abundance.... The vector equilibrium has the virtues of having a boundary scale of 60 degrees for each of the pieces, and its spherical excess is slightly less than that of the icosahedron; ergo the distortion is mildly less than that of the icosahedron..."

- Citation & context at Dymaxion Airocean World Map. (2), 26 Aug¹75

"To understand the linear expansion rate think of making soap bubbles where deeply layered molecules get stretched into a single layer as the single atoms guarantee the interattractiveness integrity of the area-stretching thin-out of the atoms.

"We now come to the balancing of the vectors of the vector equilibrium and the arrangement of the 24 external vectors--- end-to-end, closing back upon themselves--- in four great-circle planes, constituting an 'additional* vector force magnitude of 24 embracing the outwardly and separately exploding 24 internal vectors which now operate in increasing independence of one another-- each produces a force of only one.

"«/e have the surface net drawing on a force resource of 24--- multiplied by radius frequency to the second power-- while the originally-24-force, radially explosive events separate out from one another to produce only separate first-power effectiveness. Hence the gravitational force's geometrical progression rate of gain; i.e. its second-power surface embracing finiteness closure is always at a high energy effectiveness advantage over the disintegrative linear first-power, or only arithmetical progression rate of gain in force."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1052.67, 3 Jan'75 "The behavioral inter patterning frame of reference of the six degrees of freedom in respect to omnidirectionality is, of course, the vector equilibrium, which embraces the three-dimensionality of the cube and the six-dimensionality of the vector equilibrium....

"The 24-positive- and 24-negative-vectored vector equilibrium demonstrates an initially-frequenced, tetrahedrally quantized unity of 20; ergo the Universe, as an aggregate of allnumanity apprehended and comprehended experiences, is at minimum a plurality of 24 vectors."

- citation *k* context at Twelve Universal Deereea of frtt doa,

'The vector equilibrium is the central symmetry through which both balanced and unbalanced asymmetries pulsatingly and complexedly intercompensate and synchronize-.*

"The vector equilibrium's frequency modulatability accommodates the numerically differentiated twonesses."

- Citation & context at Two Kinds of Twoness. (A), 10 Nov'74
Vector

"Whenever we refer to an entity it has to be structurally valid and therefore it has to be triangulated. Being locally mixed, Sectorially symmetrical but facially asymmetrical; being triangulated but not omnitriangulated, vector equilibrium may function as a system but not as a structure

- Cite RBF composite; incorporated in SYNERGETICS 2 at Sec. 223.34;
8 Sep'77

yss.w. ES541librluro I—=

Whenever we refer to an entity it has to be structurally valid and therefore it has to be triangulated.

Being locally mixed, symmetrical and asymmetrical being (Vector
` ` equilibrium triangulated but not omnitriangulated'Bi may "function
as a system but not as a structure.

- Cite EJA composite prior to 7 Sep'77

"Systems are domains of volumes. One difference between a domain and a volume is that a domain cannot have an interior point, because if it did, it would be subject to more economical subdivision. For instance, the vector equilibrium is a system and has a volume, but it consists of 20 domains. A vector equilibrium is not a prime domain or

a prime volume, because it has a nucleus and consists of a plurality of definitive volumetric domains. The vector equilibrium is inherently subdivisible as defined by most economical triangulation of all its 12 vertexes into eight tetrahedra and 12 quarter-octahedra constituting 20 identically volumed, minimum prime domains."

- Cite SYNERGETICS text at Sec. 1011.11; RBF rewrite of 26 Dec*73

"As the circumferentially united and finite great-circle chord vectors of the vector equilibrium cohere the radial vectors, so also does the metaphysical cohere the physical."

- Cite RBF rewrite of SYNERGETICS galley at Sec. U0.08, 4 Nov'73

"All the internal, or nuclear, affaire of the individual atone occur internally to the vector equilibrium. All the external, or chemical compoundinge or dieaeecociatione, occur externally to the vector equilibrium. All the phenomena external to-- and more complex than--- the five-frequency equilibria relate to chemical compounds. Anything internal to--- or less complex than--- the five-frequency vector equilibrium relates principally to single atoms. Single atoms maintain omnisymmetries;

whereas chemical compounds may associate as polarized and asymmetrical chain systems.¹¹

- Cite RBF rewrite of SYNERGETICS galley at Sec. 440.03, 3 Nov`73

"The vector equilibrium ie a Bystem. It 1b not a atructure. Nor is it a prime volume because it haa a nucleus. It is the prime nucleated system. The eight tetrahedra and the six half-octahedra into which the vector equilibrium may be vectorially subdivided are the rational accounting volumes that are relevantly involved."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 430.06, 2 Nov'73

"The omnidirectional, omnidirectional, propagating pulsatility of Universal realization is eternally potential and implicit in the vector equilibrium."

- Cite NBF rewrite of SYNERGETICS galley at Sec. 310.02, 30 Oct'73
- Citation and context at Planck's Constant 15 May'73

"It was the initial quality of seemingly invisible vector equilibrium, as well as that it was not experimentally discoverable, which has kept the vector equilibrium so long unrecognized as the $\square\square\square\square$ equilibrating model."

(For later version of above see Vector Equilibrium as Starting Point, 8 Apr'75.)

- Cite RBF to EJA, National Airport, 27 Nov'72

"The vector equilibrium always and only represents the first omnisymmetric embracement and nucleation of the first-self-discovered-by-otherness-sphere by the completely self-embracing, twelvefold, isotropic, continuous otherness.

"Sphere is prime awareness.

"Spheric domain is prime volume.

"Only self-discoverable spheric system awareness generates all MB inwardness, outwardness, and aroundness dimensionality."

- Cite SYNERGETICS draft at Secs. 981.21-24, 18 Nov'72

"On the other hand, the vector equilibrium is the one and only unique symmetric polyhedron inherently recurring as a uniformly angled, centrally triangulated, complex collection of tetrahedra and half-octahedra, while also constituting the simplest and first

order of nuclear, isotropically defined, uniformly modulated, inward-outward-and-around, vector-tensor structuring, whereby the vector equilibrium of initial frequency, i.e., 'plus and minus one' equilibrium, is sometimes identified only as 'potential,' whose uniform-length 24 external chords and

12. internal radii, together with its 12 external vertexes and one central vertex, accommodates a galaxy of 12 equiradiused spheres closest packed around one nuclear sphere, with the
13. spheres' respective centers omnicongruent with the vector equilibrium's 12 external and one internal vertex."

- Cite SYNERGETICS text at Sec. 955.02; RBF rewrite of 23 Oct»72

. . We have now all the permeabilities of the MITE's and the number of nonregular octahedra and the number of nonregular dodecahedrons. Then we have next the total sphere as the convergence in the vector equilibrium with its spaces ... and concave. And we have the concept of the limits of asymmetry in respect to the vector equilibrium as the limit of coming to the molecules. That's what we have: nuclear uniqueness, and all of its variables within the domain of the three-frequency vector equilibrium. . . , Dealing with the transformation of the jitterbug and tensegrity forming from tetra to icosahedron by sliding the point of concentrated pressure, going from the ends to the middle, and our confirmation of the original concept that the vector equilibriums are nuclear structures embracing all the variables of Universe, associating all the molecular build-ups, which has to do with syntax because I am holistic and I really don't want to be limited. . . ."

Z~See Puzzle of Washington Crossing the Delaware.

for follow-on sequence. __/

- Citation and context at Cosmic Fish Sequence (3), 16 Oct'72

R8F DEFINITIONS

"Twentyness is significant as the inherent minimum twentyfoldness of the time-space, energy-mass, volume potential of the subfrequency vector equilibrium as Quantized by using as unity the geometrical volume of the minimum structural system of Universe: the tetrahedron whose fractional integrity subdivided by the complex of A and B Module reorientations is in the high order number of magnitude of the enzymes' interrelationship permutations

- Citation & context at Enzymes, 2 Oct'72

RBF DEFINITIONS

"As the most compact sperical agglomeration the vector equilibrium expands indefinitely with a new nucleus every four successive generations of synrietrical self-embracement.

- Cite RBF rewrite of SYNERGETICS Sec. 445.01, 22 Jun'72

'Vector equilibrium and ideal are the same. Nature

never stops there. Universe has it. But in our temporal life there will always be some degeee of lag or asymmetry which misses the exactitude of the ideal. . . "

- For citation and context see Ideal. 1 Apr '72

"The vector equilibrium is always facially asymmetrical, but vectorially symmetrical. The tetrakaidecahedron is vertexially asymmetrical but linearly symmetrical."

* Cite RBF (discussing Tetrakaidecahedron. 31 Kay`71) dication to EJA, 19 Feb'72

KBF UEFIUNb

"Congruence is allowable only in the vector equilibrium because we can talk about vectors or about circuitry as a design."

- Citation & congruence at Congruence, 25 Jan*72

=j.aano , -Washington DC, 25 Jan '72

"Universe is a noneimultaneously potential vector equilibrium."

- Cite SYNERGETICS Corollaries, 1971 SYNERGETICS text at Sec.
240.28

"Only the vector equilibrium has the same surface and
central angles

- Cite RBF to EJA, J200 Idaho, Washington DC, 21 Dec. '71

RBF DEFINITIONS

Vector Equilibrium:

"While nature oscillates and palpates asymmetrically in respect to
the frame of omnirational vector equilibrium, the plus and minus mag-
nitudes of asymmetry are rational fractions of the omnirationality of
the equilibrus state, ergo, omnirationally commensurable and mod-
elable to the fd'Xm

power-- which order of powering embraces all experimentally dis-
closed physical behavior.

It was the failure of the exclusively three-dimensionality of the XYZ
interperpendicular coordination that gave rise to the concept that the
'fourth dimension' must be a mysterious state, which might be spo-
ken of casually as a time dimension, because the XYZ coordinates
in themselves, as heretofore adopted by man,** has seeming validity
only in its linear and spatial characteristics independent of time and
physical reality."

- Cite HBF to -JA, 21 Dec. '71, i20u Idaho, . /ash. DC.

- 3 ec. <TU. 16]

The syntropic vector equilibrium's reversibility--- inward ly-outwardly--- ia the basis for the gravitationally maintained integrity of Universe."

- Citation and context at Star Tetrahedron, fi Oct¹71

Vector Equilibrium:

"The vector equilibrium itself is only a referential frame of conceptual relationships at which nature never pauses."

- Cite SYNERGETICS. "Synergetics," Sec. 219, as re-written by RBF 7 Oct. 1971.

"The vector equilibrium consists not of curved lines but of wave lines."

~~-PFI, n-T-i, ,~~

Citation &. context at **Push-PyXI* Push WaYft &Hxll Uaiui**, 25 Aug'71

RBF DEFINITIONS

Vector Equilibrium:

"The connection between the six degrees of freedom and omnidirectionality ia, of course, the vector equilibrium, which combines the threeness of the cube in relation to 20 as unity - VE, Experience is inherently omnidirectional. Ergo, there is not just one 'other.' There are always at least 12 'others.' Ergo, vector equilibrium, which is sub-frequency. Happenability has the vector equilibrium as its minimum model, ergo the Universe, experience, can't be one quantum."

Vector Equilibrium;

"The vector equilibrium remains subfrequency until we

have a frequency of two, where frequency begins. Not until we have size, not until we have energetic experiencdtability i.e. not until we have reality, do we have structural stabilization of the nuclear 12. . . And even at the frequency of two, the half-octahedra are unstable."

- Cite RBF to EJA, Bear Island, 23 August 1971.

KBF JE.F1H1T1U&5

"one difference between a domain and a volume is that a volume cannot have an interior point, because if it did it would be subject to more economical subdivisions.

For instance, the vector equilibrium is a system and not a volume. A vector equilibrium is not a volume because it has a nucleus. The vector equilibrium breaks down into eight tetrahedra and six half octahedra: those being the volumes which are really involved."

- Cite Synergetics draft, bee. August 1971.

io if.oz

(bee Vector Equilibrium, 26 Dec'73 for revision & amplification of above statement?/

"The vector equilibrium contains the whole phenomenology of the Universe. The vector equilibrium is never witnessed by man. It is as pure as God. It is truth which is approached; it is exactitude that is approached."

- "Bucky" by Hugh Kenner, p. 116; probably from Snyder Film or Farrell tape, summer*71 *

- Cite RBF to EJA, New York, 8 May 1971.

"The vector equilibrium and the isotropic vector matrix are the equilibrium or the central set of conditions through which physical reality palpitates. It never stops at the center. . . , You will never be able to catch Nature at the dead center because it has alternate dead centers"

- Cite RBF tape transcript to BO'R, Carbondale Dome, 1 May 1971. page 1.

"The vector equilibrium is absolutely dead center of

Universe and will never be seen by man in any physical experience--- yet it is the frame of reference. And it is not M in rotation and it is sizeless and timeless. . . "

- Cite tape transcript RBF to BO'R, Carbondale Dome, p. 39, 1 May '71

"This omniradiational isotropic vector system accounting shows a set of values corresponding to the omnirational quantation of all chemistry's associative or disassociative events. It also shows that the vector equilibrium--- consisting basically of twenty tetrahedral quanta--- is at once the concentric push-pull interchange, vectorial phase or zone, of neutral resonance which occurs between outwardly pushing wave propagation and inwardly pulling gravitational coherence."

- Cite Nehru Speech, p. 26 , 13 Nov*69

KBF UftFINITluNO

"The polyhedron shape of these nuclear assemblages of closest packed spheres ... is always that of the vector equilibrium (or cuboctahedron), having always six square faces and eight triangular faces. They are vector equilibrium models because their explosive and implosive forces are always equal, as shown by their four-dimensional hexagonal cross sections whose radial and circumferential vectors balance, nature never pauses her cycling at the equilibrium phase, she always closes her transformative cycles at the maximum positive or negative asymmetry stages, see the delicate crystal asymmetry in nature."

- Cite Nehru speech, pp. 25,20, 13 Nov'69

KBF DtFifuriunb

"The vector equilibrium's volume is always frequency to the third power times twenty. When the vector equilibrium's frequency is one (or radiationally inactive) its volume is $20 \times P - 20$."

- Cite Nehru Speech, p. 26, 13 Nov'69

‘For wave propagation I had already found nature using

the vector equilibrium as the neutral geometric configuration occurring between the radiational and gravitational forces."

- Cite RBF holograph, Bear Island, 18 Sep *69

RBF DEFINITIONS

'•The volume of the vector equilibrium consists of eight tetrahedra and six half-octahedra. Therefore, the volume of the vector equilibrium is exactly twenty."

(See Illustration fi 28.)

Cite Illustration y28 , May'67

1The vector equilibrium is the "most compact spherical agglomeration;" it 'expands to infinity" with "a new nucleus every four orbits."

(Adapted.)

- Cite Geometrical Chart of 35 Synergetic Figures:

- Fig. 22. May '67

Vector Equilibrium:

(I)

"The vector equilibrium is of the greatest importance to all of us because all the nuclear tendencies to implosion and explosion are reversible and always in exact balance. But the important thing is that the radials which, if they are outwardly pushing, would tend to explode, are always frustrated by the tensile finiteness of the circumferential vectors which close together in an orderly manner to cohere the disorderly sundering.

"When the radial vector are tensilely contractive and separately implosive, they are always prevented from doing so by the finitely closing pushers or compressors of the circumferential set of vectors. The integrity of Universe is implicit in the external finiteness of the circumferential set which always encloses the otherwise divisive internal radial set of omnidirectional vectors.

"All the internal or nuclear affairs of the atom occur internally to the vector equilibrium and all the external or chemical associations occur externally to the vector equilibrium."

Vector Equilibrium:

di)

"The vector equilibrium itself is never found exactly symmetrical in nature's crystallography. Nature, which is ever pulsive and impulsive, refuses to get caught unrecoverably at the zerophase of energy. Therefore, there will always be positive and negative sets which are ever Interchangeably intertransformative with uniquely differentiable characteristics. The vector equilibrium is the true zero reference of thewmi energetic mathematics."

— Cite NASA Speech, p,83, Jun'66

"The geometrical form constituted by the twenty volumes of tetrahedra is called the vector equilibrium because the value of its radial vectors is exactly matched by the finitely closed, circumferentially arrayed vectors of opposite implosive-explosive potential."

- Cite- Carbon date Draft

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k) AM

"The metaphysical, as with the circumferentially united, great-circle chord vectors of the vector equilibrium coheres the physical."

- Citation and context at Matanhysical and Physical, Jun'66

- 'The Dymaxion', this seemed to me, in due course, to be presumptuous as it is nature's most fundamental of all energy interactions, i.e., the vector equilibrium.

- Citation and context at Dymaxion, 19 Apr*66

-Baar

- title—4 May 1966 <J\IU viiduwto "HUF Ltr» to **"I found this 2~10* F + 2 J relationship first in respect to what I call the vector equilibrium (which is usually known by its ambiguous Platonic title, the 'cubo-octahedron.¹) I gave it its title of vector equilibrium because of its four symmetrically interacting great-circle planes, each consisting of hexagonally bound planes— visible when the vector equilibrium is cut into two halves, by any one of its four great-circle planes. Because they are radii of similar hexagons, the twelve radii of the vector equilibrium are equal in length to the 24 chordal edges which bind the four hexagonal hemi-sections of the system.'***

- Cite HBF Ltr. to Dr. Robt. W. Horne, 1 Dec *65, p.1.

"Because each of the twelve radii of the vector equilibrium consist of two congruent radii, of the 24 radii of the four hexagonal hemi-sections, the sum of the vectorial values of the radii is 24--- and the vectorial sum of the finitely closed chordal perimeters of the four hexagons is also 24--- which means that the vector equilibrium's explosive or implosive forces are in equilibrium with its externally and finitely containing tensive bonds or compressively spread or strutted structural system."

- Cite RBF Ltr. to Dr. Robt. W. Horne, 1 Dec '65, p.1.A

RBF DiiFIKlTICfcL

"'Unitary symmetry' is conceive 2ably_?7 ... my vector equilibrium cj.coverf.d in early 191? and named 'vector

equilibrium' in 1940.”

- Cite HUF marginalis on article by F.T. Matthews, "The Pattern of Katter," The Listener. 25 Nov. 1965. Matthews uses the term 'unitary symmetry*' to describe hexagonal patterns of particles of spin.

Vector Equilibrium: (A) M

"Vector equilibrium, i.e., a structural /"sic - EJA__7 system in which the radial vectors and the circumferential vectors are of equal magnitude; ergo the tendency to explode or to contract is in equilibrium; either could but neither does. unless something is added or subtracted to change the dynamic balance.

Equilibrium is a `dangerous* condition because--- due to entropy--- something is always about to be added or subtracted to change the balance.

"When an airplane stalls it is in equilibrium. The vector equilibrium consists of four symmetrically interdisposed planes. These four planes are parallel to the four unique, symmetrically interdisposed planes of the regular tetrahedron. The vector equilibrium shown in the picture is subpatterned with a two-fold, modular frequency, edge and radius subdivision. Both radial and circumferential frequencies of modular subdivision of the vector equilibrium are always, everywhere, equal, in both magnitude and number.

` ` The volume of the vector equilibrium is always 20 times frequency to the third power, written as 20

- Cite Conceptuality of Fundamental Structures (Kepes) p.69, 1965 (Caption, Fig. 3)

Ytftor Equilibrium; (B)

"The vector equilibrium is also known as an isotropic vector matrix. The vertexes of the vector equilibrium of any frequency are always congruent with spheres of equal radius in closest packing. . .

"The number of vertexes in the vector equilibrium, which are always the same as the number of the spheres in omnisymmetrical closest packing, are always: frequency to the second power times ten plus two--- written as $10 F^2 + 2$."

- Cite Conceptuality of Fundamental Structures (Kepes), p.69, 196\$ (Caption, Fig.

(For later version of above see Vector equilibrium as Starting Point. 8 Apr*75.)

- Cite LEDGE'IENT LAB Lecture, 15 Oct *64, p. 29
SYSTEM - Sec

Therefore, frequency would begin at two. . . Therefore, vector equilibrium ... a one-frequency system . . .

is really subsize. . . Looking at vector equilibrium as unity--- as all the domain of a point ... we find that it has a volume of 480."

—i, r ir? r T—

- Citation at Frequency, 12 Jul'62

. Two of those degrees of freedom are always subject to being polarised. . . "

- Cite Oregon Lecture #7, p. 238. + p, 242. 11 Jul*62

"In the vector equilibrium form we have an enormous number of random lines running omnidirectionally which begin to triangulate omnidirectionally. On of the important aspects of this is that it consists of four planes. At its equator it has a hexagon and four hexagonal planes

crossing each other at the center of the system. Those four hexagonal planes correspond to the four faces of the tetrahedron, and they are parallel to them. . . It has eight tetrahedra; there is one on the top, or four altogether in the northern hemisphere and four in the southern hemisphere. And there are six one-half octahedra. There are six square faces and eight triangular faces and the square faces are part of the half octahedra. Therefore it consists of six one-half octahedra each with a volume of $n > 2$, $6 \times 2 = 12$, and eight tetrahedra each with a volume of one, so $8 + 12 = 20$.

"Vector equilibrium /is derived from/ 12 composited spheres around one.

- Cit4EXa4onda-le-Dr»f t

Nature¹-* - Coord inati on, pp. VI. 22,23 *7 -/> " Jul'62

Representing a geometry of vectors it tends to explode or contract . . . opposing one another so that they are in equilibrium with exactly the same values."

- Cite OREGON Lecture #5 - p. 179, 9 Jul*62

The vector equilibrium is "the Grand Central Station of the coordinate mathematical-physical system that is apparently the coordinate system employed by nature to account most economically for its myriad transactions."

- Cite MARKS, p. 1)8, Fig 1,6, caption. (MARKS' quotes.) I960

"A xero tetrahedron is vector equilibrium is Universe.

* Citation at Tetrahedron: Zero TetrahedroM_r I960

"Universe is a nonsimultaneously potential vector equilibrium."

- Cite SYNERGETICS Corollaries, Sec. 240. Oct'59

Vector Equilibrium: (1)

"The vector equilibrium represents:

- A. The energy Universe in equilibrium;
- B. (Corollary) The Universe at dynamic "centerpoint*" and at static 'center point;'
- C. The geodesic centers of influence and convergent intercourse;
- D. A four-dimensional Universe from which universal dynamics •slip by' into three-dimensional aspects;
- E. Energy at absolute expansion;

Energy at absolute contraction;

Energy at absolute heat;

Energy at absolute zero;

F» Rational number fractionation of Universe

- Cite Rbf Synergetics notes, Feb'48

Vector Equilibrium: (2)

"G. The absolute network of energy articulation
including proclivities of—

Chemical,

Biological,

Electrical,

Crystallographic,

Vector-tensor,

Thermal,

Geologic,

Geodetic,

Expansion-contraction,

Spin,

Wave propagation mechanics,

Wave network,

Insideoutability,

Special plus-minus polarity phase,

Gravitational,

Mensurability in comprehensive constants of rational number

- Cite RBF Synergetics notes, Feb'fl

The Vector Equilibrium "is the common denominator of the tetrahedron, octahedron and cube, it is the decimal unit within the octave system. Double its radius for octave expansion."

- Cite DYi-iaXION COKP. LYSTtk, 1944, table 4, caption

See Jitterbug

Symmetrical Contraction of VE

Vector equilibrium: Unarticulated VE

Vector Equilibrium: Propagative Transformation Of

- Cite RBF to EJA, 200 Locust, Phila.; 28 Jan*76

Vector Equilibrium: Complementary to Vector Equilibrium:

"In the vector equilibrium we have all the sets of the tetrahedra bivalently or edge-joined, as well as centrally univalent. Synergetics calls the basally developed larger tetrahedron /` `see Star Tetrahedron the non-mirror-imaged complementary of the vectorw equilibrium. In vectorial energy content -nd dynamic symmetry lies the complei..entarity."

- Cite SYNERGETICS draft "Antitbbc-hedron," 8 Oct. '71, page 6.

VE: Complementary:

See VE: Integral Negative Negative VE

Star Tetrahedron **k** VE

Yflctgr Equilibria: ^EUht-point ad Star SYBtapy

905, ³³ ~~32~~, "The same vector equilibrium's eight, nuclear-embracing, bivalent tetrahedra's eight nuclear congruent vertexes may be simultaneously outwardly pulsed through their radially-opposite, outward triangular exits to form eight externally pointing tetrahedra, which thus become only univalently, i.e., only- single-vertex interlinked, and altogether syninetrically arrayed around the vector equilibrium's eight outward 'faces.' The thus-formed, eight-pointed star system consisting of the vector equilibrium's volume of 20 (tetrahedral unity), plus the eight star-point-arrayed tetrahedra, total volumetrically to 28. This number, 28, introduces the prime number seven factored exclusively with the prime number twp as already discovered In the umty-twoness of the tetrahedron's always and only co-occurring, concave-convex, inherently disparate, behavioral duality. This phenomenon may be compared with the 28-ness in the Coupler accounting as described in section 954.72.**

- Cite SYNERGETICS text at Sec.

"The inherent zero-disconnectedness accounts for the finite energy packaging and discontinuity of Universe, The vector equilibria are the empty set tetrahedra of Universe, i.e., the tetrahedron, being the minimum structural system of Universe independent of size, its four facet planes are at maximum remoteness from their opposite vertexes and may have volume content of the third power of the linear frequency. Whereas in the vector equilibrium all four planes of the tetrahedra pass through the same opposite vertex--- which is the nuclear vertex--- and have no volume, frequency being zero: F^0 ."

- Cite RBF addition to SYNERGETICS galley at Sec. 415.45.

2. Nov'73

See Vector Equilibrium: Zerophase Zero Frequency

"The geometrical model of energy configurations in synergetics is developed from a symmetrical cluster of spheres, in which each sphere is a model of a field of energy all of whose forces tend to coordinate themselves, shuntingly or pulsatively, and only momentarily in positive or negative asymmetrical patterns relative to, but never congruent with, the eternality of the vector equilibrium. The vectors connecting the centers of the adjacent spheres are identical in length and angular relationship. The forces of the field of energy represented by each sphere interoscillate through the symmetry of equilibrium to various asymmetries. never pausing at equilibrium. The vector equilibrium itself is only a referential pattern of conceptual relationships at which nature never pauses. This closest packing of spheres in 60-degree angular relationships demonstrates a finite system in universal geometry.

"Synergetics is comprehensive because it describes instantaneously both the internal and external limit relationships of the sphere or spheres of energetic fields; that is, singularly concentric, or plurally expansive, or propagative and repro-

- Cite SYNERGETICS text at Sec. 205.01, galley rewrite 11 Oct'73

"ductive in all directions, in either spherical or plane geometrical terms and in simple arithmetic.

"When energy-as-heat is progressively extracted from systems by cryogenics, the geometries visibly approach equilibrium; that is to say, removing energy-as-heat reduces the asymmetrical pulsativeness in respect to equilibrium. As the asymmetric kinetics of energy-as-heat are removed, and absolute zero is neared, the whole field of vectors approaches identical length and identical angular interaction; that is to say, they approach the model of closest-packed

spherical energy fields. The lines interconnecting the adjacent spheres* centers constitute a vectorial matrix in which all the lines and angles are identical, which is spoken of by the mathematical physicists as the Isotropic vector matrix; i.e, where all the energy vectors are identical; i.e., in equilibrium: the cosmically absolute zero.

- Cite SYNERGETICS text at Sec.s 205.01-.02, galley rewrite, 11 Oct'73

"Metaphysically, the isotropic vector matrix is conceptually permitted. The difference between the physical and the metaphysical is the omnipulsive asymmetry of all physical oscillation in respect to the equilibrium. Metaphysical is equilibrious and physical is disequilibrious."

"The metaphysically permitted frame of reference for all the asymmetrical physical experience of humanity is characterized by the 60-degree coordination with which synergetics explores nature's behaviors--- metaphysical or physical.

' 'The phenomenon of time entering into energy is just a metaphysical concept. It explains our slowness and our limitations. Temporality is time, and the relative asymmetries of oscillation are realizable only in time--- in the time required for pulsative frequency cycling. Synergetics correlates the verities of time and eternity. The awareness of life is always a complex of cognition and recognition lags. Lags are wave frequency aberrations.

"The vectorial coordinate system deriving from closest packing of spheres permits fourth- and fifth-power models of modular-"

- Cite SYNERGETICS text at Secs. 205.03-.06; galley rewrite, 11 Cct 7-»

"volume symmetrical aggregations around single points in an omnidirectional, symmetrical, allspace-filling radial growth. The unit of modular volumetric measurement is the tetrahedron, whose 60-degree angles and six equilength edges disclose omni-persistent, one-to-one correspondence of radial wave modular growth with circumferential modular frequency growth of the totally involved vectorial geometry. This means that angular and linear accelerations are identical. This is a rational convenience prohibited by 90-degree coordination, whose most economical circumferential geometries are in most cases inherently irrational.

"The angular and linear accelerations of synergetics' isotropic, vectorially triangulated, omnidirectional matrix initiations are rational and uniformly modulated; whereas in the XYZ 90-degree coordinate analysis and plotting of the computational findings of the calculus, only the linear is analyzable and the angular resultants are usually irrationally expressed.

"The frequency and magnitude of event occurrences of any system are comprehensively and discretely controllable by valving,"

- Cite SYNERGETICS text at Sec.s 206.00-.208.00; Oct'77

"that is, by angle and frequency modulation. Angle and frequency modulation exclusively define all experiences, which events altogether constitute Universe.

- Cite SYNERGETICS text at Sec. 208, Oct'71

"The geometrical model of energy configurations in synergetics is developed from a symmetrical cluster of spheres, in which each sphere is a model of a field of energy all of whose forces tend to coordinate themselves, shuttlingly or pulsatively, and only momentarily in positive or negative asymmetrical patternings relative to the most eternal

form of the vector equilibrium. The vectors connecting the centers of the adjacent spheres are identical in length and angular relationship. The forces of the field of energy represented by each sphere oscillate through the symmetry of equilibrium to various asymmetries while never pausing at equilibrium. The vector equilibrium itself is only a referential frame of conceptual relationships at which nature never pauses. This closest packing of spheres in 60-degree angular relationships demonstrates a finite system in universal geometry. Synergetics is comprehensive because it describes instantaneously both the internal and external relationships of the sphere or spheres of energetic fields; that is, singularly concentric, or plurally expansive, or propagative and reproductive in all directions, in either spherical or plane geometrical terms and in simple arithmetic.

- Cite: all but the last sentence: RBF dictation to EJA for SYNERGETICS, Beverly Hotel, New York, 28 Feb*71; rewritten by RBF at Sec. 205.1, Oct'71

- Cite last sentence: Dymaxion Comprehensive System. Table 4. caption, 1944

"While nature oscillates and palpitates asymmetrically in respect to the omnirational vector-equilibrium field, the plus and minus magnitudes of asymmetry are rational fractions of the omnirationality of the equilibrious state, ergo, omnirationally commensurable to the fourth power, volumetrically, which order of powering embraces all experimentally disclosed physical volumetric behavior."

Z~For earlier version see Vector Equilibrium, 21 Dec'71_7

- Cite RBF rewrite of SYNERGETICS text at Sec. 966.10, 20 Dec'73

See A Priori Four-dimensional Reality, (1) "The vector equilibrium is the anywhere, anywhen, eternally regenerative, event inceptioning and evolutionary accommodation and will never be seen by man in any physical experience.

Yet it is the frame of evolvment. It is sizeless and-timeless.

We have its mathematics, which deals discretely with the chordal lengths. The radial vectors and circumferential vectors are the same size."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 440.04.

3. Nov'73

"All local events of Universe may be calculatively anticipated by inaugurating calculation with a local vector equilibrium frame and identifying the disturbance initiating point, direction, and energy of introduced action."

- Cite Collars Ltr., McHale, p.114, Oct*59

See Synergetics Calculation, 1971

Vector Equilibrium; Frequency Of:

"Where frequency 18 one /as In the vector equilibrium it just means it isn't frequent. Which means frequency must be two or more /` ` except in the vector equilibrium which is subsiso_7. in the vector equilibrium where frequency is one, there is only one interval; the first layer - $10 F^2 + 2 \cdot 12$. twelve balls of the first layer, the center ball has a value of two for outside-inside, convex-cohcave: terminal condition. But the center ball's frequency is iero.ⁿ

- RBF to EJA, Blackstone Hotel, Chicago, 31 May 1971

KBF DEFINITIONS

Vector Equilibrium: Great Circles Of:

(1)

"The great circle planes of the vector equilibrium projected as true circles on a sphere represent the equators of spin... The vector equilibrium has 14 faces which represent the 14 main aspects of a regular tetrahedron. Six of these faces are square and they are symmetrical to one another. We can pair the square faces so that there are three

pairs of square faces and we can interconnect their opposite centers of gravity, which provides three axes corresponding to the XYZ coordinates, 'we can spin the vector equilibrium on any one of these three axes of symmetry to produce three equators of spin. These we speak of as the 'vector Equilibrium's three great circles.

'There are also the eight triangular facets of the vector equilibrium. If we take the opposite midpoints of these eight triangles, we can pair them into four sets giving us four axes and spin the vector equilibrium on these axes to produce four equators of spin of the vector Equilibrium's four great circles.

'The vector equilibrium also has 12 vertexes which provide six axes of spin. These produce the vector equilibrium's six great circles. The vector equilibrium has one other set of symmetrical'

- Cite Oregon Lecture //6, p. 22\$, 10 Jul'62 j RBF rewrite, Aug'71 secs HSV-OI

axes: if we take the 24 mid-edge points and interconnect their diametric opposites, we get 12 axes of spin; when rotated these generate the vector equilibrium's '12 great circles,* which run from the corners to the opposite mid-edges of the (□□MB vector equilibrium's six squares.

"So we now have three axes (from midpoints of the squares); plus four axes (from midpoints of the triangular facets); plus 6 axes (from vertexes); plus 12 axes (from the mid-edges of the squares). $3+4+6+12=25$, for a total of 25 great circles for the vector equilibrium.

"It is a characteristic of all those great circles that every one of them go through two or more of the 12 vertexes and these 12 vertexes correspond to MB all the points of tangency of closest packed spheres: four go through six;

three go through four;

six go through two; and

12 go through two."

- Cite Oregon Lecture //6, p.226, 10 Jul*62 J^{RB}F rewrite, Aug*71 q
S'd.di

"It is a characteristic of all these great circles of the vector equilibrium that every one of them go through at least two of the 12 vertexes.

"When spheres are closely packed, what do we mean by that? Let us take four billiard balls on a billiard table. We get them as close together as we can, and they could make a square; but they are unstable as a square. Let them rotate a little as ball bearings and they become a diamond; and then they are stable because they consist of two triangles and triangles are stable. I can get three together stably or I can get six-around-one stably, or four as a diamond. They pack in omnitriangulation and that is called closest packing.

"I can get 12 spheres around one omnidirectionally--- six around it in a plane and 12 omnidirectionally. The 12 balls then are in the position of the 12 vertexes of the vector equilibrium where we say all the radii are identical in length. This would be the radii of the spheres. We would have a sphere the same size as the center of the system and its radius would use up half of the radius of the vector equilibrium's radials. They"

- Cite Oregon Lecture £6, pp.226-2227, 10 Jul'62

'sfSreH- s~ics. 4 S/* 4 S'T)

` ` would be tangent to one another, giving us 12 balls tangent around one. In the closest packing of spheres, which the physicist finds is employed by nature in the basic gridding of all agglomerations of atoms--- and we find time and again nature using this closest packing for basic coordination--- and you always get 12 around one. The 12-around-one would then be at these various points.

"Therefore in finding all the sets of great circles which can be generated by all the axes of symmetry of a vector equilibrium, and finding that they all go through the 12 vertexes is very interesting, because if this sphere were tangent to other spheres these would be its points of tangency in closest packing. The point of tangency of spheres in closest packing would be a very important point because any energy traveling over the surface of one sphere to get to another sphere would have to go through a point of tangency to the next sphere.

"The great circles represent the shortest distances between points on a sphere; they are the most economical lines on a sphere. These 25 great circles represent all the railroad tracks of energy following the shortest distance between points— all the impossible railroad tracks that go through all the points of

— Cite Oregon Lecture 6, p.227, 10 Jul'62

'tangency of other spheres. Therefore, energy could travel from sphere to sphere in closest packing following the surface of the spheres, but in order to do so it would have to follow the most economical distance between those points and it would have to go on one of these railroad tracks. These are the railroad tracks of energy following the surfaces of spheres of closest packing. These are the most economical distances. Therefore they get to be quite important kinds of lines.*'

- Cite Oregon Lecture ,/6, p.227, 10 Jul'62
3Y5T.M- lets MSf + WSl)

See Prime Vertexes

See Omnidirectional Typewriter,(3)(4)

"Vector equilibrium growth

from unity is nuclear: 1 12

12 -> 42, 42 -> 92, etc.*

- Citation & context at Tetrahedral Growth. 13 Nov*75

Vector Equilibrium: Light New Nuclei at Fifth Frequency:

"Frequency five embraces nine new nuclei: the original central nucleus plus eight new nuclei occurring at the centers of volume of the eight tetrahedrons symmetrically surrounding the nucleus, with each of the nine enclosed with a minimum of two layers of spheres. VE at $f - 12$; $f^* - 42$; $f^J - 92$; $f^* - 162$; and at $f^5 - 252$ we get eight new nuclei; therefore their eightness of 'begetness' relates to the eight triangles of the VE. Six nucleated octahedra with two layer omnienclosure of their nuclei does not occur until $f^0 - 162$ in the outer shell of the VE. At this stage we have six new nuclei, with fourteen nuclei surrounding the fifteenth, or original, nucleus."

- Cite RBF tape fragment, Fairfield, Conn., 18 Jun'71;

rewritten by RBF Wash. DC, 7 Oct*71; and on 28 May '72

Vfrglor quillftrlunn Light New Nuclei at Fifth Frequency:

"Frequency five embraces nine nuclei: the original central nucleus plus eight new nuclei occurring at the centers of volume of the eight tetrahedra symmetrically surrounding the nucleus, with each of the nine enclosed with a minimum of two layers of spheres.

" $F^0 - 12$; $f^2 - 42$; $F^3 - 92$; $F^4 - 162$; and at $F^5 - 252$ we get eight new nuclei; therefore their eightness of *begetness* relates to the eight triangles of the vector equilibrium.

"Six nucleated octahedra with two-layer omnienclosure of their nuclei does not occur until F^0 and the vector equilibrium's outer shell - 362; at this stage we have six new nuclei with 14 surrounding the 15th, or original, nucleus."

- Cite RBF tape fragment. Fairfield, Conn., 18 Jun'71. as rewritten by RBF in Wash DC, 7 Oct'71.

VE frJC?sa:

"The icosahedron is the structuring of the VE."

- Citation & context at Synergetica: Evolution Of. U Oct'76

VE fc Icosa:

"The icosahedron and its 12 vertices represents the denucleated phase of the nucleated vector equilibrium with its 12 vertices."

- Citation 4 context at Dvmaxion Airocean World typJlk 26 Aug*75

VE & I_{CQBa}:

"The original--- only vertexially-single-bonded, vectorially-structured--- triangles of the vector equilibrium jitterbug transform by symmetrical contraction from it openmost vectorequilibrium state, through the (unstable-without-six-additional- vector inserts; i.e., one vectorial quantum unit) icosahedral stage only as accommodated by the nuclear sphere's annihilation, which vanished central sphere reappears transformedly in the 30-vector-edged icosahedron as the six additional external vectors added to the vector equilibrium to structurally stabilize its six ``square" faces, which six vectors constitute ⁷ one quantum package."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 938.13, 10 A_{pr} '75

VE fc Icosa:

"Reminiscent of electron proclivities, the icosahedron displays the same surface number of spherically conformed, energy-event packages and its only-one-wavelength-deep, single, outer sphere layer array is omnitriangulated, while the vector equilibrium's surface is arrayed two-fifths in triangulation and three-fifths in open, unstable, square tangency. As spherical agglomerates decrease in radius--- as, for instance, do the vector equilibria's contract to the icosahedral phase--- their sphere centers approach one another, and Newton's

mass-interattraction law, which shows a second-power gain as the interproximities are halved, imposes an intercoherence condition whereby as their overall system radius decreases, their circumferential mass- interattractions increase exponentially as r^2 , where r = radius of the system." ` `

- Cite RBF rewrite of SYNERGETICS galley at Sec. 1052.44, Beverly Hotel, NYC, 9 Jan'74

VE & Icosa:

(1)

See Universal Integrity: VE & Icosa

Great Circles: Excess of One Great Circle over Edge Vectors in VE & Icosa

See Spherical Nostalgia, 12 Jun'74 Individuality, 22 Jun*72 Integer, 15 Oct'72

Omnirational Control Matrix, 12 May'75 Gravitational Constant, {1}(2)
Dymaxion Airocean World Map(2)(3)* Stabilized Vector Equilibrium,
23 Feb'72 Quantum Jump, 26 Aug'76 Shell Growth Rate, 23 Oct'77

VE: Integral Negative:

See Negative VE, 8 Oct*71

"How can an object move through water, which is a noncompressible substance? By the intertransformability of spheres becoming spaces and spaces becoming spheres. This is how the annihilation model works in allspace filling. The vector equilibrium and the eight one-eighth-octahedra on the triangular facets make up the nucleated cube. The annihilation model functions at the eight corners of the vector equilibrium.

"In an analogous intertransformability manner the one-quantum annihilating octahedron which in one-eighth-octahedron increments complements the zero-to-twenty-volume vector equilibrium by furnishing the eight corners."

- Cite RBF rewrite of 24 Apr* 76

"How do you walk through water? By the intertransformability of spheres becoming spaces and spaces becoming spheres. This is how the annihilation model works in allspace-tiling. The vector equilibrium and the eight one-eighth-octahedra on the triangular facets make up the nucleated cube. The annihilation model functions at the eight corners."

- Cite RBF to EJA, 3200 Idaho Ave, Wash. DC; 23 Apr'76

"The vector equilibrium has the comprehensive, nuclear concentric, intertransformability involvement domain."

"The sphere of tetravolume 5 is involved with the rhombic dodecahedron of tetravolume 6.

"It takes two of the nucleated cubes because the cube is tetravolume 3."

- Cite RBF to EJA, 3200 Idaho, Wash. DC; recorded 12 Dec'75

"The total involvement domain of the vector equilibrium can be either two of the nuclear cubes $\square\square\square\square$ (unstable) or the rhombic dodecahedron (Mstable), The two cubes and one rhombic dodecahedron are intertransformable aspects of the vector equilibrium domain,"

- Cite HUF to EJA holograph, Wash, DC, 11 Dec'75

See Nuclear Cube: Nucleated Cube

See Crystallography. 11 Dec*75

Nuclear Cube, 11 Dec*75; 23 Feb'76

KBF DEFINITIONS

vector Equilibria: LWKUML &. Borroylpg Mrtri •

"Atoms borrow electrons when they combine. The open and unstable square faces of the vector equilibrium provide a model for the lending and borrowing operations. When the frequency is three, we can lend four balls from each square. Four is the greatest number of electrons that can be lent: here is a limit condition with the three-frequency and the four-ball edge. All the borrowing and the lending operates in the squares. The triangles do not get jeopardized by virtue of the Icfqning. A lending and borrowing vector equilibrium is maintained without losing the structural integrity of Universe."ⁿ

- Cite RBF rewrite of SYNERGETICS galley at Sec. 942.64, 20 Dec'73

See Half Octahedron: Lending Model

RBF DEFINITIONS

Vector Equilibrium: Odd or Even Shell Growth;

"The vector equilibrium accommodates positive or negative numbers. The shell generating frequencies of the vector equilibrium are either odd or even. The shell generating frequencies of the octahedron, tetrahedron or cube are only mi even numbers."

(RBF identifies the above as a Basic Discovery of Synergetics.)

- Cite RBF to EJA, Washington, DC, 7 Oct. 1971.

RBF DaFIMTIUNS

Vector Equilibrium: Odd or Even Shell growth;

"Only the vector equilibrium accommodates symmetrical growth or contraction of a nucleus-contng concentric shell series characterized by either even or odd numbers of shells--- a smooth progression of odd or even numbers of shells."

- Cite RBF to EJA, Haverford, Penna., 11 bet, *71.

sr<. 9iq. Ol + O2?\

Vector Equilibrium: Odd or Even Shell Growth:

See Shell Growth Rate

See Dimensional Growth, 20 Dec'73

Vector-equilibrium Phase:

See Zero-nineness, 11 Sep»?5

VgJXflE. Equilibrium: Polarisation: (1)

"...There are two ways you can play thia game, because time and again you find that in nesting work., we are, for instance, taking six which would be in thia position and you enly neat three on it: so we use this neat: this nest: and thia nest. We leave untouched, thos nests. They are in closest packing, we find, always alternate spaces that are not being used, so that triangular groups can be rotated into one position--- or 60 degrees to an alternate □MSBSHt nestable place.

We get vector equilibrium in this condition: but in the other condition I have it rotating 60 degrees, ana instead of being a vector equilibrium, we simply have in effect a polarized system. These are equilibriums going on in all directions' and" this goes into a polarized condition. Apparently all the organic chemistry is predicated on this polarized condition.

"We find that you can take two halves of the vector equilibrium made out of balls and take one hqlf off it as vector equilibrium, rotate it 60 degrees and bring them together again and Instead of having the condition you have in the vector equilibrium of alternate faces being squares and triangles in array around it,"

7 Cite Oregon Lecture #7, pp.234-235, 11 Jul'62 54, oT]

Vector Equilibrium: Polarization: (2)

"you will get a top triangle and a bottom triangle in the system by rotating it 60 degrees--- and then you will get a square and a square touching each other, and a triangle and a triangle, a square and a square.

"It is polarized. In other words you take the vector equilibrium, rotate it 60 degrees to the next nestable position and suddenly it is polarized. It is this polarized condition, then, that a section through--- it makes the famous chemical hex that the chemists have used. The chemists recognize that form but 10 or 15 years ago they didn't have an experience like that, but they did in the polarized system. Apparently then, all the chemical compounding in the organic chemistry relates to polarized systems."

.SYSTEM- 1

SFC. Cite Oregon Lecture #7, P. 235, 11 Jul'62

Vector Equilibrium: Polarization Of:

See Vector Equilibrium, 11 Jul'62

Vector Equilibrium: Potential & Primitive Tetra volume

"When the Isolated single sphere's vector equilibrium of tetravolume 2ϵ is surrounded by 12 spheres to become a nuclear sphere, the vector equilibrium described by the innermost-economically-interconnecting of the centers of volume of the 12 spheres comprehensively and tangentially surrounding the nuclear sphere---as well as interconnecting their 12 centers with the center of the nuclear sphere--- has a tetravolume of 20 and the nuclear group's rhombic dodecahedron has a tetravolume of 24."

(Incorporated in SYNERGETICS 2 draft at S_c. 1038.182.)

- Cite RBF marginalia at SYNERGETICS 2 draft at Sec. 1033.20 (draft of 19 Aug'76); RBF marginals done 12 May'77

VE as Prime Nonnucleated System:

See Tetrahedron as Prime Nonnucleated Structural System

VE as Prime Nucleated System:

See Nucleus, 2 Nov'73

Vector Equilibrium; Spheres & Spaces: (1)

"Spheres enclose the packing of the spaces between them. And the spaces turn into only two kinds: there is a concave vector equilibrium and a concave octahedron. Those are the two spaces.

"So I call the sphere a convex vector equilibrium and space a concave vector equilibrium: and an alternate one, which is the octahedron. So it is a precessional side shift. There are three alternates: so suddenly a space, a sphere, becomes a space and the space becomes a sphere. And I have a model where you can see it actually do that. You just press one energy action and the whole thing takes place and propagates an omnidirectional wave. You can literally see it--- drop a stone in the water and you can see an omnidirectional wave occurring... So the curves are generated and are not instantaneous. I have really the only instantaneous way of carrying on, where I don't have a curve generated by a hexagon: I simply have the hexagon, and its chords are equal to its radii.

"Physics has had only two kinds of acceleration: angular and linear. But it hasn't been able to coordinate the angular, so she uses only the line* and tries to experiment. So she hasn't been able to use the angular, so she uses only the linear and"

- Cite RBF tape to BO'R, Carbondale Dome, pp.2-4, 1 May'71

Vector Equilibrium: Spheres & Spaces : (2)

"tries to experiment. So she hasn't been able to use the angular because it did involve this pi . so she throws in this constant to make up for it.

"And they have been going with analysis by yO-degree position- ings of the actions; and nature doesn't make those yO degrees... So my chords and my radii are the same and they are the angular and the linear accelerations. They are the vector zones.**

- Cite RBF tape to BO'R, Carbondale Dome, pp.2-4, 1 May'71 "A sphere is an asymmetrical phenomenon. It is an inward-outward pulsative from the vector equilibrium. The sphere's spaces are interchangeable. The spaces between the spheres are complementary. Our model really shows each sphere becoming a space and every space becoming a sphere. Each one can be either a concave or convex symmetry of the vector equilibrium. Vector equilibrium then having the maximum radius, then the radius contracts in order to be a sphere. That is how it can be accommodated within the total frame of reference. The edge of the vector equilibrium gets bent into becoming the arc of the sphere. So that the sphere of the vector equilibrium is contracted as a chord turns into an arc the radius contracts."

Cite RBF tape transcript. Chicago. Blackstone Hotel ' ' 'f.ZTlt to EJA + BO'R, p. 49, 31 >'ay '?1

VhxOi - *£C-I03Z.O

"Being the zerophase of energy the vector equilibrium is inherently invisible and non-empirically-discoverable, which accounts for its having been for so long unrecognized as the spontaneous equilibrious model. As specialists scientists seek only for somethings. The vector

equilibrium is the only model of nonbeing zero-inflection at the non-moment of omniinter- transformabilities where anything can happen and must haunen single-atomically within and multiatomically without. Specializing science seeking only somethings inherently overlooked the nothing vector equilibria.

"The vector equilibrium is the most abstract of all the always- and-only abstract scientific generalization, for it is the heart of all interrelationships existing between and not in or of any of all the empirically apprehended intertransforms of the ever-and-everywhere intertransforming scenario Universe. The vector equilibrium is the zerophase, ergo inexpressible, interrelationship of all Universe events.

"The word vacuum relates specifically to gaseous phenomena. Nature's abhorrence of q vacuum induces physical relationships only in resnect to the gaseous state. The vector equilibrium"

- Cite SYNERGETICS, 2nd. Ed. at Secs. 440.09-.11, 11 Seo'75

"is the nothingness phase of all states of the physical Universe: it is the generalisation of nothingness, within which generalisation the absolute vacuum is a special case event In the gaseous state. The vector equilibrium is such a physically abhorred nonstate as to be the eternal self-starter, ergo the eternal re-self-starter ever regenerating the off-zero perturbations, oscillations, and all the wave propagation of all humanly experienceable physical and metaphysical phenomena.

"The sense-coordinating brain of each and all humans, like sound or light, has a limit speed of apprehending. There is no instant cerebral cognition. The apprehension lags automatically impose off-center human cognition which occasions the sense of time in a timeless eternity. The sense of time occasions the conception of life and serial experience. The inherently invisible vector equilibrium self-startered life and ever regenerates life. Inherent in the lags is our intimate knowledge only of self."

- Cite SYNERGETICS, 2nd. Ed. Secs U0.11-.12, 11 Sep'75

"It was the initial quality of seemingly invisible vector equilibrium-- as well as that it was not experimentally discoverable— that has kept the vector equilibrium so long unrecognized as the equilibrating model.

"While the vector equilibrium is involved in all the forms of the crystals, the vector equilibrium is a starting point; it is not anything in its own right; it is the zero-inflection nonmoment of omniintertransformability where anything can happen and must happen single-atomically within and multiatomically without."

- Cite Vector equilibrium 15 Oct'64 & 27 Nov*72 as rewritten by RBF, Wash. DC, 8 Apr'75

SYSTEM - • Jjvo ED SEC . M M 0.01 \

Vector Equilibrium:

See Jitterbug

"We have the total sphere as the first stage of radial contraction of the vector equilibrium. As its radii contract, its 24 chords respond to the lessening of space between the radii's outward ends by bowing or arcing either inwardly or outwardly of the system; if outwardly the arcs become convex and altogether produce or form a sphere; if inwardly they become concave and form or produce the space between the spheres.

"We have here some of the concepts of the limits of alternative asymmetric pulsative potential in respect to the vector equilibrium as the outward limit of nuclear phenomena beyond which vector equilibrium limits the first structural growth complexities are those of the crystals and molecules and thereafter the protoplasm and the biologicals.

"That's what we have: nuclear uniqueness and all its initial manifold transformative variables as they occur within the domain of the three-frequency vector equilibrium."

- Cite RBF to EJA, 3200 Idaho, 16 Oct*72, as rewritten by RBF 18 Oct*72

"We have the total sphere as the convergence of the vector equilibrium. And we have the concepts of the limits of asymmetry in respect to the vector equilibrium as the limit of coming to the molecules. That's what we have: nuclear uniqueness and all of its variables within the domain of the three-frequency vector equilibrium."

- Cite RBF to EJA, 1200 Idaho, 16 Oct'72
vector Equilibrium:

See Nuclear Uniqueness

nBF JEFINIIUKS

Vector Equilibrium Threshold:

"Critical proximity is a threshold; the absolute threshold--- a vector equilibrium threshold, if it persists, we call it 'matter,**'

~~- extttBF to JUA, Rwrty_ttgfeebj Men Tin b 19 Jens H?1.~~

- **Citation and context at Critical Proximity Threshold, 19 Jun *71**

See Critical Proximity Threshold, 19 Jun'71

"Wavelength times frequency is the speed of all radiation. If the frequency of the vector equilibrium is four, its vector radius, or basic wavelength - 186,000/4 miles reachable within one second- 46,500 reach-miles. Electromagnetically speaking, the unarticulated vector equilibrium's one-second vector length is always 186,282.396 miles.

' 'We multiply our frequency by the number of times we divide -he vector of the vector equilibrium, and that gives c^2 ; our reachable points in Universe will multiply at a rate of $F^2 \times 10^{+2}$."

- Cite SYNERGETICS text at Secs. 426.44-.45; RgF galley rewrite of 2 Nov*73

Vector Equilibrium: Unarticulated VE:

See Radiation: Speed of t 30 Nov*72

"The maximum space employed by unity in the vector equilibrium

- Cite RBF at Penn Bell Videotaping session, Philadelphia, PA., 20 Jan'75

RBF DEFINITIONS

Vector Equilibrium: Ratio of Volume to Quantum:

"To stabilize the vector equilibrium structurally we need to insert six vectors as diagonals in each of its quadrangular square faces, which converts the six vector-edged squares into six vector-diagonalized diamonds but in doing so shrinks the vector equilibrium's 20 units of $OH|A^{enclosed}$ volume to 18.51 units of volume.

(I.e., 3.702 vol : 1 quantum.)

- Cite RBF to EJA, 3200 Idaho, Washington DC, 23 Jan '72, Excerpt.

Vector Equilibrium: Zero Condition:

"We have said that this is a vector equilibrium and in a zero condition and is nonreality. Nature would not permit it but a minute after that these six edges turbine around that point one way or another and you see plenty of the models of the lines twisting around. We will have to say that there had to be a moment theoretically when this plane went from being a positive tetrahedron to a negative tetrahedron, which it could be, and had theoretically to pass through that point."

- Cite Oregon Lecture

II Hl, P- 237, July »62

Vector Equilibrium: Zerophase:

"When the four planes of each of the eight tetrahedra move toward their four opposite vertexes the Boeantun carries them through zero-volume nothingness of the vector equilibria® phase. All their volumes decrease at a third-power rate of their linear rate of approach. As the four tetrahedral planes coincide, the four great circle planes of the vector equilibrium all go through the same nothingness local at the same time. Thus we find the vector equilibrium to be the inherent zero-ness of fundamental number behavior."

(81013.42)

- Cite SYNERGETICS, 2nd. Ed. at RBF marginals at Sec. 1013.42;

30 Aug'75

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the zero phase of conceptual integrity inherent in the positive and negative asymmetries which propagate the problems of the consciousness. Our inherently limited perceptivity which requires these definitions of the asymmetric emphasis of experience. Experience is inherently terminal, partial, differentiable. . . the antithesis of eternal integrity.**

- Citation at Experience. 12 Sep'71

Vector Equilibrium: Zero phase:

"Vector equilibrium is all the things any one tetrahedron could do by pumping (turning itself inside out). It has four directions it could turn inside out. So it does all four of them to a common center and makes eight tetrahedra. So this is a tetrahedron exploding itself: turning itself inside out in four possible directions. So we get eight: inside and outside in four directions. The vector

equilibrium is all the potentials. This is the way you become invisible."

- Cite tape transcript RBF to BO'R, Carbondale Dome, 31 May 1971 pp. 38-39.

Vz *5 SEC. 441. tl /

RBF DEFINITIONS

Vector Equilibrium: iHHS ZeroDago:

"The vector equilibrium is absolutely dead center of Universe and will never be seen by man in any physical experience--- yet it is the frame of reference. And it is not in rotation and it is sizeless and timeless. . We have its mathematics which deals absolutely discretely

because it does shut ma off in those chordal lengths. The radial vectors and circumferential vectors are absolutely the same size so I don't have to think about pi. She is able to entertain the si in a rational system."

- Cite tape transcript RBF to BO'R, CarbondaleDome. pp. 39-40.

1 May 1971.

Vector Equilibrium: Zeroohase:

"But the point is the vector equilibrium simply gives you the key, • . . All four planes of all eight tetrahedra are in common center*. Yet you see only four. Both the positive and the negative phase of the tetrahedra are in congruence in the center. And they are able to do this because they are discontinuous. Their centers --- literally, they are the first time you ever saw an absolutely empty thing. All four planes go through the same center. And you can only do that when there is nothingness."

- Cite Tape transcript RBF to BO'R, Carbondale Dome, 1 May 1971*

PP. 37-38.

TF AS «« <441. o I)

"I have a vigorous conviction that all the phenomena larger and more complex than vector equilibrium do relate to chemical compounds and anything smaller than vector equilibrium relates to the single atoms which do get into the symmetries whereas the chemical compounds get into a polarized system. The vector equilibrium is a condition that nature never allows herself to be caught in. We do not find the vector equilibrium occurring per se as a crystal in universe. We have vector equilibriums mildly distorted as nature goes positive and negative in respect to the equilibrium and everything that we know as reality has to be either a positive or a negative condition. She does not get caught at the zero because vector equilibrium is really a zero."

- Cite CarbondaleDraft

Nat trrea-Coordi nation, p. VI.43

- CML # 1 , f 2. J S', 11 Jul'62

AS ~ SEC. 431. o3>\

See Tetrahedron: Inside-outing Of Congruence at the Center Hedra

See Experience. 12 Sep'71

Point, 20 Dec'73

Single Integer Differentials, (1)

Octave </ave Model, 9 Apr'75

Powering: Fourth Powwering, 9 Sep*75

Tetrahedron: Nine Schematic Aspects, 30 Aug*75

"The relative size of the vector equilibrium begins with the initial xerox integrity of conceptuality and its omnidimensional modular subdivisibility for accounting any frequency of geometrical configuration transformative accounting."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 445.07, 4 Nov'73

"Vector equilibrium accommodates all the inter-transformings of any one tetrahedron by polar pumping or turning itself inside out. Each vector equilibrium has four directions in which it can turn itself inside out. It uses all four of them through the vector equilibrium's common center and generates eight tetrahedra. The vector equilibrium is a complex tetrahedron imploding-exploding itself, turning itself inside-out in four possible directions. So we get eight: inside and outside in four directions. The vector equilibrium is all eight of the potentials."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 441.02,

4 Nov'73

"All four planes of all eight tetrahedra, i.e., 32 planes in all, are congruent with the four visible planes passing through their common vector equilibrium center. So you see only

four planes. Both the positive and negative phase of the eight vector equilibrium tetrahedra are in congruence in the center. They are able to do this because they are synchronously discontinuous. Their common center provides the local of an absolutely empty event."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 441.01, 3 Nov'73

"There is something I would like to speak about in regard to vector equilibrium and tetrahedron. I spoke yesterday about a rather extraordinary realization that in looking at a tetrahedron we say. I see there are three around any one vertex: there are three faces and three edges in beautiful synchronization and we say that all looks simple

and logical. Then we find it rather surprising because we find that the inventory of three faces came out of an inventory of four total that are available in the tetrahedron. And the inventory of three edges came out of an inventory of six that are available. So that the sixness and fourness were very different inventories. Somehow around any one vertex nature had arranged to put them in neat balance of different inventories.

"Consider the case I spoke of one time of the cheese tetrahedron as pushing one of the faces towards the opposite vertex. I am not going to talk about it as a cheesenow, but for a moment we will think of it just as a plane. As the top plane of this tetrahedron--- I am going to move it (the plane) towards MB this opposite vertex. Finally I move it until it is congruent with"

- Cite Oregon Lecture #7, pp.236-237, 11 Jul'62

— *secs. H 41.6G .OT+.»«*

'the opposite vertex. There is now no volume, but we have agreed that the conditions of syrrmetry in the tetrahedron, the sixness and founness, are all still there, but they are empty.

"Now with this plane congruent with the opposite vertex we have a very interesting condition. We have all four planes of the tetrahedron going through the same point at the same time--- or, theoretically, as close as you can ever get. You have six edges going through the same point at the same time. We have agreed that this is a condition that can never happen in reality, but in the vector equilibrium--- where it has no size--- we have the only possible time when this would seem to occur.

"So we now have all six edges and a total inventory of four faces and six edges all going through the same theoretical point at the same [Q]moment. We have said that this is a vector equilibrium and in a zero condition and is nonreality. Nature would not permit it. But a

minute after that, those six edges turbine around the point one way or another--- and you see plenty of models of the lines turbinig around--- but we will have to say that there had to be a moment theoretically when this plane"

- Cite Oregon Lecture #7, pp.236-237, 11 Jul'62

syj H - se-cs VVI.el. . *1 t.oB'l

"went from being a positive tetrahedron to a negative tetrahedron, which it could be, and had theoretically to pass through that point. Very clearly vector equilibrium is a zero tetrahedron: and we already had tetrahedron as an indestructible conceivable phenomenon independent of eize. And then we have it getting into its own true zero vector equilibrium. It is very interesting to realize what that condition is. It is a condition that nature apparaently does not permit in our life, but what we call reality is always a positive and negative set of the whole."

- Cite Oregon Lecture #7, pp.236-237, 11 Jul'62

SYSTEM __ </1,ofc, tl + jq'i/o oS'

Vector Equilibrium: (1 A

-J)

See Allspace Filling: Octahedron & VE

Between: VE as Prime Betweenness Model

Central Synmetiy

Closest Packing of Spheres

Cube & VE as Wave Propagation Model

Domain of VE

Dymaxion

Equanimity Model

Equilibrrious Model

Fourth Dimension: VE as Fourth-dimension Model

Genesis of Modelability - VE

Isotropic Vector Matrix

Jitterbug

See Local VE Model of Nonbeing Negative VE Nuclear Domain

Omniequilibrium Onnilibrium

Potential VE Propagative Transformation of VE

Rhombic Dodecahedron

Stabilized VE Star Tetra & VE Spontaneous Equilibrrious Model Symmetrical Contraction of VE

Tetra, Octa t VE Transvector-equilibrium Tensegrity VE

See Universal Integrity: VE & Icosa

Universal Vertex Center Model

VE & Icosa

See Allspace Filling, 11 Jul'62

Congruence, 25 Jan*72*

Constant Relative Abundance, 29 Nov'72 Cosmic Fish Sequence, (3)*

Cryogenics, 28 Oct'72

Critical Proximity Threshold. 19 Jun'71* Crystallography, 17 Aug'70;
11 Dec`75

Dymaxion Airocean World Map, (2)*

Enzymes, 2 Oct'72* Equilibrrious, 23 Jan*72 Experience, 12 Sep*71*;
25 Aug*71* Eternal & Temporal, 20 Feb*77 Everwhen, 18 Nov'77
Fourth Dimension, 19 Feb*76 Fourteen, 1965; 1 Jun*71 Frame of
Reference. 4 Oct*72 Frequency, 12 Jul'62*

Gravitational Constant, (1) Gravity: Speed Of, 21 Oct*72

See Happenability, 25 Aug*71

Ideal, 1 A_{pr}*72*

(2 H-P)

Irrangeable7 Int?ransformativeneas3l 22 Feb'73 cosahedron as Local
Shunting Circuit \$2 Jan¹72

Integrity of Universe, 30 Oct'73 ' 7

immaculate Conception, 25 Jan'72

Metaphysical t Physical, Jun'66*

Nonthing 11 Sep'75 Neutral Angle, 16 Dec'73

Other, 25 Aug'71

?|fJur62' BitWin Phlrs1CS & Ch""l»try,

Planck's Constant, (A)(B)*

Prime Vector, (2)

Powering, 10 Jul'62

ush-pull: Push Wave & Pull Wave, 25 Aug'71*

See Sixty Degreeness, 1965

Site, 22 Jun'72

Sphere, 31 Kay*71

Star Tetrahedron, 8 Oct'71*

Stable & Unstable Structures, 7 Jun*72

Schematic of the Principles, 10 Sep*74 Subfrequency, 12 Jul'62

Tetrahedron: Zero Tetrahedron, 1960*

Ten. 22 Jun'75

Twelve Universal Degrees of Freedom. 19 Nov*74* Two Kinds of
Twoness, (A)* T Module, 31 Jul'77 Understanding, 25 Aug'71 Unit
Magnitude, 13 May*73

Vectorial & Vertexial Geometry, (4)

Wichita^House, (1)

VE Field

VE: Eight New Nuclei at Fifth Frequency VE Frame

VE: Frequency Of

VE: Great Circles Of

VE Frame

VE Growth

VE: Integral Negative

VE Involvement Domain

VE: Lending & Borrowing Model

VE: Odd or Even Shell Growth

VE Package

VE: Propagative Transformation Of

VE Phase

VE as Prime Nucleated System VE: Polarisation

See VE: Ratio of Volume to Quantum

VE as Starting Point

VE: Sphas &. Spaces

VE: Symmetrical Contraction Of

VE: Three-frequency

VE: Unarticulated VE

VE as Unity

VE: Zerophase

VE: Zerosize

VE: Zero Tetrahedron

VE & Icosa

VE & Octa

VE: Axes

VE: Potential & Primitive Tetravolumea

"Now let's look at the present situation in agriculture where the basic food production is. Of the total vegetable crop harvesting about 10 percent is actually, finally available for human consumption in America. There are various reasons for this, but it is if you were sort of standing and picking apples, and for every nine apples that you pick, you only get« one in your basket. It's a very frustrating, inefficient process."

- Cite RBF to World Game at NT Studio School 12Jun-31Jul*69, from Saturn Film transcript, Sound 1, Take 1, pp.16-17.

Vegetable Crop Haryeethn;:

See Food Production

Vegetables:

See Man As Pattern Integrity_f 1970

Vegetation:

"... The vegetation's terrestrial impoundments of the star- radiated energy which alone regenerates all biological life around Earth planet..."

- Citation and context at Bumblebee. 6 Nov'72

(1)

See Ecology Sequence

Energy Inhibited as Zoology or Vegetation

Energy Capital

Impoundment

Income Energy

Mammalian-vegetation Interchange of Gases

Metabolic Flow

Photosynthesis

Pine Tree & Palm Tree Belts

(2)

See Bumblebee. 6 Nov*72*

Design, 12)

Energy Capital Sequence, (1)

Radiation Sequence, (2)

Vehicle:

See Human Instrument Vehicle Life's Temporary Vehicles

Velocity;

- Cite SYNERGETICS draft at Sec. 962.43, 17 Nov'72

"... Vectors, being the product of physical energy constituents, are 'real,' having velocity multiplied by mass operating in a specific direction; velocity being a product of time and size modules; and mass being a volume-weight relationship."

- Citation & context at vector_r 27 May'72

snip

Velocity;

"Time is in our dimensioning because our geometry is vectorial. Every vector * mass x velocity, and time is a function of velocity."

- Citation *tc.* context at Vector_f 21 Dec'71

Velocity:

"The physical expands and increases its velocities to cope with the greater and greater distances. However, there seems to be a constancy of top velocity and it was this that so impressed Einstein. AU the various types of radiation, the ultraviolet, the radio wave and the x-ray reach about 186,000 miles per second."*

- Cite HBF Preface- for -Francis WARNER, p. 3, Undated'
- Citation and context at Eternal Slowdown (lj), 1970

Velocity:

"Vectors are real experiences and they have inherent velocity and mass. Velocity is the complementarity of time and space. Time and space are simply functions of velocity. Velocity is really the reality. You can examine the time or the space increment, but they are never independent of one another. They are unified as velocity,"

- Cite Oregon Lecture #8, p. 298, 12 Jul'62 *SPcf* ~5 iC-Ol/ - 7 vo 737

Velocity:

As we find out in /lectromagnetics there are domains of actions and these molecules want certain sizes and when you pressure too many of these patterns into the same area there is not enough room so they develop a very high speed and speed makes up for the crowding."

- Citation and context at Domain of Action 9 Jul'62

Velocity:

"The higher the velocity the lesser the possibility of interference in any one local."

- Cite OREGON Lecture #5 - p. 187 , 9 Jul'62

Velocity:

"Velocity gives us what we call pressure or heat, it can be read either way."

- Cite OREGON Lecture #5 - p. 187, 9 Jul'62

See Absolute Velocity Acceleration Dynamic Velocity Radiation:
Speed Of Top Speed: Top Velocity

See Domain of Action, 9 Jul'62* Energetic-synergetic Geometry,
Jul'59 Vector, 26 May'72; 27 May*72*; 21 Dec'71* Geometry of
Vectors, 27 Jan'75 Time Space, 12 Jul'62; Nov»?1

Venice? Venetian:

See Phoenician Phonetic Sequence, 23 Jan¹75

Ventilated Prone:

See Mental Mouthfuls, 9 May'62

Ventilated •

See Octavely Ventilated

Vgnua Pralmtion

See New York City, (7)

Verbs:

"There is no verb for eternity. Verbs are always special case."

- Cite RBF to EJA, 3200 Idaho, Wash, DC; 12 Nov'75

Verb:

"Architecture, like music, will be a verb and not a noun."

- Citation and context at Invisible Architecture:

(F), Aug'72 »

Verbs;

"Physics has not found any things. It has only found energy events that are continually transforming. Only verbs are applicable. There are no nouns because there are no things."

- Cite RBF to EJA, Mayflower Hotel, 1969.

Verbs:

"There are no nouns, for physics has found no things (static, solid phenomena)--- ergo there are only verbs«"

- Cite DOXIADIS, p. 308 , 20 Jun*66

"What are you? . . . ' /hat is it that you do?"

RBF: Jarling, I don't know any other way to answer you

**except to say that I once wrote a book called 'I Seem to Be a Verb.'
I don't like labels. ... I don't profess myself."**

- Cite RBF to Sue Liberman at WAKU taping, Wash DC; 26 Apr'77

Verbs: I Seem to be a Verb:

"I know that *I* am not a category, a hybrid specialisation,

X am not a thing— a noun.

I seem to be a verb—

an evolutionary process—

an integral function of the Universe,

and so are you,**

R.B.F.

- Cite Frontispiece to THE BUCKMINSTER FULLER READER, Ed. James Keller, J. Cape, 1970.

"Where do you live? And: What are you? are progressively less sensible questions. As of now I am a passenger on Spaceship Earth. I don't know what I am. I know I am not a category hybrid specialization. I am not a thing, a noun. You and I seem to be verbs in evolutionary process. Are we not integral functions of the Universe?"

- Citation &. context at Acceleration of Change. 16 Aug'70

"I live on Earth at present. And I don't know what I am.

I know that I am not a category.

I am not a thing— a noun.

I seem to be a verb,

An evolutionary process—

An integral function of the Universe.¹

- Cite 1 SELK TO BE A VERB, Queen, May »70

Verb Ya. Noun*

"Nouns can be at the same time, but verbs cannot.

- Citation & context at Overlapping, 30 May* 75

See Quick & the Dead: Song Of, Oct*66

Overlapping, 30 May'75*

"... There are no 'absolutes'

— No 'ends' in themselves— no 'things' —

Only transitionally transformative verbing."

- Cite How Little, p. 52. Oct'66

Verbs: No 'Where's. No *What*a. Only «When»s:

"Because physics has found no continuums, no experimental solids, no things, no real matter, I had decided half a century ago to identify mathematical behaviors of energy phenomena only as events., If there are no things, there are no nouns of material substance. The old

semantics permitted common-sense acceptance of such a sentence as , 'A man pounds the table,' wherein a noun verbs a noun or a subject verbs a predicate. I found it necessary to change this form to a complex of events identified as me, which must be identified as a verb. The complex verE me observed another complex of events identified again Ignorantly as a 'table.' I disciplined myself to communicate exclusively with verbs. There are no where³ and whats, only angle and frequency events described as when's?¹⁷

- Cite SYNERGETICS text at Sec. 250.41, Galley rwwrite, 28 Oct'73

Verba: Ro 'Where*s. No 'What'a. Only 'When's:

"because physics has found no continuums, no experimental solids, no things, no real matter, 1 had decided half a century ago to identify mathematical behaviors of energy phenomena only as events. If there are no things, there are no nouns of material substance. The old semantics which permitted common-sense acceptance of such a sentence as *A man pounds the table,' wherein a noun verbs a noun or a subject verbs a predicate. I found it necessary to change this form to a complex of events identified as l.iyjmust be identified

as a verb and---thee/the complex verb Mi/ observed another event complex ignorantly called a 'man,' which event complex developed a complex interference pattern with

another complex of events identified again ignorantly as a 'table.' 1 disciplined myself to conr-umcate exclusively with verbs. There are no where's and what's; only angle and frequency events described as when¹ sJ¹

- RbF i-arginalia on SYNERGETICS draft at Sec. 250.04. Dec '71 at 3200 Idaho, Washington DC, 26 Jan '72. '

Incorporated at SYNERGETICS Sec250.32, 11 Oct'72

Verbs; Inventory of Verbs:
See Verb: I Seem to Be a Verb
God aa a Verb
Mind aa Verb
Einstein is a Verb
Universe: The Great Verb 'Universe'
Meaning aa a Dynamic Patterning Verb

See Einatei i is a Verb

God aa Verb

God aa Verb of Optimum Understanding Intellecting

Korxybski

Meaning aa a Dynamic Patterning Verb blind a a Verb

Objective Intellect

**Universe; The Great Verb Universe Verb: I Seem to be a Verb Verb vs.
Noun No Nouns**

See Form, 1938

**Invisible Architecture, (F)* Meaning, 16 Aug'50 Communications Hi-
erarchy, (2) Verse vs. Prose, 11 Dec'75**

Verify:

See Reverifiabl

Veritas:

"I might have answered your latter in a much more poetical way by quoting only the motto of 340-year-old Harvard University: »Veritas'--- (Vere-i-tas)---controlling the veering of one's course, V □ two alternate angular directions. Veritas--- it will never be superseded."

- Cite RBF Ltr. to Bro. Jos. Chuala., p.5; 7 Nov'75

Verity:

"Verities are generalized principles stated in semimetaphorical terms.
Verities are differentiable."

- Citation and context at Truth, 29 Dec'73

HBF DEFINITIONS

Verity;

"Verities are sem-special-case."

- Citation and context at Truth, 29 Dec'73

See Composite of Verities Eternity Truth

See Creation, May'65

Dymaxion Airocean World, (I) Truth, 29 Dec'73*

Verse vs. Prose, 11 Dec*75

Verse ye. Prose;

"The difference between verse and prose is the difference between converging-diverging and parallelism.

"Verse, ver-se is con-ver-gent-di-ver-gent ver-bing.... veering, ver-ing... the way waves and music pulsitingly veer in Uni-verse, Uni-ver-se... ver, vers (toward), ver-i-tas (truth "Prose is parallel. P-prose is P-parallel... pursuit.

Prose is stratified and Prose is prone, ponderous.

"3 « bias symbol. P - 1 + D . B is|' . B is Biased.

"P - | + + | - Lie J the story."

Citr RBF holograph, 11 Dec*75

VERSUS: CHECKLIST

See Abstract vs. Energetic

Abstract vs. Sensorial

Annihilation vs. Synergy

Appreciative vs. Depreciative Commonwealth Acceleration: Direct
vs. Indirect All-motion Universe vs. Instant Universe* Articulating vs.
Observing*

Agricultural Accounting vs. Industrial* Attraction vs. Push* Artillery
'./heel vs. Wire Wheel* Active vs. Potential*

Automatics vs. Intellections

Asymmetry: Bained vs. Unbalanced Avoidance vs. Interference
Aberration vs. Principle* Accounting: Triangular vs. Quadrangular*
Abstraction vs. Resolution

Airspace Technology vs. Walls* Admission vs. Omission*

(A2)

Vergus: Checklist:

See Absolute Symmetry vs. Scenario*

Airplanes vs. Railroads

See Behaviorist Word vs. Static Word Big Man vs. Little Man Biolog-
icals vs. Nonbiologicals Brain's Automatics vs. Mind's Intellections
Believe vs. Guess* Blossoms vs. Roots* Beams vs. Columns* Bal-
anced vs. Unbalanced Broadcasting vs. Incasting* Boundaries vs Nu-
cleus* Body vs. Medium Bone vs. Cartilage*

Big Bang Theory vs. Scenario Universe*

See Cosmic vs. Terrestrial Accounting

Complex vs. Elementary*

Computers vs. Humans: Feedback Comprehensivity* Comprehensive vs. Local*

Corporeal vs. Living: Morphology* Coils vs. Knots: Rope* Constant vs. Time*

Commonwealth: Appreciative vs, Depreciative* Colonialism vs. Transnationalism* Contracting Metaphysical Universe vs. Expanding Physical

Universe*

Coherence vs. Lever

Columns vs. Beams

Qnnnef.unl YI. Qualitstivr

Conceptuality vs. Space*

Creation vs. Discovery Centralize vs. Decentralize*

See Community vs. Privacy*

Cold Valve of Time vs. Hot Valve of Energy Consistency ve. Learning* Conceptual vs. Quantitative Concept vs. Information

Circumferential Tension ve. Radial Compression* Circumferential Finite vs. Radial Infinite Cure vs. Mend* Curved vs. Flat* Catenary vs. Suspension* Cartilage vs. Bone Concentration vs. Radiation Chaos vs. Design* Crystal vs. Radiation Model*

Conceptual Tetrahedron vs. Physical Tetrahedron*

Convergent vs. Parallel Cognition vs. Recognition Convergent vs. Radiant

See Constant vs. Physical

Complex va. Unity

Critical Path vs. Orbital Feedback Circuitry*

FILE INDICATORS

See Design vs. Generalisation

Design: A Priori Design vs. Deliberate Design

Dynamic vs. Kinetic

Dynamic vs. Stable

Discovery vs. Invention*

Depreciative vs. Appreciative Commonwealth*

Direct vs. Indirect: Acceleration*

Differentiated Proclivities vs. Synergetic Proclivities Discovery vs. Creation*

**Death: Slow Death by Slums vs War aa Quick Death Decentralize vs.
Centralize**

Dynamic vs. Static

Darwin's Determinism vs. Free Will

Distribute vs. Inhibit*

Discrete vs. Probability

Design vs. Chaos

Design vs. Happenstance Dust vs. Stone*

Versus; Checklist;

(D2)

See Demonstable vs. Thinkable

resign Science Revolution vs. Global Political Revolution*

Design vs. Technology

See Edge vs. Radius

Electrostatic vs. Electromagnetic

Elementary vs. Complex

Embracing vs. Linear
Eternal vs. Finite
Experience vs. Integrity
Exponential Model vs. Limits to Growth
Ephemeralization vs. Visualisation

Expanding Physical Universe vs. Contracting **etaphysical Universe

Energetic vs. Abstract*
Einstein vs. Newton*
Effects: Primary vs. Side*
Ego vs. Omniscience
Euler vs. Synergetics
Emergency vs. Spontaneous: Teleology*
Entropy vs. Information*
Emergency vs. Freedom*

See Expected vs. Unexpected Extension vs. Extinction Extraversion
vs. Introversion* Energy vs. Time* Error: Inward vs. Outward Dis-
missal Of* Evolution vs. Familiarity* Energy vs. Mind* Experiential
vs. Experimental Electricity vs. Visible Light* Engineer vs. Sculptor*
Energism vs. Synergism* Eternity vs Energy

See Feedback Comprehensivity: Computers vs. Humans Free Energy
vs. Structure Flexible vs. Inflexible Finite vs. Eternal* Faster 4
Far Apart vs. Slower & Closer* Finiteness vs. Infinity* Face vs. Vertex*
Freedom vs. Emergency* Free Will vs. Darwin's Determinism Flat
vs. Curved Fantasy vs. Principle Familiarity vs. Evolution Form vs.
Model* Frequency vs. Primitive* Fuller's Reality vs. Popular Reality*

See Generalization: Mathematical vs. Literary Guess vs. Believe
Geodesics vs. Structure Geodesics vs. Irrelevance Generalization
vs. design* Graphics vs. Words: Slides* Generalization vs. Reality*
Global Political Revolution vs. Design Science Revolution

See Heat vs. Zero

Horizontal vs. Vertical

Humans vs. Computers: Feedback Comprehensivity⁵⁴

Humanity vs. Man*

Hearing vs. Seeing*

Happenstance vs. Design*

Humans vs. Trees*

Humans' Technology vs. Nature's Technology*

If-T-gu?! ChekgUgfr:

See Ideal vs. Real Imaginary Universe vs. This Universe Indoors vs. Outdoors Instant Universe vs. All-motion Universe Inventions vs. Discovery Inventions vs. Pure Science Events Industrial vs. Agricultural Accounting Internal Metabolics vs. Industrialisation Infinity vs. Finity Intercept vs. Insulate Intellections vs. Automatics* Integrity vs. Experience* Indirect vs. Direct: Acceleration* Infinite Series vs. Minimum Limit* Inflexible vs Flexible* Information vs. Entropy Individual Freedom vs. Mutual Emergency Intellect vs. Radiation

See Introversion vs. Extraversion Interference vs. Avoidance Improvement vs. Surprise Inhibit vs. Distribute Information vs. Concept* Integer vs. Pattern* Invisible Electrodynamics vs. Visible Thermodynamics* Instrument vs. Service* Inwardness vs. Omnidirectional Incasting vs. Broadcasting Inward vs. Outward Dismissal of Error Inside-out vs. Outside-out* Individual vs. Universe Immobile Purchasing vs. Mobile Rentability* Interrelatedness vs. Names

See Knots vs. Coils: Rope⁵⁵

54 indexed under other formulation

55 indexed under other formulation

Kinetic vs. Dynamic*

Know-how Accounting vs. Physical Accounting

Knowing vs. Reasoning

See Light Side vs. Serious Side of any Question Linear vs. Omniembracing Linear vs. Orbital Local vs. Comprehensive Local Radius vs. Wide Arc Liquid vs. Solid Low Pressure vs. Positives Limits to Growth vs. Exponential Model* Literary vs. Mathematical: Generalisations* Living vs. Corporeal: Morphology* Limited vs. Unlimited* Lever vs. Coherence* Learning vs. Consistency Local Pattern vs. World Pattern* Laws of Nature vs. Laws of Man Light vs. Electricity* Linear vs. Omnidirectional

See Man vs» Humanity

Matter vs. Radiation Morphology: Living vs. Corporeal Most Economical vs. Shortest

Minimum Limit vs. Infinite Series

Manifest vs. Potential* Man: Big vs. Little* Mind's Intellections vs. Brain's Automatics* Mathematical vs. Literary: Generalizations* Model: Pendulum vs. Scenario* Model vs. Synergetics*

Global Emergency vs. Individual Freedom*

Mend vs. Cure

Mind vs. Reflex

Minimum -Limit vs.- Infiniteerlea.

Medium vs. Body* Model vs. Form Multiatomic vs. Single Atomic*

See Kind vs. Energy

Modulation vs, Precession Man vs. Machines

Machines vs. Structures Model vs. Scenario Mechanics vs. Structure

Mobile Rentability vs. Immobile Purchasing Model vs. Photograph

Money: Making Sense vs. Making Money

l££8Uft: ChertUgjt

See New Forms vs. Reforms Newton vs. Einstein Nonbiologicals
vs. Biologicals* Noun vs. Verb* Navigation vs. Probability Nucleus
vs. Boundaries Ninety Degreeness vs. Sixty Degreeness* Nonuse
vs. Use Nuclear Domain vs. Spheric Domain* Ninety Degreeness vs
180-degreeness NucJAr vs. Superficial Names vs. Interrelatedness*
Nature's Technology vs. Humans' Technology

See Observing vs. Articulating Omniscience vs. Ego Operationally Ef-
fective v«. Potential* Operative vs. Potential* Outdoors vs. Indoors*
Omniembracing vs. Linear* Orbital vs. Linear* Orbital vs. Radial* One
Way vs. Round Trip Omniembracing vs. Permeating Omnidirectional
vs. Polarisation Omnidirectional vs. Inwardness* Outward vs. Inward
Dismissal of Error* One vs. Zero Outside-out vs. Inside-out Omission
vs. Admission Orbital Feedback Circuitry vs. Critical Path Omnidirec-
tional vs. Linear*

Political Revolution vs. Design Revolution* See Pendulum Model vs.
Scenario Model

Physical vs. Structural

Primary vs. Side Effects

PMsatr Tiling

Process vs. Thing

Politics vs. World Game Push vs. Attraction

Potential vs. Physically Realized Pure Science Events vs. Inventions*

Particle vs. Wave*

Precession vs. Synergy* Positives vs. Low Pressure* Pushive vs. Ten-
sive

Proclivities: Differentiated vs. Synergetic

Permeating vs. Omniembracing* Polarization vs. Omnidirectionality*
Pathology: Preventive vs. Curative

VfiEfiHi: Checklist • ' (P2}

See Privacy vs. Community Point vs. Zone Pattern vs. Integer Principle vs. Aberration Probability vs. Navigation* Principle vs. Fantasy* Physical Accounting vs. Know-how Accounting Probability vs. Discrete* Precession vs. Modulation* Push-pull: Push Phase vs. Pull Phase Prediction: Socio-economic vs. Engineering Physical Tetrahedron vs. Conceptual Tetrahedron Parallel vs. Convergent* Prose vs. Verse* Physical vs. Constant* Prime Volume vs. System* Primitive vs. Frequency

Versus: Checklist:

See Primitive vs. Potential* Photograph vs. Model* Proclivities: Basic vs. Secondary Popular Reality vs. Fuller's Reality

FILE INDICATORS

Versus: Checklist; (Potentials)

See Potential vs. Active Potential vs. Manifest Potential vs. Operationally Effective Potential vs. Operative Potential vs. Radiant

Potential vs. Physically Realised Potential vs. Primitive

See Quantitative vs. Qualitative

Question: Light Side vs. Serious Side*

Quantitative vs. Conceptual*

Quadrangular Accounting vs. Triangular Accounting*

Quanta; Structural vs. Volumetric*

See

Radial vs. Orbital Rope: Knots vs. Coils Roots vs. Blossoms Radiant vs. Potential* Radius vs. Edge* Radiation vs. Matter* Reforms vs. New Forms* Round Trip vs. One Way* Reflexes vs. Structure* Radiation vs. Intellect* Rigidity vs. Resilience Radial Compression vs. Circumferential Tension Radial Infinite vs. Circumferential Finite* Reflex vs. Mind* Resources: Fresh vs. Waste Resolution vs. Abstraction* Radiation vs. Concentration* Reality vs. Generalisation

See Radiation vs. Crystal Model

&research vs. Search*

ecognition vs. Cognition*

Radiant vs. Convergent*

Revolution: Design Science Revolution vs. Global

Political Revolution

Railroads vs. Airplanes*

Realms vs. Surface

Reality: Fuller's Reality vs. Popular Reality Reasoning vs, Knowing*

See Slides: Graphics vs. Words

Slower k Closer vs. Faster k Far Apart Structure vs. Reflexes Synergetics vs. Model Synergy vs. Precession

Spontaneous vs. Emergency: Teleology* Speech vs. Vision*

Solid vs. Liquid*

Structure vs. Geodesics*

Space vs. Thinkability* Shortest vs. Most Economical* Side Effects vs. Primary* Structural vs. Physical*

Scenario Model vs. Pendulum Model*

Serious Side vs. Light Side of any Question* Structure vs. Free Energy* Sensorial vs. Abstract* Synergy vs. Annihilation*

Static Word vs. Behaviofiat Word*

Stable vs. Dynamic* Synergetics vs. Euler*

VetaAjj: CMKH: (S)

See System vs. Structure Synergetic Proclivities vs. Differentiated Proclivities* Space vs. Conceptuality Static vs. Dynamic Surprise vs. Improvement* Service vs. Instrument Seeing vs. Hearing Suspension vs. Catenary Single Atomic vs. Kultiatomic System vs. Thing-in-Itself Sixty Degreeness vs. Ninety Degreeness Search vs. Research Sculptor vs. Engineer Spheric Domain vs. Nuclear Domain Settlements vs. Unsettling* Structures vs. Machines Structural Quanta vs. Volumetric Quanta

See Scenario vs. Absolute Symmetry

Stone vs. Dust

System vs. Prime Volume

Superficial vs. Nuclear*

Scenario vs. Model*

Ini iTHrliUBMMB

System vs. Scenario

System vs. Withootness

Synergism vs. Energism

Salvation vs. Self-discipline

Structure vs. Mechanics

Static Invalidity of Solid Things vs. Empty Space

Scenario Universe vs. Big Bang Theory

Surface vs. Realms*

See Teachable vs. Unteachable Thinkability vs. Space Time vs. Constant Transnationalism vs. Colonialism Teleology: Spontaneous vs. Emergency This Universe vs. Imaginary Universe* Thing vs. Process* Tensive vs. Pushive Technology: Enchantment vs. Disenchantment Time vs. Energy Triangular Accounting vs. Quadrangular Accounting Three-way Weaving vs. Two-way Crisscross Thing-in-itself vs. Systemi* Thing-in-itself vs. Zero Model* Thinkable vs. Demonstrable* Trees vs. Humans Technology vs. Design* Technology: Nature's vs. Humans' '

See Unlimited vs. Limited Unteachable vs. Teachable* Unbalanced vs. Balanced* Unexpected vs. Expected* Universe vs. Individual* Use vs. Nonuse Unsettling vs. Settlements' Unity vs. Complex

See Vision vs. Speech

Vertex vs. Space

Visualization vs. Ephemeralization*

Vertical vs. Horizontal*

Verb vs. Noun

Visible Thermodynamics vs. Invisible Electrodynamics

Visible Light vs. Electricity

Volumetric Quanta vs. Structural Quanta* Verse vs. Prose

See Wave va. Particle

Wheel: Artillery Wheel va. Wire Wheel

Word: Behavioriat va. Static*

Wide Arc va. Local Radius*

World Game va. Politics*

Words vs. Graphics: Slides*

War: Slow Death by Slums vs. War as Quick Death

World Pattern vs. Local Pattern

Walls vs. Airspace Technology

Withoutness vs. System*

Versus: CfeSSEHal:

(XTZ)

See Zero vs. Heat⁵⁶

Zone vs. Point*

Zero vs. One*

Zero Model vs. Thing-in-itself

Versus: Checklist:

See Complementarities: Always & Only Coexisting

Equals: Checklist

Nonequals: Checklist

Paired Concepts: Checklist

Dichotomy: Dichotomizing

Vertex:

"Vertexes are always identified by the nuclear centers of closest-packed sphere aggregates."

- Cite RBF marginalia at SYNERGETICS galley #24 at Sec.223.40 but inadvertently omitted from 1st. Edition text. 11 Oct*73

Vertex:

"A six-trajectory isolation of insideness and outsideness has four interweaving vertexes or prime convergenees

of the trajectories, and four areal subdivisions of Its

Isolation system and constitute tetrahedra."

-ii frill TTOfi PnesUnrlPH, .SiRT. -HO Hy HPF 11 ftel.xyt-

• aaygygferd

- Citation at Tetrahedrop_r 11 Oct'71

Vertex:

56 Indexed under other formulation

"Edges and vertexes do not come out as the same number systems---
you can describe the world both ways and not be redundant."

- Citation at Daacrlotion, 25 *.ug>71

- Boar -Island,-August 19?r.

'VERTTXes'. cAtsSiWts - SEC. 523.o-

Vertex:

"Spheree are high tide aspects of vertexes. ... Spheres in closest
packing are high tide aspects of vertexes."

" RAF t-p EJAj Blackstone Hotol, Chicago., j1 May 1974-

- Citation and context at Tidal_t May*71

Vertex:

"The number of vertices are always divisible Ey four in a structural
system."

[REDACTED]

- Cite P. PEARCE, Inventory of Concepts, June 1967

VEXTEHES; c«4ss,»es“ 43|

Vertex:

"Eiller showed that there were lines-- any kind of lines, crooked or not
so crooked. He then showed that the

pattern of two or more lines crossing one another was completely dis-
tinguishable from any single line by itself. We call this crossing, or
convergence of lines a Vertex.

"When three or more lines each cross two others, we have enclosures or areas. So Euler had areas, vertexes, and lines which he said were fundamentally unmistakable for one another. Euler showed also that all conceptual experiences which we can pattern, or form, are composed exclusively of three patterning elements: lines, vertexes and areas. They are all that are necessary to analyze and inventory all parts of, as well as all whole, patterns."

IV —

- Cite NASA SPEECH, pp. 58-59. Jun'66

Vertex?

Vertex:

"Where every vertex is the domain of a sphere we have CLOSEST PACKING."

- Cite Oregon Lecture #8, p. 289. 12 Jul'62

Vertex?

"Euler said, 'If I have two lines, where the two lines cross is distinctly different from where the lines don't cross.' He called this the vertex, the convergence.

He said this is absolute pattern uniqueness."

- fMn=firsBin~i»eettirtnl3rr-245.t -Jul '62
- Citation & context at Pattern Uniqueness. 11 Jul'62

vwibes-. cR»ss.w<s -sec SJS.oTl

Vertex;

"A vertex is in convergence and a face is in divergence."

- Citation and context at Gravitational System Zone, 14 Jan'55

Vertex:

"In topological systems vertexes are finite relationships

- Citation and context at Convergence and Divergence. 1955

Vertexial Accounting » Spherical Accounting:

See Vectorial & Vertexial Geometry, (2)

See Tensegrity: Unlimited Frequency of Geodesic Tensegrities, (7)

Vertexial Asymmetry:

"The tetrakaidecahedron is vertexial]y asymmetrical, but linearly symmetrical."

"Energy bounces around in triangles working toward the narrowest vertex where the impossibility of more than one line going through any one point at any condition imposes a twist vertex of exit at the corners of all polyhedra. Therefore, all triangles "leak" energy, but no one triangle leaks as much, or as fast, as two of its similar triangles vertexially connected."

fol.'5?

- Cite SYNERGETICS

draft at Sec.J1.25, Apr '72

Vertexial Cancellation: The Sales of Never-aute-touehline:

See Coherence, 10 Feb'73 Synergetics, 15 Oct'64 Particulate Model, 10 Feb'73 Quantum, 1? Feb'73

Sea Chemical Banda: Single Bond Convergence Corner Fitting Rules of Never-quite-touching Tangential Avoidance

Clothesline Locked Kiss Tetrahedron: Leak in the Corners Teepee: Half-spin Teepee Twist Torque at the Center of Convergence Twist: Local Twist Twist Vertex of Exit Vectorial Convergence Vectorial Near-miss

Bounce Patterns of Energy Tensegrity Clotheline

See Chemical Bonds, 6 kar'73 Critical Proximity, 15 Feb'73 Point, 19 Dec'73 Thread, 31 Oct*72 Geodesic Sphere, (1)

Vertexes - Crossings:

See Crossing, 22 Apr*71

V»rVW Tff>

See Tetrahedron: Inside-cijjing Of. 28 Oct'73 Convergence &. Divergence, T Oct*72

dBf DEFINITIONS

"In topology we have then a unique aspect that we call a line, not a straight line but an event tracery. When two trceries cross one another we get a fix, which is not to be confused in any way with a non-crossing. Fixes give geographical locations in respect to the system upon which the topological aspects appear.

"When we have a tracery or a plurality of trceries crossing back upon one another to close a circuit, we surround a novent area. Trceries coming back upon themselves produce areas or noventa. The areas, the traces, and the fixes of crossings are never to be confused with one another: all visual experiences are resolved into these three conceptual aspects."

~ Cite SYNERGETICS, 2nd. Ed. at Sec. 1007.23, 1 Jan'7\$

Vertexes_t fill 'III ?'i BM r l|^{1 11}

(1)

See Crossings, Openings, &, Trajectories

Euler

Events, Novents &. Event Interrelatabilities

Constant Relative Abundance

Topological Abundance

Points, Areas <fc Lines

Fixes, Discontinuities & Continuities

Joints, Windows & Struts

See Domain Jc Quantum, (1) (2) General Systems Theory. (A) Minimum Tetrahedron. 22 Feb'77 Polyhedra, 18 Jul*70 Push-pull Members, 28 Oct'72 Topology, 11 Dec'75

See Events 4c Nonevents

Tetrahedron: Inside-outing Of: Vieible & Invisible Vertexes

See Domain, 11 Feb'73

Euler, (1)

KoF DtoFIWITIONS

"However, each of the spheres that constitute the vector's Inherently two interrelated vertexial spheres

are in themselves two unique differentials in spheres: the congruent concave and convex spheres whose respective radiant energy-reflecting properties are so opposedly differentiable as to act respectively as energy Universe's prime diffusers or concentrating transformers; ergo, each sphere is always two spheres."

- Cited as PQaAing Linus, 7 Oct'71 as rewritten by RBF, Wash., DC., 8 Apr*75

^vertexXal Spheres:

See Evenly Coupled Vertexes

Vertexjal Symmetry:

See Vector Equilibrium, 19 Feb'72

"Second powering does not refer to 'squaring' or to surface amplification, but to the number of the system's external vertexes in which equating the second power and the radial or circumferential modular subdivisions of the system (multiplied by the prime number one, if a tetrahedral system; by the prime number two if an octahedral system; by the prime number three, if a triangulated cubical system; and by the prime number five, if an icosahedral system), each multiplied by two, and added to by two will accurately predict the number of superficial points of the system."

- Cite SYNERGETICS text at Sec. 964.20, Aug'71 (Same text appears at Sec. 223.40)

See Prime Number Inherency It Constant Relative Abundance Of the Topology of Symmetrical Structural Systems: Principle Of Superficial: Superficiality

Vertexes " Tunings:

See T Module, 21 Jun'77

See Polar Pointe

See Angular Topology: Principle Of, (p.57) 1960; (1)

Yegtlx-VQrtex Mtl9na'

See In, Out & Around Experiences, (1)

See Convergence

Coupler as Domain of IVM Vertexes

Corner

Crossing

Evenly Coupled Vertexes

High Tide Aspects of Vertexes

Polar Vertexes

Prime Structural Systems

Prime Vertexes

Radiantly Alternate Vertexes

Vertexes & Nonvertexes

Chemical Bonds: Single Bond

Nuclear Vertex

Dimpling

Interior Vertex

Omniconvertex

Vectorial &. Vertexial Geometry

Touch - tex of Vertex

Face Congruence with Opposite Vertex

Domains of Vertexes

Universal Vertex Center I'ouel

Spheres & Vertexes

See Circumferential Field Apr'72

Description, 25 Aug'71*

Convergence & Divergence, 1y55*

Domain, 12 Jul'62, 11 Feb'73

Gravitational System Zone. 14 Jan'55*

Pattern Uniqueness, 11 Jul'62*

Petal: Tetrahedron as Three-petaled Flower Bud,

11 Feb'73

Tetrakaidecahedron, 1y Feb'72*

Point, 19 Dec'73

Start, 29 Dec'58

Touch, 29 Dec'58

Tidal, 31 May'71*

Twoness, 19o7

Vector, 16 Dec'73

See Vertexial Accounting * Spherical Accounting Vertexial Advantage
Vertexial Asymmetry Vertexial Connections Vertexes " Crossings Ver-
tex vs. Face Vertexes, Faces & Lines Vertexes & Nonvertexes Vertex-
ial Symmetry Vertexial Topology Vertexial Unities Vertexial Spheres
Vertex-vortex Rotations Vertexes - Tunings

See Freeways, Mar'66

yg-UcaX: Vart leal ltY:

See Charts: Rotate Charts 90 Degrees so the Upward Curves Level Off

Column

Horizontal va. Vertical

Vertol:

See Air Delivery & Submarine Cities (1)(2) Dymaxion Car, (1)(2)

Vessel:

"Inspired by nature's nut, mollusk, egg, and vegetable shells, men learned, hundreds of millions ago, how to hollow out or build up and bind together hydraulic containers or vessels. Learning gradually how to expand the vessel-making art, men finally hollowed out large logs and then later shaped and tied together tree planks, later bent around stout frames. They w pitch-sealed the seams between planks to exclude, rather than include, the hydraulic element, as had their earlier water-holding vessel, the vase— ves. short for vessel.

"Vessels represent man's discovery not only of the generalized principles governing stabilized separations of liquids and gases anywhere locally in Universe, but also of the generalized solution of local environment pattern-controlling by man within the otherwise frequently hostile, if not lethal, environment event patterning of total energetic Universe. Vessels embrace the fundamental principle of finite local system mathematics. Vessels. as systems, divide the Universe into two main parts— the withinness and the withoutness." - Cite I&I, DOI-1ES, Pp. 157-158. Undated

See Cup

Berry Picking

Hands

aBftrfflSSBJITSaSfi

Veaali (2)

See Environmental Control Valve,

1954

Vibrant: vibration¹

See **ites k Quarks as Basic N*otee, (3)

Vi cariousa:

See Invisible Architecture, (E)

Vices:

See Yesterday's Virtues

Victrola;

See Hole in the Victrola Diac

See Communicating. (1) Words, 17 Jul*73

See Now House, (3)

Vietnam: Vietnam War:

See Design Science, 8 May'71

Transnational Capitalism k Export of Know-how, (2)(3)

View & Review:

See Search va. Research, 14 Feb'72

View:

See Geoview

Village:

See Global Village

Vine: Vines:

See Geodesics, (2) Grow-a-dome, 1 Dec*76 Ice, 29 Apr*77

"Talking about the synergy of synergies we find over and over again that precession is not predicted by mass attraction; the chemical compounds are not prophesied by the atoms; the biological protoplasm is not predicted by the chemical compounds and the design of the elephant or the pine tree is not predicted by the protoplasm. We know there is DNA and rRNA, of which any one set of those form a special case: they don't carry the general capability. They don't tell us why the protoplasm could be elephant or pine tree. Viral steerability is angle-frequency design. There's no question about it, it's a specific set of cases and it has its four fundamental constituents---its two pairs. . . Third pairs, which are upside down, are GCTA, , .

..e know the code, but we don't know how it comes out elephant. . .
The complementarity of the holistickness of it would balance out. And
so an elephant does walk and its not something left over with some
gaps in it. That's how it is with DMA and HNA."

- Cite tape transcript excerpts, HBF to EJA and BU'R, Chicago, 31 May
1971.

SYUEKCETICS WIC/CMCWY- SFCZ IoSoTot*1

Viral Steerability:

Angle-Frequency Design Control:

"Ue know that there is DNA and RNA, any one genetic code of which
dictates both a species and within it an individual or special-case
formulation. DNA-RNA codes do not explain why the protoplasm
could produce either an elephant, pine tree, or daisy, 'hat we call
viral steerability as produced by the DNA-RNA codes is simply our
familiar and generalized angle-frequency design control."

- Cite RBF at SIMS, U. Mass., Amherst, 22, p. 22, 22 July '71, as
rewritten by RBF Aug *71 and incorporated at Synergetics text, Sec.
1050.02, Apr. *72,

...1/

"The four chemical compounds--- guanadi.no,etc., whose first letters
are .O, C, T, and A, of which DNA always consists, in various paired
code pattern sequences such as GC, GC, CG, AT, TA, GC (in which A
and T are always paired as are

G and C) are demonstrable by equivalent variations of the four individually unique spherical radii of two unique pairs of spheres which may be centered at the four tetrahedra vertexes giving the tetrahedra four unique asymmetries in any variation of series which will result in the steerability of the shaping of the tetrahelix prototypes all of which can account for the pattern controls effected in all biological structures by DNA."

- Cite MEXICO ` 63, (WDS Decade Document 2), p. 61, 10 Oct'63

3.0/

TCTKI ME i r x - s FC

"Now one of the main important characteristics of DNA is that we have in the DNA helix a patterning instruction.- There is a coding of four principal chemical compounds:-- GCTA. They find that all the instructions for the designing of all the patterns known to biology! life is contained in GCTA. which will sometimes read GCGCGCATATTA. These are the four letters that are used and they govern all the coding of all the life structures. They know that one of these codings, then, makes a parent /apparent? . . .J and then there is some kind of zipping that occurs where there is a dichotomy and the new life breaks off from the old pattern with a perfect imprint and repeats the other./ It is quite interesting that in these helices you have the ability for them to literally nest by virtue of the spring, so that even though one is being imprinted by the other, it is not because one is a negative column and the other a positive column. They are all the same columns and yet they nest. Therefore, the other column, when it comes off, is a replica of the original column. They also found there is a tendency in the dichotomy to unzip:for the new life printed by the old life to unzip itself from the previous life--- so we have found in this model so far a tendency to unzip, to primp, and there is a coincidence of

T~~~~~e,_'7r ———Cite Oregon Lecture #6, p.200, 6 Jul*62
KBF UEFIMTIONb

"the ten increments per cycle that was also in the Watson-Crick chemistry. I don't mildly even imply that I am giving you the picture of it; and yet this is the kind of tantalizing confrontation that I have come to have--- many times when I seem to be in the right area."

- Cite Oregon Lecture #6, p.200, b Jul'62

"We inaugurate exploration with our theorem of omniuniverse tetrahedral structuring. Whereas Van't Hoff showed that all inorganic chemical structuring is tetrahedrally configured in vertexial linkage and Pauling's X-ray diffraction analyses show omnitetrahedral configuration interlinkages of gravitational centers of compounded atoms in all metals analyzed our omnitetrahedral structuring as a triple-bonded linear tetrahedral array may coincide with the DNA helix, and the tetra's four unique quanta corners may explain DNA's dichotomy transferred T,A; G,C patterning control of all biological species reproductions."

- Cite OMNIDIRECTIONAL HALO, p. 161, I960

Viral Steerability:

See Animate &. Inanimate Codes DNA: RNA Prediction Tetrahelix Un-zipping Angle

Virgin:

"A virgin is a generalization. A special case cannot be virgin. Virgin is another way of saying eternity.

"Virgin is an unused angle: the 'V⁵⁷ is an angle, an unoccupied angle. A male is convex and a female concave. You cannot really have concavity without convexity, so virginity is eternal,"

57 Cite RBF to EJA, J200 Idaho, Wash, DC, 8 Apr*75

Virgin:

"Virgin identifies-the topological insideness aspect of the coincidental insideness-outsideness of all generalised systems independently differentiated from all the macrocosmos Universe outside the virgin's system and all the microcosm Universe inside the virgin and the little of the cosmos Universe with which the virgin imaginably differentiates the outslideness from the insideness.

"And vir*gin is half a system because unity is plural and at minimum two; the virgin being the prime insideness of concavity to be dimensionally or experientially and operationally realized only by special-case-recognized congruence of the convex outslideness with the inside concavity."

- Cite SYNERGETICS, 2nd. Ed. at Sec. 1076.11, 27 Dec'74

Virgin: "There can be no special case generalised virgins."

- Citation & context at Primitive Regeneration, 27 Dec*74

See Primitive Regeneration, 27 Dec'74

Virgin - Unused Angle:

See Virgin, 8 Apr`75

Virgin:

See Minimum Limit Case, 12 May*75

See Good

Yesterday'8 Virtues

Virus;

• Frequency to the second power times ten plus two: is the number of balls in any given layer. This simple formula governing the rate at which balls are agglomerated around other balls or shells in closest packing is an elegant manifest of the reliably incisive transactions, formings and transformings of universe. I made that discovery and published it in 1944. This is the mathematics which the molecular biologists have confirmed and developed by virtue of which we can predict the number of nodes in the external protein shells of all the viruses, within which shells are housed the DNA-RNA programmed design controls of all the biological species and individuals within those species. Although the polio virus is quite different from the common cold virus, and both are different from other viruses, all of them employ frequency to the second power times ten plus two in producing those most powerful structural enclosures of all the biological regeneration of life. It is the power of these geodesic sphere shells that makes so lethal those viruses unfriendly to man. They are almost indestructible."

- Cite KBF marginalia. New York, 19 June 1971, to Synergetics draft, Section 22Z.32`.

Virus:

"Viruses,

The smallest organized structures Exhibiting 'life'

May be classified either As inanimate or animate, As Crystalline or 'cellular' forms.

- Cite HOW LITTLE, p. 72, Oct'66

RBF DEFINITIONS

Virus;

"I put 'animats' and 'inanimate' in quotes as their previously assumed identification with life and

nonlife respectively, has been experimentally discovered to be invalid as the two overlap throughout the virus structures. The viruses may be MB described as entirely animate or entirely inanimate."

- Citation and context at Animate & Inanimate, Jun'66

See DNA

Viral Steerability

11 Dec'75

See Animate and Inanimate Sequence (1)(2); Jun'66*

Icosahedron, 2 Oct¹72 Omnidirectional Closest Packing of Spheres:
Synergetics Principle Of: (2 M3)

Pattern Integrity (1)-(3)

Science: Comprehensive Integration of the Sciences, 4 Apr'73

Structure, 16 Dec'73

Twenty Questions {2}

Icosahedron: Subtriangulation, (1)(2)

Angle & Frequency Modulation, ? Nov'75

Viscosity:

"Liquids are noncompressible: you find that if you put tetrahedra edge-to-edge that you cannot compress them any more. The coherence of the liquid's viscosity is twice that of the gases inherently."

- Cite Tape transcript RBF to EJA and BO'R, Chicago, 31 May 1971

Visibility:

"The outbound, tetrahedrally-packaged, fractional point works toward and reaches the inherent visibility phases of radiation."

- Citation at Point: Outbound Poiqt, 23 Sep'73

Vlamiw

. Nature takes two couplet 360-degree angular tucks in the Illusory Infinity of a plane to render systems locally and visibly finite. The difference between visually finite systems and illusory infinity is two."

(RBF added the two underlined words to Synergetics draft

Secton 224.02)

- Cite RBF Synergetics marginalia- 19 June 1971.

Visibility:

"Visibility

is local and temporary."

- Reconstructed fro® SYNERGETICS text, Sec. 614.081. 1971

yisblfi A iDYlaiUv

' 'Conceptuality is something independent of visibility or invisibility."

- Citation & context at Conceptuality Independent of Si*e. 9 Jul'62

- Cite Oregon- beet;,ITp'~ JullfrZ

"There are six uniquely differentiable components of all systems and of all thoughts: (1) insideness; (2) outsideness; and (3) (4) (5} (6) the four star events that do the defining of the insideness and the outsideness, which inadvertently display

- six interrelationships, which, in turn, inadvertently define
- four triangles; which, again inadvertently define
- the four areas (openings) of most economical omniinterrelationships between the triangles'

edge-defining lines that deflningly exclude the macro-outsideness and definingly Include the micro-insideriess.

"Therefore there are six parts of Universe and four of them are always human-
lQconceptualizable and always define the successively cons'laerable domains of human
thought, while the other tw of the six cosmic parts are always invisible; i.e., the
ultra-macro tunable otherness and the infra-micro tunable otherness

- Cite SYNERGETICS, 2nd. Ed. at Secs. 400.71-.72, 16 Kay'75

Visibility,. & Invisibility of Systems:

(2)

"The visibility of conceptuality is always so preoccupying of human senses and minds
as to render spontaneously forgettable our only-progressively-acquired knowledge of
the vast ranges of the know-to-exist but nonsimultaneously tunable, ergo invisible,
otherness of scenario Universe."

- Cite SYNERGETICS, 2nd. Ed, at Sec, 400,73, 16 May'75

"The three aspects of systems are (a) insideness, (b) out- aideness, and (c) the four
star events «tat® which do the defining of the insideness and the outsideness, which
inadvertently, have

- six interrelationships; and
- for triangles, which exclude the macro-outsideness and include the micro-
insideness.

"Therefore there are six parts of Universe and two of them are always invisible.
There is an inherent twoness in the invisible macro and micro. The four visible parts
define the system."

(Later context at same caption, 16 May*75)

- Cite RBF to EJA, J200 Idaho, 13 May'75

See Now You See It: Now You Don't

Tetrahedron: Inside-outing of Tetrahedron: Visible & Invisible Ver- texes

Tetrahedron: Visible & Invisible Chordal Arcs

Demonstrable ve. Thinkable

Fourth Quantum
Tuning-in *a* Tuning-out
Some-thingness & Nothingness
See Aesthetics &. Integrity, 8 Sep*75
Architecture. 1965
Artist, 6 Jul'62
Conceptuality Independent of Size, 9 Jul*62*
Halo Concept, 6 Nov*73; Nov*71
Life, 22 Apr'71
Parity, Nov'71
Redundancy: Reduction Of, 22 Apr*71
Seeability, 31 May*71
Syte, 31 May*71
Visual Symphony, (2)
Tidal, 9 Nov'73
Tetrahedron: Nine Schematic Aspects, 30 Aug'75
Geodesic Domes, 24 Jan*58
Form Cannot Follow Function, 20 Sep'76
Synergetics, 17 Oct*77
Jee Invisible to Visible
Track to Trackless
Wire to Wireless
Ephemerization
Visible Thermodynamics vs. Invisible Electrodynamics

See Dome Over Manhattan, 28 Jan'75 Pure Principle, 6 Jul'62

"Visible light is a pushed phase of radiation and is limited to relatively short distances through atmosphere and required enormous power to push it, while what we call electricity is tensed or pulled radiation and the distances over which radiation can be drawn by wire is very great compared to searchlight beaming."

- Citation & context at Wind Stress & Houses,(10), 1946

See Animate & Inanimate, 1971

Ualblf Synergetics;

See Dymaxlon Airocean World, undated

Visible Thermodynamics vs. Invisible Electrodynamics:

See Fourth Dimensional Modelability, 24 Feb'75 Modelability, (a)-(c)

yiUblg: VisUUlltat

See Charts

(D

Infra &. Ultravisibility

Conceptual / Visible

Geoscope " World Looks at Itself Half Visible Motion Apprehension

Omnivisible

See Poijnt: Outbound Point, 23 Sep^{173*}

"Vision is unlimited universal language; speech is local and limited."

- Citation & context at Universal Language, 21 Sep*74

Visual;

**"Visual: preponderantly sensing the radiating-deflecting- reflecting,
unbonding-rebonding, atom and molecule energy export state,
including all those ultratactile, humanly- tune-in-able frequency
ranges of electromagnetic wave phenomena**

IDO. Oi.D,

- Cite SYNERGETICS 2 draft at Sec.tBeSX; 22 Feb'77

▣]

- Cite SYNERGETICS draft at Sec. 1054. 6 Mar'73

Visual MUBIC;

See Harmonica, (2) Music, 4 Mar'69

Visual Symphony;)

"What World Game does have is confrontations... in terms of sounds, words, and languages. When we had the radio, it was only words. People are going to say that in the television there is only an embellishment: the fact that you can see, and nothing more. We can only shout a half mile. Words are in all languages, special languages. But sight is a universal language. A person goes to a horse race in Japan and on TV it's the same thing. This is not like radio at all. I can see 700 million miles an hour and I can hear only 700 miles an hour. The step-up to sight was a millionfolding.

•'The information that TV really gives to people; when there's a program there the kids are feeling the dancing, and feeling the gravity. And this is informing them in ways that they have no idea of how they are really being informed. And World Game has to work this way,

"You can listen to a symphony. but you can only hear one set of chords at a time. It takes you an hour to wait and hear the whole symphony. In sum total they have only so many notes in "

- Cite Tape *iff*, pp.7-8; RBF to W. Wolf, Phila., PA, 15 Jun'74

Visual Symphony: (2)

"the symphony, maybe five or ten thousand, whatever it is. You look at the sky and you're looking at a symphony that took over a million years. You're looking simultaneously at events that took place a million years ago. We forget that sight is incredible. World Game is a visualization of so much that is not otherwise visible.

"You have to realize that every thing I do is synergetic and has to be talked about only in terms of the big complex. The point is that man cannot see the very limited spectrum of motion and change. He can't see the stars moving from the distances where they are, an incredible

distance, the motion rate at which they are moving; he can't see the tree grow. And if he doesn't see something in motion, coming at him, he doesn't get out of the way. But it is possible to step-up and step-down, so that he can suddenly see all these things coming together to WHAM!... and that's exactly what World Game is: it's always visual....

You have this slow playback. The point is that World Game can make visible what was not visible in the statistics or in curves."

- Cite Tape #3, pp.7-8; RBF to W. Wolf, Phila., PA, 15 Jun'74

See Color Spectrum

Eye Comprehendibility

Human Sense Ranging & Information Gathering

Motion Apprehension

Perception

Seeability

Sight

Television: TV: Onnidirectional TV Set

Visual Music

Ephemeralization vs. Visualization

Vision vs. Speech

Resolvability Limits

See Brain's TV Studio, 22 Nov'73

Ephemeralization, 1938

Privacy, 22 Apr'71

Topology: Synergetics & Eulerian (1) (2) Measurement Trends, 1938

Vertexes, Faces & Lines, 1 Jan'75 Zero Volume Tetrahedron, 10 Dec*75 Silence, 30 Sep'76*

Vltalistics;

"At the outset, certain new words must be introduced, among which are vltalistics to replace the dead word statistics. and mobilata to supersede data. These substitutions are necessary in order to incorporate a time element and to make allowance for the constant ,-adjustment of figures into the meanings of the words. Ststics are static, time-less, the blinding dust of death. Vltalistics and mobilata, on the other hand are appropriately used in connection with a cosmic inventory because scientific events and corrections may cause a one hundred percent amplification or refinement in our cosmic inventory even before the manuscript reciting the itei.is can be printed."

- Cite NINE CHAINS, p. 47 , 1938

Vitalig-tiGa:

See Teleology, (3)

^Itler! Grand Vitler:

See Wizard

Vocabulary:

"With our present large vocabulary inheritance we squander meanings on unworthy causes and communicate little that

needs to be said. 'Shazam.' 'Now, off with these clothes.'

'What goes up must come down.'"

- Cite I SELM TO BE A VERB, Queen, May '70 (Not in Bantam edition)

vgcabyrY;

See Words

(1)

See Advertising, 28 Apr'71

See Internuclear Voids No Absolute Void Nothing Novent Opening
Space Tetra-void Vacuum

Vertexes & Nonvertexes

See Fireworks. May'72

Frequency: High & Low, 26 Apr'71

Solid State. Nov*71

Allspace Filling: Octahedron & VE, 1967

Omnidirectional: Physical Existence Environment

Surrounds, (2)

See Free Will

Will Voluntary

See Electronic Referendum, 9 Jan*75

Volume;

"A volume cannot have an interior point. A volume is MB minimal. A volume can have no subdivisions."

- Cite RBF to MU EJA, Fairfield Conn., Ches Wolf.

16 June 1971.

Volume:

‘VOLUME - 3rd per volumetric quanta

- Cite DEFINITIONS BOR SYNERGETICS BY PETER PEARCE, May»6?

Volume:

"The volumes of the first four polyhedra are as follows: tetrahedron 1

cube 3

[octahedron 4](#)

vector equilibrium 20

"Because these metric values are rational (values that can be expressed as a ratio of a whole number), all the derivative, complex, symmetrical polyhedra geometries" of Synergetics " are rational when expressed 'tetrahedrally' rather than 'cubically'."

(Adapted.)

- Cite MARKS, pp 47-48, 1960

Volumetric Annihilation:

"The octahedron provides an example of volumetric annihilation when you remove one vector and reduce the figure to three tetrahedra triple-bonded. This also reduces from the volumetric value of four to the volumetric value of three. The process is, of course, reversible."

- Cite RBF marginalis and Sketch #1 on p.3, SYNERGETICS draft, 28 Feb'71

KJF iiiFIUITIUKS

Volumetric Annihilation:

is simple precession --- the falling in

from critical proximity."

- Cite HBF to EJA

Beverly Hotel, New York M 2« Feb 1971

Volumetric Annihilation:

See Octahedron and Annihilation Model

Awa_{rg}n_{gg}:

- Cite SYNERGETICS draft at Sec. 1023.19, 20 Feb>73

Volumetric Domain Unity:

See Prime Number Consequences of Spin-halving Of
Tetrahedron's Volumetric Domain Unity

Voluma-enargy Ratios:

See Universal Integrity: Manifest &. Potential Ratios, 1 Apr'72

"What Michael Berz is discovering here and what I had discovered and incorporated in the Kepler-like drawing of concentric symmetrical geometries of the 12 spheres surrounding the nuclear sphere (Fig. 982.61) and all the other well-known symmetrical systems which I showed in the chart, which occurs below my drawing showing MKSHKGQESSHl that the central sphere has a volume of and the central sphere is in fact the spherical icosahedron ' giving complete rational value to the sphere in the terms or the vector equilibrium's 20-ness, the octahedron's fourness, the rhombic dodecahedron's sixness, the cube's threeness and the tetrahedron's oneness. This particular drawing and the hierarchy of volumes I consider to be the most important single contribution of the whole book, 'Synergetics.'

"This is why I felt devastated by the lack of color as well as the separation of the drawing from the hierarchical chart which itself had been done in color. This is the very essence of what Kepler's great drawing hoped to discover but failed to do so because of his assumption of the cube for volumetric unity.

- Cite RBF Itr. to EJA, U Nov'75

"rthat Michael, with his thorough reading ofi 'Synergetics,* missed the significance of my drawing and its elsewhere included hierarchical chart and felt that he was making a discovery that the difference between the rhombic dodecahedron (the spheric) and what he callsthe small vector equilibrium five, is exactly the volume of one tetrahedron."

- Cite RBF Itr. to EJA, 1J Noy'75

See Octahedron, 10 Dec*75

See Isotropic Vector Matrix, 30 Nov*72

See Cosmic Democracy. 27 May*72 Avogadro, 27 Jan`75

Volumes - Powers:

See Equatability of Volumes & Powers

See Tetrahedron as Volumetric Quantum Structural Quanta vs, Volumetric Quanta Volume-structure Ratios

See Potential Ratio of Volume to Quantum Values Vector Equilibrium:
Ratio of Volume to Quantum Tetrahedron as Volumetric Quantum Tetrahedroning

Units of Environment Control Structural Quanta vs. Volumetric Quanta

See Structural Quanta ve. Volumetric Quanta

Yotoe-flurfafij. Hierarchy:

See System Totality, 7 Mar*73

See Iceberg

Container Structuring: Volume-surface Ratios

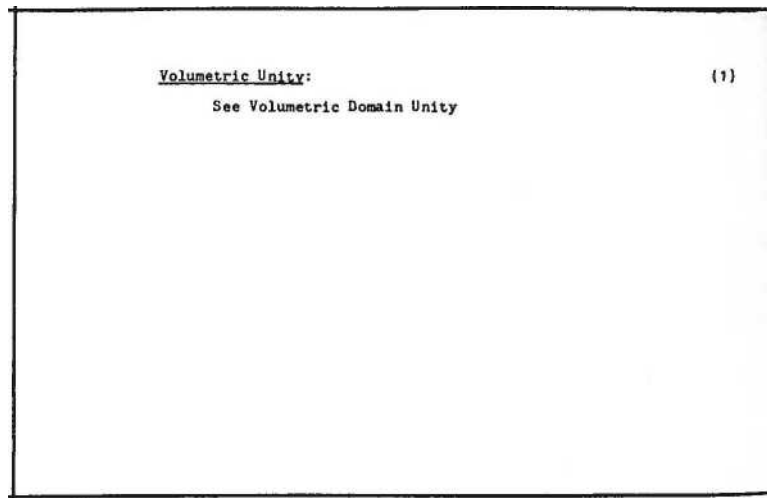
Structural Quanta

Sphere: Volume-surface Ratios

See Icosahedron: Subtriangulation, (1)

"If we try to express it in terms of cube as unity, which has the number three, then these others would come out unevenly because due to the irrationality that the three would bring about in relation to the others. When we start with the tetrahedron as unity, then the cube comes out even. These are all whole rational numbers. It is an extraordinary sublime relationship.**

- Cite RBF to Verner Smythe, NYC, Reel 2, p.3, 11 Mar*69



See Allspace Filling, Jun'66 Icosahedron & Vector-edged Cube, 11 Mar'69
Synergetics, 17 Oct*72 Unity: Complex Unity. Oct'59 Structural Quanta, 9 Nov'73

Volume-Weight Relationship:

(D

See Planck's Constant Synergetics Constant

See Chemical Phenomenon, May'72 CGS: Cg_ts System, 7 Oct'71 Kass,
27 May'72; 14 Kay'73

See Center of Volume

Concentric Centers of Volume

Constant Volumes fIIHMHMHMMMB Model

Domains of Volumes

Equatability of Volumes &. Powers

Idealized Volume

Minimum Volume

Ko Absolute Enclosed Surface or Volume

Nothingness of Areal 4c Volumetric Spaces

Prime Volumes

Sphere: Synergetics Formula for Area & Volume of a Sphere

Zero Volume

Structural Quanta vs. Volumetric Quanta

Intervolumetric

Tetravolume

Energy & Volume

Modules: A & B Quanta Modules: Constant Volume

Relative Volumetric Frequency & Interval

See Domain, Aug'71

Powering: Fourth Dimension, 26 Nov'72

Tetrahedron, 22 Jul'71

Synergetic Hierarchy, Oct'75

See Volumetric Annihilation Volumetric Awareness Volume-Energy Ratios: Manifest i Potential Volumetric Hierarchy Volumetric Intervaluations Volumetric Unity Volume-Weight Relationship Volume-Surface Relationship Volume-number Ratios Volume-quanta Ratios Volumes^m Powers Volume-structure Ratios Volumetric Domain Unity

Voluntary & Involuntary:

''Being born is involuntary

Directional stone throwing is voluntary.

Life's first event being involuntary.

The game of life's order of play

Is involuntarily initiated

And is inherently subject to modification By the a priori mystery

Within which consciousness has emerged.”

- Cite INTUITION, Draft Feb. '71, p. 1.

RdF DEFINITIONS

Sirth is involuntary.”

- Cite RBF to EJA re definition of 'Universe' in SYNERGETICS Beverly Hotel, New York 28 Feb '71

- Citation i context at Happening. 20 Jun'66

See Determinism Free Will Subjective & Objective

vslwaaix & Jwr»lwWri

12)

See Metaphysical & Physical. Oct'71 Brain, May'72 Happening. 20 Jun'66* Understanding, 1 Apr'49

Voluntary:

See Discretion

Electable: Elective Experiment Free Will Options Volition

Voluntary & Involuntary

Voodoo:

See Gurdjieff, 14 Apr'70

See Vertex-vortex

See Relative Asymmetry Sequence, (1)

See Electronic Referendum

Electronic Voting

Vulnerability:

"Without vulnerability there is no courage."

- Cite RBF to EJA, Royal Scot Restaurant, N.Y. 14 Sept. 1971.

W

Wagon: Wagons: See Buggy Industry

Wake:

See Bubbles in the Wake of a Ship De-vacuumising the Wake Trails & Wakes

See Wind Stress &. Houses, (4)

See Awakening

Waking Up:

See Subconscious, 20 Feb'77

Walking:

- Cite RBF at Penn Bell videotaping, Philadelphia, 29 Jan'75

Walking:

` ` If you have one post you have to keep it balanced or it falls/ Stand it up and it falls over. . . What happens for instance if you are on stilts. You have got your two legs. You move one. So you lift this leg up over here and you stop yourself. If you have such a power of the momentum of the hinging of the specific direction. But it is very easy to frustrate by putting it over here and out comes a new hinge. . . And so all we're doing when we're walking, we are continually falling on hinges in the specific directions which you can frustrate by turning into a tetrahedron so we have nothing but dynamic tetrahedron. . . "

- Cite RBF tape Chicago, Blackstone Hotel, 31 May *71. p. 30.

Walking:

"Rationalization is an act similar to walking through a half-frozen, marshy, unexplored country to mark out a trail that others may eventually follow. It involves not only the familiar one-two progression of shifting the weight and balance from one foot to the other, but an unknown quantity progression of selective testing to avoid treacherous ground before putting full weight upon the forward foot."

- Citation and context at nationalization benuece (1), 1933

See Step

Trail Making

Space Walking

Crabs Walk Sideways Left & Right

See Inertia, 20 Dec'71

Locomotion: Radius of Man's Locomotion, (1)

Life is a Sumtotal of Mistakes, (2) Rationalization Sequence, (1)* Human Unsettlement, (5)

Walls:

"In the 1927 Dymaxion House... the walls were shutterable membranes; there were no partitions or space dividers to say: You shall not pass. There were just natural barriers, like a kitchen or a tree....

"Opaque walls are difficult to let light through. There are four kinds of privacy: aural, tactile, visual, olfactory. Occulting--- cutting off the line of vision--- is better than opacity."

- Citation & context at Dymaxion House, 29 Jan'75

Walls:

"You people keep talking about architecture. The future I say will be really invisible. The walls that you're familiar with were very terrible walls. They're walls of bad faith and ignorance--- so you had to have something to stop the bow and arrows. Somebody was trying to come in and kill you. Walls for protection. Walls represent great ignorance, fear and ignorance.'*

- Cite RBF quoted in San Francisco Oracle, Voll, No.11, 1967

,jall8 vs, Ajrapagg TfchnQlflgy? (,)

"Allied with ancient Crete and allied with its sea power, Mycenae was a very successful city-state, so successful as to have developed the additional capability of building ships and going to sea. Its peoples were able to control the line of supply to besiege the walls of Troy. Homer's epic probably represents the first change in the grand strategy of the world from the power of the almost invincible walls of the great city-states to the power of the line of supply at sea.

"The higher and bigger the walls, the more secure had the human insiders felt themselves to be. Economic mastery of the world affairs by the mobile, more-with-lessing, frail wooden ships of the sea gradually overwhelmed the static state's security. Their symbol was the six triangle hexagon, for only triangles are stable. Those ancient water people of the world had the stem ends of their ships keels curved upwardly to best cope with the waves. The swift changes occurring within my own short life span are undoubtedly related to the swift advancement in the technology of the sea and the sky.

"With the world's comprehensive disarmament occurring possibly within the next decade, the airspace technologies bid fair"

- Cite RBF Foreword to "Great Architecture of the World": 13 Mar'75

Walls YS.. A_{ir}spac_e..T_ehn.QlQKY : (2)

"to take over all the environment-enclosing arts, ergo the architecture of tomorrow. Exciting though such prospects for humanity may be as inherent in the vast more-with-lessing technology of the sea and the sky, all of such development would be meaningless, were not the integrities, thoughts, feelings, loves, and inspirations of all those who have gone before us to prevail and inspire us..."

- Cite RBF Foreword, "Great Architecture of the World": 13 Mar*75

See Curtain: Curtaining

Membrane

Walls vs. Airspace Technology

Wall: Walls: (2)

See Horizontal vs. Vertical, 1963

City, 28 Jan'75

Orbital Escape from Critical Proximity, (2)

Invisible Operation of Thousands of Radio

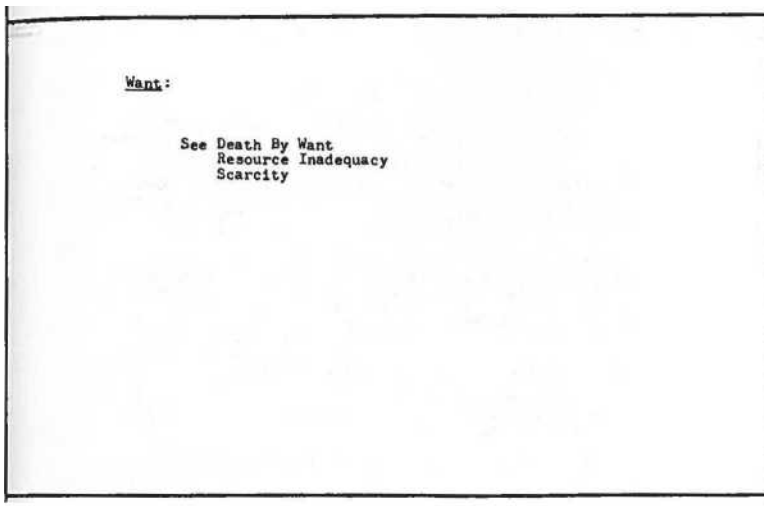
Programs, Nov'71

Building Business, (4)

Wankel Engine:

After a careful reading of the article on Wankel Engines in the New York Times Magazine of Sunday, 4 October 1971, RBF observed that operation of the Wankel Engine combustion chambers might represent the reciprocal actions of the energy centers of the A and B Modules.

- Cite RBF to EJA, 3200 Idaho Ave., .Washington, 4 October 1971.



war:

"If you have enough to go around war becomes murder,

"Since it is now physically and metaphysically demonstrable that the chemical elements resources of Earth already mined or in recirculation, plus the knowledge we now have, are adequate to the support of all humanity and can be feasibly be redesign-employed by 1985 to support all humanity at a higher standard of living than ever before enjoyed by any human, war is now and henceforth murder. All weapons are invalid. Lying is intolerable. All politics are not only obsolete but lethal."

- Cite RBF to Yale students. 10 Dec'73, as rewritten by RBF, 3200 Idaho, 13 Dec*73.

War;

"If you have enough to go around, war becomes murder.

- Cite RBF to Yale students, New Haven, 10 Dec¹73

' 'War is the physical commandeering and enslavement of the physical.^{rt}

- Cite RBF Holograph, Delos Conference, 1971.

War:

"Society neither hears nor sees the great changes going on. Either man is obsolete or war is. War is the ultimate tool of politics. Political leaders look out only for their own side. Politicians are always realistically maneuvering for the next election. They are obsolete as fundamental problemsolvers."

- Cite I SEEM TO BE A VERB, Banatan, 1970

War:

">/ar represents the uniformed hospital and operating room phase of an overall remedial pathology in treatment of man's affairs. In this inherited scheme of life, science and technology are invoked directly by society only at the eleventh hour to arrest the malady fostered by laisses faire, ignorance, opinion, shortsightedness, prejudice and egocentricity. Formally declared war is the final spectacular and open chapter following the prolonged and far more sanguinary private and non-spectacular chapters of strife under the guise of 'Peace.'"

~ Cite Earth, Inc. (RBF Reader, Ed. J. Meller), p.236. 1947

War:

•'That is why we have had to have a war: because we couldn't free ourselves for thinking without the detaching effects of war. Short of war, we just let well enough alone. We were swivel-moored to the rooted-down tonnage of our lugubrious past."

- Cite I&I, I FIGURE, p. 106, 1 Nov '42.

EAltalpatlPA thp. Cauec ?f W_{fr}:

"When it becomes commonly known that there is enough to go around, there will be no war."

- Citation and context at Design Science (1), 29 Jun'73

See Design Revolution

Resource Inadequacy

See Fellowships: Life Fellowships in R & D, 1969

Electronically, you can't see the wireless... The psychological war... You don't have to have the war if you break down the other man's economy before you get to the war. It's cheaper than fighting."

- Cite RBF at DSI Press Conference, NYC, p.17, 28 Jun'72

AM

"Success for all is the only way of overcoming the need to kill, either in the swift death of official war, or in the slow slum death of unofficial war, mistakenly

labeled peace--- when the lack of knowledge of how to provide for all includes lethal competition as vast numbers are shunted into poverty and a far more protractedly painful and humiliating slow death. The you will learn in due course that their idealistic compassion and hope to eliminate lethal warfaring cannot be gratified by political action means, for the last resort of politics is always inherently to physical force, be it actively waged with guns or passively provoked by sitdown blockades."

- Cite ARTS AND LETTERS GOLD MEDAL SPEECH, p. 16., May »68
KBF UhFIUITIUNS

"There are official wars and unofficial wars. There has never been anything approaching peace. The unofficial wars occur as billions of lives deteriorate prematurely and finally die for lack of vital necessities. They are deprived by economic warfare which is shrewdly and cruelly waged during the preposterously called 'peacetimes' as well as in anticipatory competition for access to the inadequate supplies or in hoarding against feared for scarcity.

"There are no medals given during unofficial warfare. The brotherly excitations occurring amongst each of the opponents' respective peoples during official warfare are almost entirely lacking in unofficial warfare. Though much discomfort exists, the lowest death rate anywhere on Earth is now manifest in the direct combat deaths amongst official warfaring opposed fighting forces in Viet Nam. On the other hand, within the economic struggles and reflexive indulgences of the unofficial warfaring people on the North American continent. . . more lives have been lost in the automobile toing and froing within the last century than in the official warfaring of 100 percent of humanity in all history,"

- Cite RBF in Syracuse Address Pp. 45-46, 7 Nov *67

War: Official War and Unofficial War: (2

"Today's youth will soon learn that success for all is the only way of overcoming the need to kill; either in the swift death of official war or in the slow slum death of unofficial war. Because the lack of knowledge of how to provide for all includes lethal competition as vast numbers are shunted into poverty and a far more protractedly painful and humiliating slow death, today's youth will learn in due course that their idealistic compassion and hope to eliminate lethal warfaring cannot be gratified by political actions, for the last resort of politics is always inherently to physical force, be it actively waged with guns or passively provoked by sitdown blockades. . . , "

-Cite WOULD DESIGN IN A DYNAMIC TECHNOLOGY, 7 Nov '67 P. 46

See War: Slow Death by Slums TS. War as Quick Death

War aa Official Panic:

See Biosphere, (2)

far aa Quick Death:

See Resource Inadequacy, May'72

"Death by want, i.e., by metabolic inadequacies is much slower than by the sword or gun and causes much more anguish and pain than that of the swift hero's death. Death by want imposed on many by the successful politicians' warfaring only with laws and police guns, obscures the identity of their executioner from both the politician and the slow-dying victim."

- Cite RBF Ltr. to Indira Gandhi, p.5, 4 Jan*70

See War: Official War & Unofficial War

See Politics, *U* Jan'70

Resource Inadequacy, Kay*72 Socialism, Jul'61

See Armament: Amor: Arms

Balance-of-Power Poker Game

Civil War

Cold War

Death: Slow Death by Slums vs War as Quick Death

Detente

Disarmament

Fighting

Military

Politicians 4 Defense Budgets

Weaponry

Weapons Technology

World War I

World War II

Might Makes Right

See City, (A)

Design Science, (2)

Leaders Can Yield to the Computer, 4 Mar'69

Politics, (1)(2)

Womb Population, (3)(4)

See War: Eliminating the Causes of war

War is Becoming Invisible

War Official War k Unofficial War

War as Official Panic

War as Quick Death

War: Slow Death by Slums vs. War as Quick Death

Ward, Barbara:

See Spaceship Earth, 1966; 23 May'66 Water, 20 Sep'76

See Fireproof Warehouse of Clvilleatlon

Washington, George:

See Puzzle of Washington Crossing the Delaware

See Excrement Human Food Waste Pollution Resources: Fresh vs. Waste

See Aesthetics of Uniformity, (1)

Water:

"The fourth resolution" at the 1976 UN Habitat Conference in Vancouver "was one which Barbara Ward herself had conceived of and introduced. It recommended that all around the world--by 1985--it would be made physically and practically possible for any and all

human beings to have fresh, safe, potable drinking, bathing, and washing water. It is highly feasible within the present technology to make such pure, safe water available to everybody anywhere around the world."

- Cite ACCORDING TO HUMAN SETTLEMENT, p.10: 20 Sep'76

Water:

'Water is a liquid solid absolutely noncompressible.

- Cite RBF to EJA, 3200 Idaho, Wash, DC; 12 Nov'75

Water: "By design we are all born naked... Consisting predominantly of water---which freezes, boils, and evaporates within a cosmically minuscule span of temperature limits within the vast spectrum of humanly-measured cosmic temperatures, ranging from absolute zero to those temperatures, for instance, of the star Sun..,"

- Citation context at Helpless; Humans Born Helpless. 7 Nov* 75

Water DEFINITIONS

Water:

- Citation context at Wichita House, 12), 31 Jan'75

Water:

"Water takes on heat and loses it at the slowest rate of all known substances."

- Citation and context at Temperature of the Human Body (1) May'72

Water:

"I apply the same kind of subjective-objective disciplining to my design-science undertakings. In developing environmental controls, I don't even try to avoid incidents. I don't try to Insulate against forces and events. I try to turn each event to advantage. We consist mainly of water. We must inhibit water frequently. But water comes to us in uneven quantities at uneven intervals. When it 'cloudbursts' we can't use it that fast. I must shunt the water into a cistern. Then I am able to valve it into my presence in usable increments when I want it."

- Cite RBF in AAUW Journal, p. 178, May '65

W&£gx£aU:

"...The scientist discovers those principles that are operative in nature. He discovers the principles of the lever, riot only the lever but BB also the electromagnetic principle, and the development of the waterwheel with a series of levers on the hub. . . . and having experienced going under a waterfall, realizing the waterfall had the same kind of power as your body had when you got on the end of a lever, so that by putting under the waterfall it's going to go around--- and using then this extraordinary discovery of the electromagnetics generating electricity."

- Cite RBF in Edward Newman TV Interview, Feb'73

See Helative Asynnmetry Sequence, 11)

Human Uneettlenient, (2)

Houses & Infrastructure, 20 Sep'76

Water Fountain as System:

See Wind Stress & Houses, (9)

"Watergate is the end of the use of the lie as a weapon in the history-long, you-or-me, yours-or-mine, not-enough-foral 1-of-us, mortal struggle. For the first time in history it is now scientifically and practically demonstrable that there is enough for all humanity to be supported at highest standards. Ergo, all weapons are now invalid, including

- Cite RBF Ltr, to James Coley, Sep'73

wasraaw

"The Watergate affair is the beginning of the end of the line for the lie.

"Huuanity, starting naked and learning through trial and error, was left with a deep impression that there were not enough resources to go around for all people. As a result war--- and, short of killing, lying--- came to be considered tolerable. Yesterday, you had to have that lie. And now people feel that the lie is no longer necessary.

"We have a young world that is realising that man can not only go to the Moon, but can do anything. It's highly feasible to take care of humanity with a higher standard of living than anyone has ever known."

- Cite Philadelphia Evening Bulletin, front page, report on RBF Address at Third Annual Recognition Dinner for Donors Presbyterian Medical Center, 26 Jun*73

Watergate:

"Watergate ie a fantastically, extraordinary, beautiful moment in history--- the end of the line in lying and game-playing.

"Man is the only phenomenon in Universe that lies. Hydrogen doesn't lie to itself that it doesn't join up with oxygen. It doesn't consider this sexually, something it has to do on the quiet. Children are bom spontaneously truthful. But older people say, 'Darling, that will get you into trouble.' Or, 'That will get your daddy into trouble.'

"Lies, and how to get on. end justifying means, really begin in delicate, polite ways and in fear of the mother that their child is going to get hurt. But young people are now saying they won't tolerate hypocrisy, and Watergate is the end of me-playing.

"I think they're all saying. 'We do not think that ends

justify means, we do not think it worthwhile lying to protect those we love if they have to live in a world where we keep on lying. Society is well-informed theoretically, but its conditioned reflexes are half a millenium behind that knowledge.

- Cite RBF quoted by Marian Bruce in Vancouver SUN, 14 Jun'73

See TheOne: v/atergate

Safe£9ftMa:

See Dymaxion Airocean World

Water: Trend Toward Living on Water

Waterspout:

"A waterspout is ... a kind of wave. I could take two or three waterspouts and this begins to happen- they curl around each other. What we call rope turns out to be wave phenomena."

- Cite Oregon Lecture jfa, p. 102. 5 July*62

ft'ateraooout:

See Fountain

Torus

"Now the sails are coming back in great numbers as a new chapter of economic success for many millions has launched an ever-increasing fleet of cruising yachts and recommissioned 'windjammer' vacation cruise vessels. This new trend is part of a general trend of humanity all around the Spaceship Earth's surface to occupy and enter into the three-quarters of the planet's surface covered by water. Men go into the seas by submarines, skin diving and offshore steel-structured 'islands' as well as by surface boats."

- Cite BEAK ISLAND STORY, galley p.29, 1963

See Lever. (b), (I)(II) Waterfall, Feb'73

See Artifacts, 28 Apr'74

Building industry, (7) Mouses 4 Infrastructure, 20 Sep'76

See Bubbles in the Wake of a Ship

Hain

Wave Pattern of a Stone Dropped in Liquid

Ocean

Solar Panel Water Heating

Ice

Desalinization

See Matter, 3 Oct'72

Science, (2)

Trespassing: Not Trespassing, (1) (2)

Temperature of the Human Body, (1)*

Wichita House, (2)*

India, 12 May*75

Vector Equilibrium Involvement Domain, 24 Apr¹76

No Energy Crisis, (1)

Human Tolerance Limits, (A)-(D)

Subconscious. 20 Feb'T?

Womb of Permitted Ignorance, (1)

Wave:

"Waves require hierarchies."

- Citation 4 context at Minimum Limit Case, 12 May*75

Wave:

"The wave is as abstract as the concept of an angle. Waves are weightless patterns."

- Cite SYNERGETICS text at Sec. 505.33; RBF galley rewrite
6 Nov'73

Wave:

"This is what science has discovered: a world of waves in which waves are interpenetrated by waves in frequency modulation."

- Citation and context at Pulsation. 9 Nov'72

Wave:

"Physics has found no straight lines Universe and has found only waves. All lines are wavilinear: high-frequency short waves and low-frequency long waves. Unit energy may be invested in many of the short waves or in a few of the long waves."

- Cite HBF holograph for Herman Wolf. Boston, 1:20 a.m..
8 May '72

Wave:

"Waves are inherently curvilinear, that is, they are corkscrew or spiral tracteries between covariable events, such as You and Me.

- Citation &. context at Rope. Dec'?1

Wave:

"Waves are not metaphysical. 'Waves are physical."

- Cite RBF to EJA, 3200 Idaho, Wash. DC, 19, Dec. `71 (In response to direct query.)

Waves:

' 'Physics has found the whole physical Universe to be uniquely differentiated and locally defined as 'waves.'^w

- Citation at Physical Universe. Nov'71

- eite-JUJf Ifeii gihalli

rgg-ov-r±?l.

Wave:

"The overall longitudinal length of wavilinear vectorial lines is determined by the number of waves contained."

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. »?1, Haverford, Penna.

KBF JtFlhlThlub

Jave:

"It is characteristic of waves that they always
make a cycle."

- Cite KBF to Slitib Seminar, U. lass,, Amherst, 22 July 1971.

Wave:

"Waves are octave

And one reason why they don't interfere with one another

Is because of the zero.

If we apply the octave wave pattern

To the wave phenomenon or radio waves and other high frequencies,

Waves passing through seeming solids,

Or low frequency waves,

We can imagine that the lack of interference could be explained

Through the crossing of the high frequency waves

Through the much lower frequency waves

At the zero point."

- Cite NUMEROLOGY Draft, April *71

Wave;

"Kan's experiences with curvilinear paths suggested that waviness
could be reduced to straightness. Physics finds only waves. Some
are of exquisitely high frequency, but Inherently discontinuous be-
cause consisting of separate event packages. They are oscillating to
and from negative universe, that is to say, in pulsation."

- Cite HBF to EJA , Somerset Club, Boston, 22 April 1971

Wave:

"Waves . . . consist of frequencies of directional inflections in respect to duration of experience."

- Cite RBF SYNERGETICS Draft Mar '71.

XBF JaFIMTUHS

Wave:

"The remote aspect of a spiral is a wave because there are no planes."

- Cite KBF to EJA

Beverly Hotel, New York

7 March 1971

Wave:

"Because precession imposes angles other than 180° upon all interactions of all moving systems of the Universe there are no straight lines demonstrated in nature. The fundamental wave behavior of all nature is a consequence of the omni-intereffective precession."

- Citation at Precession, 13 Nov '69

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rtBF DEFINITIONS

Wave:

"The cyclicly modulated length of the edge of any triangulated, special case, structural system can km represents the basic 'standard* of relative comparison on a recycling axis of subdivision. Each increment is one unit of frequency and each increment is one unit of wave."

- ea.B-tttar-sy

- Citation at Cycle, Jun '66

Wave:

"Six great circles can make two spherical tetrahedra, the positive and the negative. So, the fewest great circles can be folded up and made into bow ties and reassociated and then, even though we made them into a local bow tie, they seem to re-establish to all the great circles. These are very typical characteristics of fundamental wave phenomena."

(See Illustration ff 72.)

-iCiVe gacheuTjlaItr-ih'af-e---

- Cite Oregon #7, p. 26g, TTJu 1 *62^{P<?rr'aLiOn »V1}

Wave:

The formation of "Bow tie" units from a circular

disc (Illustration No. 72) . . . "is an important phenomenon because it is a basic characteristic of wave phenomena which act really like propeller blades. That is, all waves always come back upon themselves. We have then a perfect wave control by dealing in 360 degrees and it comes back on itself and yet we have processional interferences with itself where it makes itself into little local bow ties."

(Adapted.)

—Nax u r £^{-t}-s^JCoOT'd4-n j t i e<v. p

- Cite Oregon #7, p.268, 11 Jul'62

Wave:

' "When radio or television waves pass through the walls of a house, when light waves pass through a window or a lens, there are always some comprehensively relayed local jostlings, some sets of submicroscopic eddies of force, that accomodate the push through. The complementary effect--- what in conversational language is the 'resistance' of the wall, window or lens--- and what" in Synergetics "is called 'the precessionally shunted pattern relay'-- is responsible for reflection, refraction, and filtering."

- Cite MARKS, p. 20, 1960

rfave:

"A wave of water moves in integrated principle, schematically only, maintaining its general shape, magnitude, direction, and velocity, but never reemploying any one set of points, particles, or molecules to perform the same function a second time, and only a following wave may approximate the reemployment."

- Cite NOAH'S ARK, p. 6. Summer, 1950

iVave:

"It is fascinating to learn that, with the development of the computer, nature uses a Yes-No or binary system.

This is the Basis of mayrs. Consequently the Polynesians have been using the most advanced techniques during the period that we have presumed them to be inferior because they only counted to two."

- 6, Undated
- Citation at Binary, p.6, undated

Wava-anele Oscillating Extremes:

See Atomic Triangulated Substructuring: Hierarchy Of 13 Nov'65

Waveband •

See Pattern Strip

Wayg Connection:

See Redundancy: Reduction Of, 22 Apr*71 Tetrahedron: Coordinate Symmetry, Nov'71

Wave-frequency Aberrations:

See Lag, 11 Oct'73

See Nature in a Corner, 17 Nov'75

"Wave-frequency relationships have a minimum limit and not an infinite series behavior."

- Citation in context at Equi-interval - Tuned. 30 Dec'73

See Frequency & Wave

See Equi-interval - Tuned. 30 Dec'73*

Isotropic Vector Matrix, (p. 12) undated

Lag, 11 Oct'73

Prime Nuclear Structural Systems, 27 Dec¹74

Environment, 29 Mar'77

Wavelength. frequency & Resonance:

See Tensegrity Masts: Pentagonal Polarity, 27 Dec*76

See Angle & Frequency Modulation

**Frequency: Alternate Wavelength Frequency Radiant Variability of
IVK-defined Wavelength**

See Isotropic Vector Matrix, undated; 30 Nov'72

Waveless:

"...The only metaphysical (ergo, physically unattainable) waveless exactitude of absolute equilibrium."

- Citation and context at Omniaavmmetry, 11 Oct'73

Waveless:

See Avarilinear Frequency

Wave Mechanic:

See Quantum *it* Wave Mechanics

Wave Mechanics: Law Of:

See Floating City, Aug'72

ffaxa Network. fanattr»blIXtY:

See Vector Equilibrium, (2)

"Particle is frequency-definable special case and wave is angularly-defined generalisation. The numerically-unique condition of special case 5 / 4 of generalizations, identifies the dilemma of physics in reconciling the minimum fourfoldedness of wave definability by angles and the minimum fivefoldedness definability of particle particularization by unique frequencies."

(S1072.J2)

- Cite SYNERGETICS, 2nd. Ed. RBF Ms. at Sec. 1072.32; 19 Dec'74

"While physics is as yet formally puzzling over the paradox of the wave and the particle the apparent contradiction is occasioned only by the superficial misconception of a particle where none exists. We deal only with events in pure principle. The sense of physical textural reality, and awareness itself, which uniquely identifies life and time (in contradistinction to eternal weightless metaphysics), is inherent to the plurality of frequencies and degrees of freedom which in pure principle theoretically provide different interpositionings within given amounts of time."

- Cite SYNERGETICS draft at Sec. 1009.3?, '0 Feb*73

HBF DEFINITIONS

(⁵⁸ Wave vs. Particle:

58 Citation at Pattern, 22 Apr*71

'•One of the things we have to make clear for society is the dilemma of the Max-Planck-descended scientists, the way they do their problems, you can have either a wave or a particle, but not both simultaneously.

Heisenberg has the same fault. They make the error of having a wave as a continuity, as a picture--- not as a pulsating frequency. A planar reflex causes them to think of continuous waves,"

"Wave as a constant topological aspect is exclusively defined by angle, conceptually independent of frequency; ergo, frequency is the additional special case fifth characteristic: the generalization realized in time,

"Particle is frequency-definable special case and wave is angularly-defined generalization. The numerically unique condition of special case 5 to 4 of generalizations, identifies the dilemma of physics in reconciling the minimum fourfoldedness of wave definability by angles and the minimum fivefoldedness definability of particle particularization by unique frequencies.

- Cite SYNERGETICS, 2nd. Ed., at Secs. 1072.31 to .32, 27 Dec'74

Wave *vs.* Particle:

See Corpuscular, y Jul'62 Synergetics. 17 Oct'72 Teepee: Half-spin Teepee Twist, 20 Feb'73 Pattern, 22 Apr'71* Invisible Quantum as T_etrahelix Gap Closer.

23 May'75 Powering: Fourth Powering, 9 Sep»75

Wave Pattern of a Stone Dropped in Liquid:

"Electromagnetic wave generation is omnidirectional like a stone dropped in water... If you stop moving the magnet, everything stops... A_a a complex of hinged vector equilibria can be vertex-connected to fill allspace, and you can touch any one of them anywhere and the spheres become spaces and the spaces become spheres in an omnidirectional pulsing.

"The model of a stone dropped in water requires tunability and memory---the succession of images disturbing the set of images we can tune---colors, or whatever it may be."

- Cite RDF to World Game Workshop'77; Phila., PA; 22 Jun'77

Wgye Pattern of a Stone Dropped in Liquid: (a,j)

"When we drop a stone into water, we see a wave emanate outwardly in a plane. We agree that it is not water but that we are seeing a wave in pure principle. It is not simultaneous: therefore to conceptualize we are using our memory and afterimage. We can never have static waves; they have nothing to do with statics. We see a wave operative in time and in pure principle. If we initiate wave-propagating energy action at one point, a complete omnidirectional wave develops."

"When a stone is dropped into a tank of water, the stone does not penetrate the water molecules. The molecules are jostled; they 'accommodate'¹ the stone and in the process jostle their neighboring molecules, which, in turn, jostle their own outwardly surrounding water molecule neighbors. Thus waves of relayed jostling are propagated. Each relayed wave, although a composite of locally forwarded actions, provides a synergetic continuity scenario of those actions. The consequence is a pattern of events that has an integrity of its own, independent of the local displacement accommodations (which are innocent with respect to the overall synergetic pattern)."

- Cite SYNERGETICS text at Secs. 505*301-.31, galley rewrite of 6 Nov*73

Ways Pattern of a Stone Dropped in tinuid: (b)

"The same stone dropped successively in pools of water, milk, or gasoline will generate the same wave patterns. Yet the waves are essences neither of milk nor of water nor of gasoline. The waves are distinct and measurable pattern integrities in their own right, visibly growing and traveling outwardly as each locally involved molecule of the liquids develops a narrow vertical ellipse circuitry returning to where it started, unless a powerful wind operating parallel to and above the liquid blows the top molecules free as bubbles to tumble down the wave side like water on a hillside.'*

- Cite SYNERGETICS text at Sec. 505.32, galley rewrite of
6 Nov'73

"...It is like dropping a pebble into the water: the crest is the expanded phase of Universe and the trough is the contracted phase of Universe. Looking at the ripples we see that they are the locally initiated expandingcontracting of whole Universe as a consequence of local energy event inputs."

- Cite SYNERGETICS draft At Sec. 1005.U, 16 Feb'73 »Humana about to die in hospitals have been carefully weighed as life departed. No weight was lost. Whatever life is, it is imponderable. I am convinced that 'we', the utterly abstract integrities regenerate our own waves and ripples in the physical apparatus and environment which we employ just as stones create waves and ripples in the different liquids into which they are thrown, I am convinced that those waves and ripples are not the liquid milk, kerosene, or water into which the stone happened to be thrown. If we dump milk upon water and quickly drop a stone into the milky area, the waves rippling in the milk roll on from milk into water. The wave is neither milk nor water. The wave is an abstract pattern integrity, just as is the abstract concept of an angle. Waves are weightless patterns. The room we sit in is permeated by thousand of weightless

waves, each of unique character. You can tune in hundred of wide frequency range radios within your room and each can bring in a different program from a different part of the world because the individual weightless waves were flowing through trees and housed walls. That extraordinary world of weightless, invisible waves is governed by mathematical laws and not by the opinions of men. The magnificent orderliness”

- Cite MEXICO Address, p. 102. 10 Oct'63

Pfirrw - irci fog. 10 -r

"of that ever individually and uniquely patterning weightless wave Universe is not of nan's contriving. The infinite variety of evolutionary complexities inherent to the orderliness of complementary principles operative in the Universe is of unending synergetic uniqueness."

__ Cite MEXICO Address, 10 Oct'63

Pattern of ft Stone Dropped in Liquid:

"When we drop a stone into water we see a wave emanate outwardly in a plane. We agree it isn't water but that we are seeing a wave in pun*principle, it is not simultaneous and we are using our memory and after image. We can never have waves static; they have nothing to do with statics. We see a wave in pure principle, if we make a single energy action at one point a complete omnidirectional wave occurs."

"This is similar to a steel frame cube with a triangle rotating m it." (See Illustration ft 04.)

- Cite ~~Catbundulx~~ Draft

- Cite Oregon Lecture j/7, p. 260. 11 Jul'62 Ty- Tret m - sen.

"We drop a etone into the water and everybody is used to something happening. A set of rings appears; we call them waves. There are a set of circular waves that appear. It is a very reliable pattern and it is wonderful that this thing should happen this way... You see the

waves, and say, What are the waves? Are they water? The fact is that I am going to drop some popcorn on the water first. I'm going to have a few pieces of red popcorn and the rest are yellow. Now I'm going to drop this stone. You will see the waves go and they are nice yellow waves, but you discover that the red popcorn doesn't go from here to there. It simply went outwardly, inwardly, and outwardly, but stayed in place. All the popcorn stays in place. We begin to discover that the wave is not the popcorn going from here to there; then you discover that the water molecules don't go from to there. They simply accommodate the wave. They go inward and outward from the center of Earth accommodating a pattern that took place, but it really isn't water. The wave isn't water. The wave went on and the water didn't move.

"I can do this now in kerosene and I find it works just as well.

- Cite Oregon Lecture #3, pp.100-101, 5 Jul'62

"And I can do it in milk; and it isn't kerosene, milk, or water In fact, I could dump some milk fast on top of the water and drop the thing and it goes from the milk into the water. We can then say: it isn't water; it isn't milk; and it isn't •»' issarily liquid--- and it isn't Just something you are looking av, because if it is night you don't see it. You may hear a plop on the dock when the wave hits and you get a kind of aural information, but you don't think of that in quite the same way.

"It is a very still day, and I have begun to discover looking at the water, and I have dropped this stone, and I see the mast of the boat floating out there--- maybe the mast was doln g this and the dock was doing that. In other words, there was a temporary set of distortions. What is happening is that light emanating from the Sun. coming through the atmosphere and getting refracted in different wavelengths so there is some blue sky and the radiation is hitting the mast, and so forth,

being reflected in different frequencies. I see the yellow frequencies as masked in front of the blue, which is not distorting. I am getting a set of interferences from different kinds of frequencies. I am getting some frequency information,"

- Cite Oregon Lecture #3, p.101, 5 Jul'62

"wave information. We are saying the wave isn't water; it isn't air. We are beginning to discover that it has some kind of integrity of its own. We see waves from the sea coming into this concrete wall, and we see a new pattern of wave as it hits here and bounces out there, and we find the outgoing wave over the incoming wave. They accommodate each other very nicely. We find they do angle just like the reflecting of light. Every once in a while a peak comes together with a peak and they will send a spurt outwardly. Sometimes two valleys come together exactly and we get an inward swirl. We have gone then from a long set of waves, part of very big circles where they get into, almost into linears. We begin to discover, for instance that a waterspout is just such a kind of wave...

"I am beginning to talk about wave in principle. Pure principles are usable. They are reducible from theory to practice."

- Cite Oregon Lecture #3, p.102, 5 Jul'62

"I had yesterday the stone drop in the water and nobody really explains why it did what it did until you know about precession. The molecules are all little molecular actions, kinetics, little locals, and all kinds of shuntings. So there is a great deal of motion going on---atomically enormous. When this stone impinges on the atoms, with everything in motion, immediately at 90 degrees there is a resultant that goes like that. The stone is going like that and goes at 90 degrees

precession. The resultant is the wave. The 90 degreeeness begets another 90 degreeeness; and this 90 degreeeness begets another 90 degreeeness, and so on until you have a series of 90 degreeenesses. The stone falling like this, goes boom, boom, boom. Precession is regenerative and that is why you have the wave. It is very simple then to see why there is a wave. Pure precession."

- Cite Oregon Lecture #4, p.152, 6 Jul*62

'Action and interaction of events are accompanied by relative displacements and Accommodations of other events. For example, when a stone is dropped into a tank of water, the stone does not penetrate the water molecules. The molecules are Jostled; they 'accommodate' the stone; and in the process jostle their neighboring molecules, which, in turn, jostle their own border companions. Thus waves of relayed jostling are propagated. Each relayed wave, although a composite of local actions, provides a synergetic continuity of those actions. The consequence is a pattern of events which has an integrity of its own, independent of the local accommodations (which are innocent with respect to the overall synergetic pattern). The same stone, dropped successively in pools of water, milk, and gasoline, will generate the same wave patterns. Yet the waves are essences neither of milk nor water nor gasoline; the waves are distinct and measurable pattern integrities in their own right. The invariant relationships which govern pattern integrities in nature'* are "'pure principle.* The stone thrown into the tank inaugurates a complex of accommodative events operative in pure principle.

Cite MARKS p. 20_f i960

TEXT CITATIONS

Wave Pattern of a Stone Dropped in Liquid:

How Little I Know : Oct'66 : pp,16-17

463.02 #223.08

465.O4-465.O5

505.301-505.34

533.04

965.02

1005.14

1032.20

See Accommodation, i960

Particle. (2)

Push-pull. 22 Feb'73

Regenerative, i960

Tensegrity Sphere, 19 Dec*73

Tunability, 9 Jul'62

Two Kinds of Twoness, (B)

Vector Equilibrium: Spheres 1 Spaces, (1) Mature Has No Separate
Departments, May*72 Metaphysical Wave Patterns, 6 Nov'73

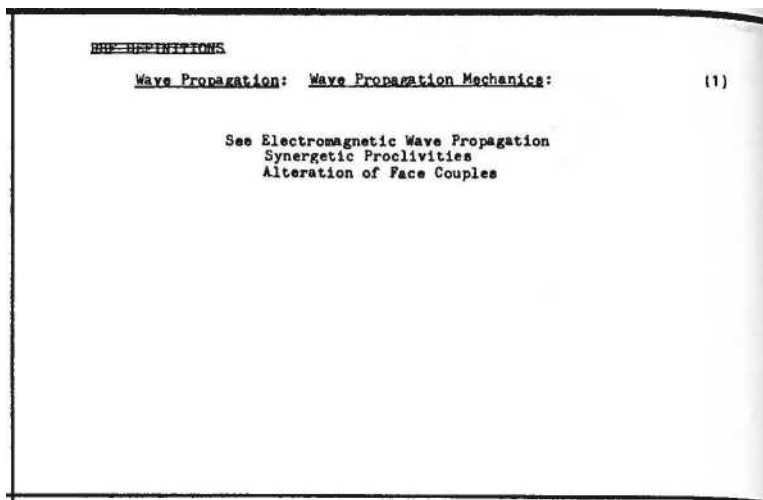
Wave Phenomenon: Inside of a Wonan Out:

See Womb Population, Nay'65

See Cube: Diagonal of Cube as Wave Propagation Model Cube & VE
aa Wave Propagation Model Triangular-cammed Model

See Vector Equilibrium, 18 Sep'69

Triangular-cammed, In-out-and-around Jitterbug Model 12 Nov'75



12)

See Calculus, Jul'71

Cheese Polyhddra, Nov*71 Radial Depth, 20 Dec'74 Telepathy, 29
Jun'72 Vector Equilibrium, (2) Pattern, 1954

See Divide & Conquer Sequence, (1)

TEXT CITATIONS

Wave Quanta and Indig Bow Ties:

See Synergetics Ulus. 1012.14A

See Geometrical Function of Nine

See Nine, 16 May'75

"Because the unsynchronizable, asymmetric excesses

Are inherently exported

The internal-external events

Propagate both inward- and outward-bound waves.

These unique wave-system propagations

Only infrequently coincide

With the unique symmetry patternings of others,

The orderly patterning energy releases of any one system

Only superficially appear to be disorderly—

Being unsynchronized immediately with other systems,
Though each system is internally orderly
And each is uniquely symmetrical dynamically.
This relatively minor yet true disorder, external to local systems
Is spoken of by the confused observer as 'diffuse.'

*aw

(U)

See Carrier Wave

Corpuscle: Corpuscular

Cube: Diagonal of Cube as Wave Propagation Model

Cycle

Discontinuous Wave Pattern of Indigs

Earthquake

EwtoyaeiMHitSueuijsslve Wa Tro~1ayFr_rftn brae amen tn

Frequency & Wave

Interwave Behavior of Number

Metaphysical Wave Pattern

Microwave

Nuclear & Nebular Zonal Waves

Ocean

Octave Wave

Oscillation & Pulsation

Propagation

Quantum Wave Phenomenon: Quantum & Wave

Push-pull: Push Wave & Pull Wave

Radial Wave Modular Growth

See Six-wave (Sexave) Phenomenon of Number Spherical Wave Surf
Surf Poundings Synchronisation Zerophase Zero Wave

Sound Waves

Omniwave

Harmonic

Ship's Bow Wave

Omnidirectional Wave

Interference Wave Hypotenuse - Wave Cyclic Experience

Waw <2*J

See Binary, undated*

Frequency, 22 Jun'72

Gears, May'72; 22 Jul'71

Nucleus. 18 Jun»71

Order, 10 Oct'63

Physical Universe, Nov*71'

Precession, 13 Nov*69* ; 6 Jul*62

Principle, 12 Jun'56

Pulsation, 9 Nov'72

Radiation. J!ay*72

Rope, Dec*71*

Reality, 14 Feb'72

Superstition, 1938

Tangible Me, 9 Jul*62

Tetrahedron: Coordinate Symmetry, Nov'71

Tunability, 9 Jul'62

Trees, 22 Apr*71

Male 4. Female, 1 Feb*75

Steo-up, Step-down Transformations, 22 Jan*75

See Necklace, (1)(2}

Ball at the Center, 9 Mar*73

Ellipse, 14 Feb*73

Initial Frequency, 6 Nov*72

**Cyclic Bundling of Experiences, May'49 Minimum Limit Case, 12
May'75* Error, 30 May*75**

Life is a Sumtotal of Mistakes, (2)

Remote, Nov'71

Left & Right, 7 Nov'75

Verse vs. Prose, 11 Dec'75

~~BBegnu:~~

Ware:

13)

Wave Connection

See Wave-angle Oscillating Extremes Waveband

Wave: Blocked Wave and Continuous Waves

Wave Frequency Aberrations

Wavelength and Frequency Event System Wavelength Waveless

Wave Mechanics

Wave Mechanics: Law Of

Wave Network Mensurability

Wave vs. Particle

Wave Pattern of a Stone Dropped in Liquid Wave Phenomenon: Inside of a Woman Out

i in nW i u u u ~Tiu i Pmiii Thrrm'gh—Ti

Wave Propagative hwwi niilniii i il Ti-uHFHF)

Wave Propagation Model

Wave Quantum

Wave Quanta and Indig Bcw Ties

Wave System

Wave-frequency Language of Electromagnetics

Wave Returns Upon Itself

RBF DEFINITIONS wayllinw* "Time ie warilinear.

- Citation and context at Now, 7 Nov'73

WaTlllncar:

"Potential lines are only inscrutably nonstraight; all physically realised relationships are geodesic and wavilinear."

- Cite RBF galley correction to SYNERGETICS at Sec. 240.29, 28 Oct'73

Wavilinear:

"Wavilinear is physical but not structural, since it is not accounted for by tetrahedron, octahedron, vector equilibrium, and icosahedron."

(For context of above see Ed. Note at Physical. 9 Jul'62)

- Cite RBF to EJA, 3200 Idaho, 30 May»72

yayWjeaj:

"The overall longitudinal length of wavilinear vectorial lines is determined by the number of waves contained."

- Cite SYNERGETICS Corollaries, Sec. 240, by RBF 11 Oct. »71, Haverford, Penna.

1'1'avi linearity:

"Regenerative precession imposes waviljnearity upon vectors and tensors. Wavilinearity is spirallinear."

- Cite RBF to EJA Blackstone Hotel, Chicago 25 March 1971

vi FixfS- SfC.SZO.

See Awavilinear

Deliberately Nonstraight Line

Prime Vector

Spirallinearity

Vector

(2)

See Critical Proximity, 15 Feb'73

Integer, 15 Oct*72

Now, 7 Nov'73*

Omniasymmetry, 11 Oct'73

Physical, 9 Jul»62*

Rope, Dec'71

Tetrahedron: Inside-outing Of, 26 Oct'73

Wave, 8 May'72

Prime Vector, (3)

Twoness, 27 May*72

System, 27 May'72

Feedback, 7 Nov`75

"Me the observer, Me the awareness Life Is awareness.

No otherness, no awareness.

Environment is all the otherness Of which the we-me life Becomes progressively aware And must progressively complement.

"All the Otherness¹ Is a scenario of nonsimultaneous And only partially overlapping sets Of physically and metaphysically Transforming events Of and by which we-me

Becomes progressively and cumulatively aware And teleologically inspired

In a succession of sleep and attention spaced Special case frames

Each integrating a plurality

Of differentially sensed info-concepts...*

- Cite Universal Requirements of a Dwelling Advantage, 31 May*74

See Pronouns: I - We - Us

Experiment: We Are Not the Only Experiment

See Time-elsing, 30 Nov¹⁷² Individuality & Degrees of Freedom, (2)

'fok Fgrcfl!

See Gravity, 12 May⁷⁵

Wealth:

"Energy la the essence of wealth, wealth being the organised capability to support life."

- Citation *6c*. Context at Human Unsettlem_t, (2); 20 Sep⁷⁶

Wealth:

"With the computers' integrative examination of the physical and metaphysical resources available to human beings it will be discovered that we are incredibly wealthy.

"Wealth . . . being predicated on the degree of organised competence to nurture, protect, and accommodate today's and tomorrow's human lives. It will be clearly manifest that we have aboard Spaceship Earth four billion billionaires--- heirs-apparent who have never been notified of their magnificent inheritance, which have been overlong hidden within the world's probate courts of obsolete laws, customs and fee- hungry fiduciary administrators, whose ignorant divorce-ment of money from wealth has altogether hidden from the fiduciary administrators themselves as well as the rest of the world, the late-20th-century-realized existence of omni-humanitysustaining, inexhaustible wealth."

- Citation t context at Cosmic Accounting. 20 Sep^{*76}

Wealth:

"I want to stress very much the things that Gerard _/?ie!7 talked about: wealth.... Wealth is--- as far as I am concerned--- the extent to which human beings have discovered principles that are operating in our Universe and the extent they use the experiences that come before us and the principles that we have learned (of leverage--- or whatever it may be), the extent to which we have organized our life, our environment, to take care of how many lives for how many days--- the capability to protect it, accommodate it, to feed it-- that is wealth.

"We are now in a great deal of confusion in our Western world by what has been done by the digits with which we recorded the wealth and tried to give the people producing it a chance to save it. The gains of that wealth have been plagued with interest charges---lending that wealth out to others when people didn't know whom it was being lent to.... Then there's the money game, where the money is really very remote from the wealth. When we consider that this is so we can begin to look at our cities in a little different kind of a way.

We have all kinds of very important resources available when we begin to resurvey the accounting system we are using on our planet_J8 Dec*75 - Cite RBF to National Geographic Land Use Symposium: transcript

Wealth:

"Wealth is the measurable degree of established operative advantage locally organized by intellect over the locally occurring differentiable behaviors of universal energy, W_e alth is an irreversible advantage: it cannot be expended in preferred reorganization of past events; it can only be expended on organizing forward events in preferential patterns.

- Citation & context at Intellect: EquationOf. (B), 17 Jun*75

Wealth:

"Wealth includes the accommodation of man's proclivities, degrees of freedom, and needs for information."

- Cite RDF at Penn Bell videotaping, Philadelphia, 28 Jan'75

Wealths

"Wealth, I would say quite clearly, is our capability to take care of lives. To what extent do we, then, know how to cope with principles to take care of how many lives for how many days? That's what real wealth is. Nothing else really counts. And they can only be articulated forwardly; they can't be articulated backwardly."

- Cite RBF to Harvard Law School Forum, 10 Dec'74

Wealth:

"The big problems that come out are really not being put on the books, because society was not really thinking in big enough ways--- not realising. Pretty much one-waying. There's a fairy godmother operating here and it's not really being put on the books. Society is going to be kidding itself a whole lot.

"I've had a number of big audiences in university lecture series; and I've said, 'I'm sure everybody in this room has a little different idea of what wealth is. And I'm going to ask if anybody in this room will contradict me in this audience if I say that no matter how much you have of it, no matter what you think it is, but how much you have of what you think as wealth, will you all agree with me that you can't alter one iota of yesterday?' It wouldn't do you any good. They agreed. So then I said, what ever it is, it is irreversible. It's something to be articulated now--- or forwardly

"When we ant to do our thinking about what is wealth, I've eliminated a lot of things I don't have to think about any more.

"Now I'm going to have a man we'll call a millionaire, a billionaire. And he has all his check books and all his stock"

- Cite RBF to Arthur Anderson & Co., (pp.6-7), New York, 13 Mar'74

'certificates and his deeds and contracts; the works--- and so he can articulate at any moment. And he's going from here to another country and he's going on a ship and the ship is sinking from fire and all the small boats are burnt. And he holds on to his gold and he sinks a little faster than the other people. So he doesn't have anyfuture either. So whatever that kind of wealth is--- he has AM all the controls of what we call wealth. We have one man on board who brought along a pneumatic life preserver; and he's floating out there and he says, 'Hey, Mister, I'll give you a billion dollars cash.' And he says, No thank you.

"In other words, I think that what man really means by wealth, then, is its capability to support forward life, I really want to get now to hard accounting when we get to cosmic accounting. As far as human beings go: do you have any more life? And wealth would be: for how many lives, for how many days--- owpvy thing you need to keep life going--- have you already organised? ... The environment is always changing around, transforming. And the resources are there, but how much 'know-how' do you have?

"In the terms of yesterday, up to this century when thermodynamics - Cite RBF to Arthur Anderson & Co., (p.7), New York, 13 Mar'74

"was discovered by the scientists and they discovered that local systems always lose energy. And they discovered that because man didn't know that light had a speed--- and he thought of Instant Universe... Everything Einsin introduced as not thinking Instant Universe

because Mr. Newton did think Instant Universe. And if that was so, then Universe itself was a system and it too was losing energy, running down. Therefore we had a basic negative accounting, when I came to Harvard University before World War I, the intellectuals assumed that the Universe was something being run down. What we used to call a fundamental conservatism was based on the bias that energies were always being exhausted anywhere. And anyone who makes any changes, that just means that it's running down a little faster.

"This was very convenient actually for the early great fortunes who went from the sea onto the land to produce steel £3l steamships and the equipment for them. Suddenly they found they could make money with both-- and up on the land, too! Once they had a factory, they didn't want to change the factory. Up to World War II, anybody who wanted to propose change--- he got fired. And after World War II, suddenly it was an entirely new story: if you didn't propose change, you"

- Cite RBF to Arthur Anderson & Co., (p.7), New York, 13 Mar'74 "didn't get advanced. What a big Jump that was... from a basic accounting viewpoint. These are the things I find are not properly discussed by anybody, looking at things sumtotally, and I was thinking that it's your business to understand what really is there and be able to tell management what they have. That is why I think this meeting is possibly one of the most important meetings I've ever had in my life.

"Q.--- 'When you say that you can't change wealth, are you saying that wealth can't be destroyed?' "I'm first trying to run down what wealth is. And I'm only saying that--- whatever it is--- it won't work backwardly; it only works forwardly, today or tomorrow.

K&9SBS&Z3EBQB And you Just add all the things that seem to make a man wealthy, and I find it didn't give him any forward tomorrow. So maybe that's not what we're looking for. I'm trying to find out what it really is. So I find out that whatever it is, it has to be one of two things. One is our Universe. Universe is physical, and, as Einstein said, is all energy. Energy associative as matter; energy disassociative as radiation. And we find it pulsing, going back and forth between'

- Cite RBF to Arthur Anderson & Co., (p.7) New York, 13 Mar'74
Wealth: (E)

"the two. And, as of this century, we come to discover that the energies are not lost. This is a great jump--- where we've had such specializations, with the economists and the philosophers not really being able to listen to what the physicists have been saying.

"80 the physical side of wealth, which we will use then to make tools, or whatever it may be, is now inexhaustible.... What we've had on the books up until this century--- these things were always being written off. Very logically. Nature seemed to have a negative accounting of the capital account,

"But I'm saying that the capital account is not going down. So the other variable is metaphysical. What we did get from those more messages on the same copper. That was our 'know-how.' Learning principles. There is a principle of leverage. There is a principle of refraction. There is a principle of really exponentials that really do become operative. So I said, the difference here is metaphysical.

"Next thing I found out about this metaphysical was that every time we make an experiment, we always learn more: we don't learn less. There are numbers of words in the dictionary to"

- Cite to Arthur Anderson & Co., (p.8), New York, 13 Mar'74

'accommodate all the things we've found out about Universe--- they don't get less, they get more. I find then, that the metaphysical side of wealth is always increasing and this is what has brought the words 'know-How* (metaphysical sounds fancier). But know-how always increases. The physical does not decrease. Wealth is very extraordinary and this is what happens with World War I. The great change is that wealth always increases. Now it can increase faster or lesser--- as you use the principles properly. And I've discovered that the negative accounting that we've really been operating in, is no longer valid. The minute we began to pay attention to what Einstein and Max Planck and everybody really found out, that accounting has to change. This is a very, very severe change."

- Cite RBF to Arthur Anderson & Co., New York, 13 Mar'74

Wealth:

"We have no knowledge today of what wealth is. Real wealth is the ability to take care of lives.'*

- Cite RBF address to Harvard Law School Forum, Cambridge, 10 Dec'73 featured in next day's Crimson

Wealth:

'•Humanity's productive and distributive Life-supporting capability--- wealth--- Had been irreversibly amplified.'

- Citation and context at Copper (2), May *72

Wealth:

"Wealth is the capability to live."

- Cite RBF to EJA, 3200 Idaho, Washington DC, 21 Dec. *71 •

Wealth:

"Wealth is the number of forward days for a specific number of people we are physically prepared to sustain at a physically stated time and space liberating level of metabolic and metaphysical regeneration."

- Cite KBF quoted by Jerry Judelson in Los Angeles underground newspaper, spVⁿ « 1971, p. 17

Wealth:

"It is obvious that the real wealth of life aboard our planet is a forwardly operative, metabolic and intellectual regenerating system, our children and their children are our future days, if we do not comprehend and realise our potential ability to support all life forever we are cosmically bankrupt.*"

- Cite KBF quoted by Jerry Judelson in Los Angeles underground paper, p. 17, spring, lyvi

Wealth:

"Real wealth is knowing What to do with energy."

- Cite I SEtM TO BE A VERB, Queen, May

'70 (Net in Bantaa edition)

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Wealth:

"Wealth is as much everybody's as is the air and the sunlight"

- Citation and context at Fellowships: Life Fellowships in Research and Development. Y959

Wealth: (1)

"To account our success in terms of gold and various traditional banking practices is irrelevant. Real wealth is organised capability. One of its Important characteristics is that it is irreversible--- no matter how much wealth you have, you cannot change one iota of yesterday.

Wealth can only be used now and in the future. What we really mean by wealth is how many days forward we have energy available and organized for work to keep the machines running, to keep the foods growing, the refrigeration, transportation, and so on. The basis for our new accounting system will be 'How many forward days of organized capability do we have available to serve how many men?' We will be able to make the working assumption that it is normal not only for man to be successful but also normal for him to be able to move as freely as he wishes without interfering with any other man. Our overall accounting assumption will be based on whatever amount of organized energy capability is required so as to make it possible for any man to travel around and enjoy the whole Earth, and be completely supported in doing so. There will be no such thing as deficit accounting. You cannot live on deficit accounting. You cannot eat"

- Citation & context at Economic Accounting System.(1)(2), Feb'67

Wealth:

"deficitly or drink water deficitly. What is to eat is there as the water is there.

"All such negative accounting procedures went along with the need for exploiting others in the 'you or me' phase of man's past struggle for basic survival."

- Citation & context at
Economic Accounting System (1)(2),
and

Population Sequence

Wealth:

. Wealth cannot alter one iota of yesterday. . .

Wealth has an irreversible direction of articulation."

- Cite NASA Speech, pp. 26,27 Jun'66

Wealth: "Real wealth is organised capability. One of its important characteristics is that it is irreversible..."

- Cite The Year 2000, San Jose State College, Mar'66

~~S-re-39-3~~, Rta-ecrrD ex *RUFj II uevtf*

RBF DLFINITIUNb

health:

"Happily realized augmentation of forward capability is all that we mean by wealth."

- Cite liUUu LiEuuKJii.trrj uuu, Frtilace, p. 1A1 9 MijUfiT-

Wealth:

"Energy--- larger and larger blocks of which as inherent principles of inexhaustible Universe become available to man* a control account. The impoundment of ever greater blocks of energy within the arrangements of the 92 chemical elements to give higher degrees of performance of structure and mechanics constitutes the actual means of harvesting of universal wealth."

"It is as though the phenomenon which we call raw materials, which are in fact our 92 chemical elements, were a fleet of cargo vessels into which we load ever greater cargoes of energy, and as we load them they give higher degrees of controlled performance, as a result we increase our control over fate and that is the function of wealth."*

- Cite Part II, Earth, Inc. Fuller Research Foundation yellow typescript (pp.13-14), 1947

Wealth:

"The measurable degree of forwardly organized environmental control, in terms of quickly convertible energy, capacities and performance ratioed system capabilities per capita, per diem."

- Cite WEALTH (I&I) pp U2 - 145
1947

Wealth: Equation of Wealth:

"For we now know scientifically That wealth consists exclusively Of physical energy

Which cannot be depleted

Plus intelligence's know-how Which can only increase,,

- Cite INTUITION,p.66 May »72

"Wealth \square 2 Energy + Intellect, with energy as (1) electr magnetic matter; (2) electromagnetic radiation."

- Cite P. PEarce, Inventory of Concepts, June 1967

- Cite RBF Glossary of Terms (Appendix B), 1967

"Wealth ia the organized and operative

Tool and energy capability

To sustain nan's forward metabolic regeneration;

To physically protect him;

To increase his knowledge

And degrees of freedom

While decreasing his interfrustrations.

Solo wealth is to corrmmonwealth

As X is to X*.

Wealth is: Energy compounded

With intellect's know-how."

- Cite HOW LITTLE, p. 36. Oct'66

ivh • Effluatlfm. PI»

See Intellect: Equation Of

Equation: Philosophical Equations

See health as "Know-how", (?)

Citation and context at Economic Accounting System, 29 Jun'72

"Let us ask ourselves some fundamental questions regarding the meaning of wealth. The biggest question we can formulate proposes that 'no matter what it may be or how we define it, will you agree that wealth cannot alter one iota of yesterday*? The answer is always that we agree to the proposition.

"We discover that whatever wealth is, it has an irreversible direction of articulation. We next note that if a reportedly very wealthy man is in a shipwreck in midocean and has all his checkbooks with him for all the monies he has on deposit in the bank plus all his stocks and bonds and physical property deeds--- and there are no physical means of saving himself from drowning-- that his wealth becomes meaningless to him. If he had all of his assumed-to-be-wealth with him in gold coins, he would only sink faster. If, however, he 4KK3B0 knew how and did convert physical components present in the disaster environment into energy-mastering tools that could keep him from drowning and from perishing from cold and sharks while also propelling safely to land, * might we not logically designate wealth as the means of sustaining forward life and the magnitude of the wealth in terms of how many fcrwrfd days of healthy metabolic regeneration have been provided for in *

"tools and energy mastery?

"We will also have to recognize that Robinson Crusoe's wealth was limited due to his enforced imprisonment on an island seemingly devoid of either humans and with whom he might procreate further life. If we recognize the built-in drives and selective functioning of humans, we will concede that the more freedom and the greater tooled energy at his command, the further and the more swiftly could the individual travel and the greater the opportunity thereby derived to increase or regenerate both his 'know-how' for dealing with forward evolutionary events and for meeting the individual of opposite sex most favorably and logically suited to marriage and their mutual regeneration and forwarding of human life.

"Thus we begin to discern that wealth may be at least partially defined as our energy-mastering, tool-organized capability to cope effectively and healthfully with our forward life regenerating and protecting and physically advantaging needs and development with ever increasing degrees of freedom and without gaining advantage through the disadvantage of another human."

- Cite NASA Speech, pp.27-28, Jun'66

"Because the 20th century physicists have shown that energy is finite and can be neither destroyed nor created, the energy component of wealth cannot be depleted. The other fundamental component of wealth is intellect. Intellect's 'know-how' can only increase. Every time intellect makes an experiment with energy it learns more. Therefore wealth, consisting of indestructible energy plus ever-increasing 'know-how' can only increase. The more we employ the wealth, the more rapidly it increases.*

- Cite NASA Speech, pp. 28-29, Jun'66

Wealth as Knowhow:

See Humane City, (2)(3)

Affluence

See Afford

Commonwealth

Earning a Living

Economic Accounting System

Energy Wealth

Rich Man Drowning in a Shipwreck

Spending

Success

Intellect? Equation Of

See Conservatism, Jun'66

Copper (2)*

Debt, 1944

Economic Accounting System (1)(2)*

Fellowships: Life Fellowships in R 4 D, 1969*

Ship (3) ^H

Intellect: Equation Of, (B)*

Cosmic Accounting, 20 Sep*76*

Human Unsettlement, (2)*

Dollars Bills: \$200 Billion One-dollar Bills Circling Around Earth

See Disarmament

Gross World Product Sequence

Heartbeat Magnitude Sequence

Killingry

Livingry

See Acceleration of Change (2) Metals: Recirculation Of (1)

"All weapons are invalid."

- Citation and context at War. 13 Dec'73

Wgapong TMhnQlQKy Scqugncg: (A)

"The integration of the new 20th century science and technology during World War I resulted in entirely unprecedented magnitudes of technical advantage gains accomplished in all the fundamental capabilities of the world's industrial networks. As a consequence of this major mobilization of industry, brought about through realizations of the long-suppressed scientific backlog, the industrial advantage subsequently accruing in the domestic economy as by-products of the munitions industry, had so increased that by 19'9 six percent of humanity were enjoying the prevalently 'high' standard and ever-advancing physical advantages of the industrial network. By 1940 the percentage of the ever-increasing world population that had now come to enjoy high standard industrial advantage increased to 20 percent. As a consequence of the again extraordinary advantages of technology during World War II, and in the post-World-War II cold wars, we have now increased the numbers of those humans who are participating in the Industrial network to 44 percent of the world's total population. The continually accelerating rates of increase in the number being served with even-higher standards of industrialization has occurred despite the ever-more rapid increase in world population,"

- Cite RBF to William Marlin, Architectural Forum, Feb'72

"concurrent with a continual decrease in the world metals per capita. The surprising rise in the number of people enjoying higher standards may only be accounted for by the fact that the increased ability of man and the Increase in the number being served is an indirect consequence of our constantly doing more with less per given unit of resources. per given function.

"Doing constantly more with less came from the world of seaborne or airborne weapons. To persist as a 'winner* in the game of world armaments a constantly accelerating evolution must be regeneratively initiated in specific improvements in performances per pound of physical resources and per hours of scientific and technical expertise invested in a given task in order to be supreme in carrying the greatest hitting power the greatest distance in the shortest time, with ever-increasing accuracy of aim and at ever- higher degrees of energy efficiency."

- Cite RBF to William Marlin, Architectural Forum, Feb'72

"The high performance technology developed for the production of weapons comes progressively to levels of obsolescence--- for instance, the premier type of submarine or airplane finally becomes eclipsed by competition and therefore becomes obsolete. Second grade weapons are worthless. The contractor who has been producing the now obsolete item often finds himself failing to get the next contract for the newer kind of weapon or tool. However, the ex-contractors are tooled up with the powerful high performance technology. They can produce a geeat deal with very little, i.e., with high performance per pound. For these obvious reasons the ex-government contractors look around in the domestic market to find ways in which to exploit their super technical ability. The ex-government supplier thus brought the dynamo, originally developed exclusively for the battleship, into the city to light man's streets and

the electric lights developed for the battleship came thereafter to replace the candles in our domestic candelabras, but the candelabras were not changed. The domestic economy was never made the comprehensive focus of generalized system theory and the prime beneficiary of scientific knowledge."

- Cite MEXICO '63, p.8, 10 Oct '63

"The high performance technology items were only progressively substituted for low performance items within the overall low performance, or indifferent performance, of the total structural and mechanical scheme of the

forever fortuitous land-borne edifices. Parts became improved without improvement in the total concept of land borne technology. All of our television, or radios, our electronic developments in general, came out of the original weaponry development. We see millions of glistening metallic TV antennae sprouting above the roofs of filth-festered, bathroomless, fire-trap living shacks the world around. Thus we find ourselves continually advancing in domestic technology, but only as the second-hand gadgetry, by-producted by the cast-off segments of the weaponry industry,

"Livingry vs. weaponry" characterizes "the causal pattern and curve of comprehensive improvement and amplification of world technology."

- Citew MEXICO *63, pp.8-9. 10 Oct (63

See Airplane Technology

Fallout from Weapons Support System

Sea Technology

Battleship

See Evolution, (p.72) Kay*72

Money-bee Humane, 12 Jun'73

Revolution by Inadvertence, 10 Oct'63

Technology, 13 Mar'73; 22 Jan*75

War, 13 Dec'73*

Everybody's Business, (1)-(3)

Politicians tt Defense Budgets, 20 Sep'76

Disarmament, (1){2}

Universe is Technology, (2)

Weather:

*1'11 give you in my own words very much the pattern of what we speak about as the weather. In the weather, we have the Sun shining on the atmosphere of our little planet; on the sunny side, heating it up, and making it expand; and on the shadow side--- cold, and it's contracted. Then there's a difference of rate of absorption of the Sun's radiation by the rock and the water and the atmosphere, so that in the shadowed side the waters are still warm. So there are all kinds of turbulences set up. As a consequence, there are low pressure areas and high pressure areas--- that's where we get our weather being reported. And the lows exhaust the highs; they pull on them, tense on them; finally they become the high and there's a new vacuum over here beginning to pull. So there's a pulsing pulsation going on in our Universe of collectings here and disbursements there."

- Cite RBF in Edward Newman TV Interview, transcript p.21, Feb*73

“We discovered that the motion of wind along the surface of the Earth is a turbulent affair, rising here and hitting the Earth’s surface there and rising again. We discover that the wind, instead of being considered blown horizontally along the Earth from a god’s mouth or by a mysteriously hidden blower, should be recognized as enormous convection columns in the thin atmospheric layer surrounding the Earth and caused by a warm Earth in the presence of a cold outer space, so that Earth continuously heats the atmosphere at its lowest point, thus expanding it, which causes it to be of lesser specific gravity and therefore to be less attractive to gravity, which pulls the top layer of chilled and concentrated air downward and causes the heated air to rise in columns somewhat as water boils upward in expanded bubbles and draws downward in concentrated pinpointed bubbles. There are predominant heat points on Earth caused by less insulation or color variations of surface. There was a strong column here and more of a tendency to have that column go here than there.

"As a net result of these convection column tests it was discovered that the rising winds tend to greater velocity than that of the lowering air moving in from the outer reaches to"

- Cite DESIGNING A NEW INDUSTRY, (PBF Reader, p. 204), 1Q46

"satisfy the concentrated columns, and therefore that the resultant focus of wind stress near the Earth's surface is in an upward direction in the lee of an obstruction--- such as a house at the Earth's surface."

INDUSTRY, (RBF Reader, p.204), 1946

- Cite DESIGNING A NEW

Sea Wind Sucking Sequence

Importing <fc Exporting

See Boltzmann Sequence (1)

Radiation Sequence (2)

Regeneration, 28 Apr*71

Wind □□□□□□IM Power Sequence (4)

Wow (3)

Boltzmann System, 4 Nov*73

See Atmosphere

Biosphere

Hydrosphere

Photosynthesis

Wind Power: Effect of Earth's Rotation Lightning 4 Atoms

Wind Hurricane Typhoon Climate

See Manifest: Six, 1973 Photosynthesis, Oct'69 Radome Sequence
(1)(5) Wind Power Sequence (5)

See Interweaving

Tapestry

Variable Strands Braiding

Thread

Strands

Basketry Interweaving

Interweave: Interweaving

Three-way Weaving

Three-way Weaving vs. Two-way Crisscross

See Female, May'65 Male t Female. 19 Dec'71 Scenario, May'72

See Spider'8 Web

RBF DEFINITIONS

Wadding;

*••• closest packing begins with two balls rather than omnidirectionally. Two balls coming together is where thought begins. . . it is a wedding thing. . . and it is very beautiful the way the two balls reoccur at each wave outwardly."

~~Cite RBF to Ed, Beverly Hotel, New York
Citation at Unidirectional, 19 Jun'71~~

- Citation **k** context at Balls Coming Together_r 19 Jun*71

See Marry: Marriage: Marrying

See Balia Coning Together, 19 Jun'71

Week:

"Nature has no 'weeks.' There is no 'Monday,' 'Tuesday,' •friday' in nature."

- Cite RBF to Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72

Week:

"I no longer think in terms of 'weeks' except as

I stumble over their antiquated stop-and-go habits.

Nature has no ¹ weeks.¹

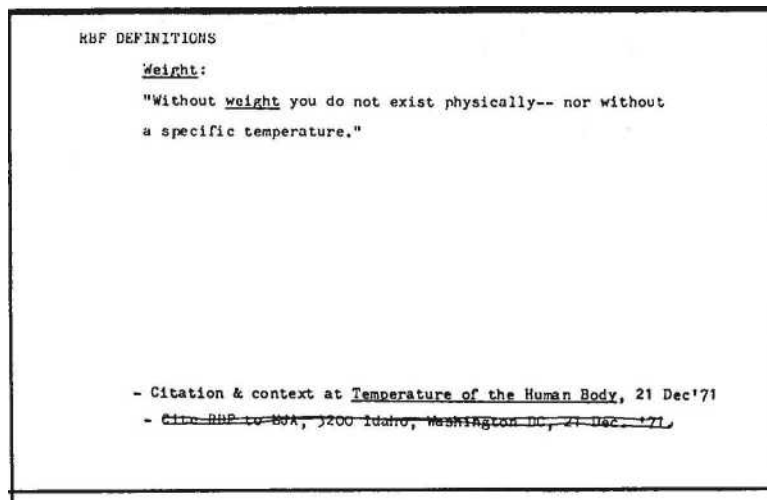
- Cite OPERATING MANUAL, p. 131 , '1969

See Heartbeat Magnitude Sequence, (2)

Weighable:

"The absolute would be weighable... experimentally meaningless."

- Citation and context at Absolute. Oct'66



Weight:

"Time and heat and longevity and weight are inherent in every dimension."

- Citation &. context at Dimension. 21 Dec'71

- eiTo HBF~I II J II.H.1 mu airp. w««h~4nel<'» l“ ‘i 81 n<” _ ,1

WffiKhablq & Unwolghabl:

See Universe (p.62) 1969

Automation, 12 Jun'69

See

Automation of Metabolic & Regenerative Proceases.

May'65

Evolution. (A)(B)

Knot, Dec*67

Life is not Physical, 11 Sep'73

Metabolic Flow, (1)

Pattern Integrity, (A)(B)

Technology, Jun'otf

See Displacement of Ships & Buildings

See Architecture, 24 Apr*67

Design Science, (2)

See Death: Weighing of People as they Die Ponderable Unweighable
Volume-weight Relationship Weighable & Unweighable Weightless
Zero Weight

See Absolute. Oct'66*

Air, 26 Sep'66

Dimension. 21 Dec'71*

Mass, 14 May'73

Temperature of the Human Body. 21 Dec'71*

Four-dimensional Reality. 30 Apr'77

Fourth Dimension: VE as Fourth-dimension Model.

22 Jun»77

hl>F JbFIKITIUhS (

Weightless:

"X speak about the mind and the mind's manifestations as
metaphysical or weightless. The physicist speaks about the physical
as moving a needle. Everything that's going on between us here in
this room. . . as I'm thinking out loud ... i

is weightless. I may push a little air, which makes sounds, to
communicate to you, but the relative value of the words I'm using is
unweighable."

- Cite RBF at Slbib, U. Mass. Talk 13, p. , Amherst, 22 July '71,
11.

Weightlessness of Thought:

See Zero Weight, 1968

WfAghUcpg: (1)

See Conceptual Integrity Conceptuality Death: Weighing of People as they Die Ephemeral Generalized Principle Imponderable Life Metaphysical Nonponderable Eternal Universe Pure Principle Unweighable Zero Weight

See Animate & Inanimate Sequence, (2) Closed System, 1968 Conceptions. Dec'69 Ephemeral Oct*66 Intellection: Intellecting, Oct'66 Life. 13 Nov'69 Mind, 13 Nov'69 Particle. (1)(2) Process Relationships, 28 Jan'69 Principle, 9 Jul'62 Triangle, (1) Wave, 6 Nov'73 New York City, (6) Life is Not Physical, (2)

"... This is what the intuition of world-around youth is trying to do. Mind can see that reality is evolving into weightless metaphysics. The wellspring of reality is the family of weightless generalized principles. It is essential to release humanity from the false fixations of yesterday..."

- Cite SYNERGETICS, "Introduction: The Wellspring of Reality, PP. 17-18. 21 Jul'72

VeUapring of Reality:

See Reality, 13 Nov'69

Wellspring of Work:

See Energy, 1960

MftUuxlac:

See Eternal Wellspring

See East-to-West Trend

' Prevailing Hinds: (2)

See Most Economical, 15 Jun'74

See Universal Language, 28 Apr'71

See Stature. 20 Feb'73

Tetrahedron, 20 Feb*73

Twenty-foot Earth Globe *tc.* 200-foot Celestial Sphere, (4)—(10)

Human Beings at the Center, (1)

I Ajn Trying ^TP ^DO:

See Fuller, R.B: What I Am Trying To Do

I/Z_{hat} ^Noeda to ^Ba ^Dong:

See Doing What Needs to be Done

See Know-what

Verbs: No 'Where's, No 'What's, Only 'When's

Wheel;

"/fo say that?'there are no examples flf wheels in in nature' . . is an observational error as is_/ the assertion that the invention of the wheel required 'abstract thihking at a highly philosophic level.' . . . preposterous in view of the frequent presence about the earth of tree logs which have been used by man as rolling supports or wide tired wheels, probably to the earliest times of man on earth. The log wheel was the fulcrum of man's lever-- probably amongst his earliest discoveries, as he stepped on the long end of a big log lying across another log and found himself lifting yet another log on the other end of the lever, which lifted logs he Knew to be beyond his ability to lift alone with his arms, back and legs. Every pebbled beach contains rolling stones which are omni-directional wheels, or 'ball bearings.' Very few squares or cubes occur in nature-- everywhere nature uses the round wheel sectioned form. . . the presence of the wheel principle in nature. Wheels were, however, probably 'a flop' as an invention, for milleniums, becoming successful only after proper lubricants and metals were developed for their axles."

lhe old fashioned artillery wheel Is an interesting thing. It has a roadway like a pole vaulter and you pole vault over and your weight la at the hub. . . By the time you get rid of one pole you get another pole. Therefore the wheel is just a method of having a series of poles to keep moving along with." ⁶

- Cite Oregon Lecture #3, p. 10a. 5 Jul*62

"In the high and low-tide cooperative precessional functionings of tension vs. compression I saw that there are times when each are at half tide, or equally prominent in their system relationships. I saw that the exterior of the equatorial compressional island rim atoll of the wire-wheel must be cross-sectionally in tension as also must be its hub-island's girth. I also saw that all these tension vs. compression patterning relationships are completely reversible, and are entirely reversed as when we considered the compressively spoked 'artillery wheel' vs. the 'tensionally spoked wire wheel.*"

- Cite PORTFOLIO + A?.T KhW* p. 120, Dec '61

"TeMfiW 4 3TC 60I

'//heelbarrow:

See Omnimedium Transport Sequence, 13 J

Wheeling About of Humang:

See Omnidirectional, i960

See Bicycle Wheel

Omnidirectional Wheel Waterwheel Wire Wheel

See Industrialisation,

Intellectual Perspective, 1 Jul'62

Halo, 193d

See Black Holes & Synergetics, 1 Mar*77

Whaqi

See Anywhen

Elaewhen

Verbs: No 'Where's, No 'What's, Only 'When's

Everywhen

Where:

See Elsewheres

Manywhere

Verbs: No 'Where's, No 'What's, Only 'When's

Always *It*, Everywhere

Not-everywhere

Ever &. Everywhere

Whip:

See Gears, 7 Nov'73

Lasso, 1946

"I am very much concerned with the uses of power.

"When Alfred North Whithead first came to this country from England, in the early part of this century, he remarked upon the fact that the graduate schools were all turning out specialists. Not that specialists weren't needed. But all the bright ones were becoming specialists. They were the only ones being educated for the graduate schools. As a result, the best brains are highly specialized. Not only that, but along with high Intellectual capabilities they developed a high intellectual integrity- no specialist of integrity would think of going into some other expert's field/and making quick assumptions as to the significance or lack of significance of the work of a specialist in another field. So communication ceased between them. We have teams of all-stars supposedly designing the system--- and they can't even talk to each other!"

- Cite MERGERS &. ACQUISITIONS

Winter 1966, Vol. 1., No. 2., p.



"Then Whitehead said we now come to a surprise because we then will discover that the specialists will not have the capability to integrate the potentials that are accruing to the special information they are finding because they are not able to communicate in this way. Certainly they wouldn't feel they could look into the significance of this as it might impinge on general technology--- they are pure scientists. Therefore, he said, having suddenly discovered that these people would not have the ability to integrate their capabilities, then society's hopes would be frustrated.

Somebody would have to put their potential together. He said that inasmuch as they couldn't do it themselves and someone else was going to have to do it--- who would do it? Now we discover that we may have possibly made a mistake, because, having deliberately sifted out the bright ones, we had left over a pile of tailings of the not-so-brights and inasmuch as the bright ones cannot put their work together, we will have to leave it to the not-so-bright's to put these things together. I gave this the name of Whitehead's Dilemma."

- Cite BHLGON UHIVEHOITY Lecture #2 - p. 40, 2 Jul'62

Whitehead's Dilemma: The Larger the Task, the Duller the Brain: "Whitehead's Dilemma: The larger the responsibility, the lower the level of intellectual capability that is brought to bear."

- Cite Orgeon Lecture #2, p. 43. 2 Jul'62

See Computer, (1)

Diplomata, 5 May'72

Politics, 10 Jun'71

Real Estate Development, 10 Jun'71

Specialization, (1J(2); 2 Jul'62

Whites;

"•Whites are bleached out colored people who are the normal people."

- Citation and context at Race (2), 7 Aug'70

Whitman, Walt:

See Reproducible, 22 Apr'68

Whole:

"A child plays wu/i ijalls that are round like the Earth and touches whole things. He touches his mother a lot when he is young... and she is big and sort of round.

A child thinks in terms of wholes."

- Cite RBF quoted by Cam Smith in RBF TO CHILDREN OF EARTH, Dec'72

Whole:

"Because 1 don't talk space, I don't have to have a vacuum. 1 don't start with a spe. 1 start with nothing. 1 start with the whole."

- Cite RBF to EJA dU'R, 3200 Idaho, DC, 17 Feb »?2

Wholeness:

"There is only pattern, there is only wholeness to begin and cease: the environment and content of all experience or experiment."

- Citation and context at Parts. 1954-59

See Rational Whole Numbers

Low Order Prime Numbers

See Starting with the >Vhole

See Quantum Mechanics; Grand Strategy, Jun'66 Limit, 23 Jun*75

Wholes &. Parts;

"In modern science--- coming just to the quantum mechanics--- from a lawyer's viewpoint it's really worth realising that in quantum mechanics no part exists except as a part of a whole. You must start with the whole. If we want to be effective we must start with the largest complex."

- Cite RBF to Harvard Law School Forum, 10 Dec'73

"The Ancient Greeks initiated problem solving By recourse to cosmology and cosmogony, By proceeding from the whole to the part Lest they miss

The exquisite relevance
Of each little part or event."

- Cite INTUITION, p.74 May '72

TEXT CITATIONS

| Wholes & | Parts: | | |
|----------|---------|---------|----------|
| 101.01 | 541.10 | 1053.61 | .1075.23 |
| 102 | 643 | 1056.12 | |
| 106 | 645.12 | | |
| 109.02 | 782.22 | | |
| 113 | 905.42 | | |
| 114-117 | 960.05 | | |
| 141-143 | 973.32 | | |
| 151-153 | 981.19 | | |
| 411.38 | 982.20 | | |
| 501.02 | 1001.15 | | |
| 509.06 | 1050.13 | | |
| 522.33 | | | |

See Bite: Bitting
Chain Stronger than its Weakest Link
Experiences as Local Instances
Infinity *k* Finity
Irrelevancies: Dismissal Of

Keys: Fallacy of Keys from which to Predict Wholes

No Absolutes

No Sphere Integrity

Starting with Parts

Starting with Universe

Synergetics vs. Model

Tensile Strength of Chrome-nickel-steel

Generalization &. Special Case

Teleology Reuniting of Parts

Synergetic

**Applied Sciences, 29 Jun'72 Change, 12 Jul'62 Child, 16 Jun'72 Con-
ditioning, 14 Feb*72 Conceptuality. 22 Jul'71 Education, 1 Jul'62
Functions, 1960 Gestalt, 1960**

**Infinity &. Finitude, Feb'72 Mechanical Mind, 22 Jul'71 Plurality, 5 tor'55
Science, (2)**

**Tension <x Compression, Dec'71 Tetrahedron, 7 tor'73 Triangle, 18
Dec'74 indefinable, Oct'66 Unity, 6 Jul'62 Universe, (p.131) 1960 Ver-
tex, Jun'66**

Whole a & Parts:

{2B)

See Design Science: Grand Strategy, J1 Jan'75

Weapons Technology, (2)

$h_e o^{7?}_2$)

Academic Disciplines, 11 Aug*76

Apple, 24 Sep'76

Design, 29 Mar'77

Critical Mass, 12 May* 77

Synergy, 20 Feb'77

Human Beings in Complex Universe, (1) (11)

KBF DEFINITIONS

Whole Systems:

"1 aaid synergy was behavior of whole systems unpredicted by the parts. A minimum system would be two. We can deal with the whole of the solar system if we want, but minimum system is two. And the behavior *□ which can only be observed when theirs the plurality; it's not any of the parts by itself. This makes it also very clear, once you get to the beginnings of things, that out of what we have as an a priori complete mystery... to many of us what Newton had really hypothesized--- that a body ought to keep in a straight line, that it really is deviating and being pulled by another--- is a very strange matter. Nothing could be stranger. The whole integrity of our Universe is here. The very essence of why there is any consciousness, any Universe. And yet it starts with absolute a priori mystery, within which a priori mystery there suddenly is a lucidly apprehendible mathematical behavior."

- Cite KBF Address, Tel Aviv, transcript p.4, 16 Jun*72

Whole System:

"Instead of starting with parts: points, straight lines, and planes, and then attempting to develop these inadequately definable parts into omnidirectional experience identities, we start with the whole system in which the initial 'point' turned out to self, which inherently embraced all of its parameters wrapped tightly in that initial underdeveloped self focused aspect of self and went on to self develop through successively discovered relative awarenesses whereby the proof of totality and omni-integrity is not only always inherent but all the rules of operational procedure are always totally observed."

- Cite SYNERGETICS draft at Sec. 488.00, from RBF holograph

28 May 72

dhole Systems:

"1 start thinking with a No-Size conceptual model of a whole system."

- For citation and context see Vacuum. 17/19 Feb '72

Whole Systems:

"Once you start with whole systems you do not have infinities."

- Cite tape transcript RBF to BO'R, Carbondale Dome, 1 May '71

See Minimum Twoneee

See Synergy, J1 Jan'75 Whole Systems, 16 Jun'72

"A generalized Principle--- Corollary to synergy---

Whose mathematical characteristics are statable as: The known behavior Of whole systems And the known behavior Of some of its parts Make possible the discovery Of other--- if not all--- Of the originally unknown Component parts Of the system."

- Cite INTUITION, p.45, May»72

(Corollary of Synergy)

"There is a corollary of synergy which says that the known behavior of the whole and the known behavior of a minimum of known parts often makes possible the discovery of the values of the remaining parts as does the known sum of the angles of a triangle plus the behavior of three of its six parts make possible evaluating the others. Topology provides the synergetic means of ascertaining the values of any system of experiences."

- Cite OPERATING MANUAL FOR SPACESHIP EARTH, p.73, 1969

"A corollary of synergy discloses that the known behaviors of the whole plus the known behavior of some of the parts may make possible discovery of the presence of other parts and the latter's kinetic behaviors, structural form and relative dimensional characteristics."

- Cite Nehru Speech, p.35, 13 Nov'69

"It is a corollary of synergy that the recognized behaviors of whole systems may disclose discretely <□□□□□ required behaviors of their components. Known behaviors of wholes and some of their parts may provide clues to behaviors of

unknown parts. The concept of the triangle as a synergetic unity and the assumption of 100 per centum totality of angles

independent of asymmetrical variations of the whole triangles constituted the earliest synergetic strategy of scientific exploration, Newton's gravitation was synergetic as it involved behavior of a plurality of bodies. Its MSCQaaSBDKS* assumption required more planets that were then Known in the

solar system. Its 'known' total behavior required the coexistence

of unknown planets of specific dimensions which were later discovered with more powerful telescopes than those of Newton's day, Euler's topology was a successful synergetical stratagem. Gibbs' phase rule was a successful synergetical stratagem. Ohm's law was synergetic.

"Einstein, Planck, and other physicists adopted the working synergetic theory known as the law of conservation of energy, wherein it was posited that energy could neither be created nor lost. By adopting the concept of physical Universe as"

- Cite RBF Ltr. to Colliers (full text), p.4, July'59

"the sum of universal energy, they obtained a theoretically finite physical Universe whose component behaviors could be definitely differentiated and progressively accounted $E = Me^2$. The 'Einsteinian' synergetic strategy is responsible for the exploratory success of subsequent nuclear physics. The 100 per centum requirement of their synergetic energjt-Universe accounting disclosed progressive increments of nonaccounted behaviors, whose exploratory pursuit progressively unraveled the atomic nucleus.

"Common to all the synergetic and therefore powerful strategies of scientific endeavor has been the fact that their success was local because it was won by excluding other considerations of universal behavior. The results were that awkward complications always arose when the special local advantages were completely interassociated.'"

- Cite RBF Ltr. to Colliers (full text) pp4~4A, July'59

(Corollary of Synergy)

"There is an important corollary of synergy which postulates that the known behavior of the whole system and the known behavior of at least three of the parts of the system makes possible the discovery of other parts of the system and their respective behaviors."

- Cite Senate Hearings, p.12, 4 Mar*69

(Corollary of Synergy)

"The synergetics principle of the whole system holds that given a whole system, its components* behavior may be differentially discovered and predictably described as required by the already evidenced behavior implicit in the a priori-definitive experience and conceptioning of any given experience-verified system."

- Cite RBF Glossary of Terms bound with "The Live Book Squad * May'67 '

"Corollary to synergy is the whole system. Systems are definite as they rethrust upon themselves in a plurality of directions, ergo have concave inwardness and convex outwardness, ergo Adherently subdivide universe into mutually exclusive definitive macro and micro entities. The law of the whole system, states that, given the sum of whole system pattern conception its component behaviors may be differentially discovered and predictably described as required by the already evidenced behavior functions implicit in the a priori-definitive experience and conception of any given experience- verified system. Thus by the law of whole system as corollary of synergy, the component behaviors of systems may be predictably differentiated as primary and secondary componential sub-divisions of whole system and then progressively isolated and locally reconsidered for further dichotomy."

Cite Introduction to OMNIDIRECTIONAL

HALO, p. 123 1959

Whole System: Synergetics Principle Of: (Corollary of Synergy)

See Prediction

(1)

Starting with Universe Synergetic Advantage

Synergetics Principle Of:

(2)

(Corollary of Synergy)

See Ephemeralization, 1 Jun'49

Parts, 1954

Synergetic Accounting Advantages: Hierarchy Of (2)(3) Synergetics,
1969

Generalized Dichotomy: Grand Strategy, (1)(2)

See Big System

General Systems Theory

Sphericalija Propagation

Sphericity: Laws of Sphericity of Whole Systems

System Totality

Starting with Universe

^sYatema:

(2)

See Central Angles t Surface Angles. Aug'71 Spherical Triangle
Sequence, (e) Synergetics Constant, (A) Tetrahedron, 7 Mar'7j
Time-energy Economics, 15 Jun'74 Vacuum, 17 Feb*72*

Sea Elementary, 15 Apr¹55

See Dome: Rationale for the Geodesic Dome

Hierarchy of Patterns

Holistic

Omniwholeness

Positive or Negative Set of the Whole

Parts

Rational Whole Numbers

Total: Totality

Wholes & Parts

Starting with the Whole

Fractionating the Whole

See Artist, 9 Jul'62

Child, 1970

Death, 13 Mar'71

Gestalt, 1960

Multiplication by Division, 4 Nov'73 Omniembracing, 23 Sep'73 Responsibility, 14 Oct'69 Utopia or Oblivion, 1938 Love, 3 Apr'75 Comprehensive Realizer, May*49 Fleet of Sailboats, May*49

See Omniinteraccommodation. May'?2 Synergy of Synergies, 31 May*71 Cosmic Synergy, Jan*72

"Whatever nature permits is natural. If nature does not permit it, it cannot occur. Human scientists have learned to a mathematically elegant degree how mass interattraction behaves but the mathematical-principle-discovering scientists have no idea what mass attraction is. An eternal principle is found to exist as a relation between special-case experiences. Out of the a priori cosmic mystery we learn a new principle "How it behaves" only to discover the concomitantly unanswerable "Why does it so behave?" "What is it? No answer. Only the eternally unlimited could comprehend and elucidate the eternally unlimited. MB Humans are temporal, finite, limited, inherently unable to comprehend the incomprehensible. Out of the a priori void of absolute mystery, i.e., out of the unanswerable Why?¹ a little how is extracted."

- Cite VERY FOGGY OUTSIDE, 8 Mar»73

Why:

See Answer: Answerable Question Unanswerable

Whyto f L.Li Point System:

Soo Synergetic Hierarchy, (1)

Xlchlu House * d)

"Geodesic domes derive from converting the Wichita House mast to a sphere. This was the origin of the geodesic dome strategy. I decided to commit myself to shells, making a sphere of the Wichita House mast. The great circles of the vector equilibrium are like the first picture of an atom-- the squares are a little more open. The 12 great circles of the icosahedron resolve everything that goes into triangulation.

"Geodesic diamonds: there is always an even number of triangles on a sphere so they may be treated in pairs as diamonds, always made with straight lines but the lines are different in length. The fats and thins have equal length.

"Bernoulli! Principle: pulling the air through a small hole makes it cold. The Butler grain bin was the first air conditioning dynamic structure.

"The Wichita House parts were stamped out of aircraft forms in a stretch-press, in hollowed out wooden forms of half sections. Two fists could pull the metal down over the form. We used the aircraft industry tools."

- Cite RBF at Penn Bell videotaping, Philadelphia, 31 Jan'75
REF DE.FI 1JIT10NS,
Wichita House: (2)

"I decided to pay attention to the equipment needed to keep yourself clean and take care of your processes. And I developed the fog gun. Hydraulics are noncompressible and more effective than gases in the form of a needle-spray. The spray was mixed with compressed air to conserve water and penetrate the pores without the pain of a direct needle spray.

In the form of fog it gets closer into the pores than does water. Fog scavenges out the pores and floats the dirt away.

"You've seen people cleaning the outsides of buildings; you might have thought it was steam, but it's compressed air. Our experiments at the Institute of Design in Chicago showed that you had to go over 200 pounds p.s.i.--- more than a simple compressor. The atomized water gives the desirable massage effect on the skin.

"Water is so extraordinarily valuable. We don't know of any other planet with any water on it. And we flush five gallons down the toilet each time we get rid of a pint of waste!

"We package our foods coming inbound: ./hy don't we package them going outbound? It's Just exactly as easy.'

- Cite REF at Penn Bell videotaping, Philadelphia, Jan'75
Wichita Home:

"•ften nature takes so much trouble to separate liquids and solids it is preposterous to put them together again.... MIT does no such research at the site.

"The Dymaxion bathroom is now virtually obsolete at just about the time that it is getting into production."

- Cite RBF at Penn Bell videotaping, Philadelphia, 31 Jan*75
Wichita Houae:

See Dwelling Service Industry (B)(C)

Wind Stress & Houses, (1)-(11)

Dome House Grand Strategy: 1927-1977, (1)-(3)

Wide: Width:

See Local Radius vs. Wide Arc

Height, Length k Width

Width

See Time-size, 30 Oct*72

Wiener, Norbert:

NASA Speech, p.89, Jun '66

Brain & Mind, pp. 142-143, May '72

Wigner, Norbert;: (1894-1964)

(1)

See Cybernetics

Wiener, Norbert:

(2)

See Computer, 10 Oct'63 Rudder Sequence, (4) Feedback, 7 Nov*75

yilfWMgg

"The Bear Islanders deem themselves to be the temporarily fortunate custodians of an important wilderness resource which, if guarded with thoughtfulness and vision will eventually be laid open to society when newer generations have come to appreciate to adequate extent the inspiration to be had from such wilderness paradise that society will spontaneously refrain from despoiling the regenerative enchantment.

"The inspiring beauty of nature in grand scale such as that of Penobscot Bay transcends human comprehension of its power to invoke the most effective employment and enjoyment of humanity's ever increasing metaphysical mastery of the physical

- Cite BEAR ISLAND STURT, galley p.32, 1968

Will: (1)

"I think that I tend to avoid using the word will because I spontaneously associate it with the term 'free will' and all the controversies regarding the latter. I have felt all such controversies to lack adequate knowledge of science's generalized laws. To me it is obvious

that no amount of individual will can nullify any cosmic law. It is also obvious to me that few know of and comprehend the significance of nature's having six positive and six negative equieconom- ical alternative moves to make with each turn to play in cosmic events.

"It is clear to me that most humans tend to think in linear, go-or-no-go, greenlight-redlight manner. To me will is a control which is optionally exercisable over brain by mind--- by wisdom over conditioned reflex, which becomes realizable when mind is adequately convinced regarding which of the 12 alternatives will produce the most comprehensively considerate vital advantage for all.

"In a lesser way, will becomes operative when the individual finds itself in terminal peril and has only seconds to"

- Cite RBF holograph rewrite of Will: 30 Apr'78. Incorporated in SYNERGETICS 2 at secs 537.50-.53

RUF DEPIHITIONS

W (2)

"'pull out' of a tailspin---becomes 'cool/ that it discovers swiftly which of the alternative moves can save it, and exercises its will to execute the survival procedures.

**7111 determines what we should do in all the special case circumstances. Will Is not a muscle thing at all. People say I have a strong will, but what I have is a fairly clear view of the options of humanity and commitments to their realization. It is thus that I determine what course to take in the special cases confronting us."

- Cite RBF holograph rewrite of Will: 30 Apr'78;
Incorporated in SYKERGETICS 2 at secs 537.53 and 537.54.

Will:

"I think I don't tend to use the word will a whole lot because I wasn't thinking in terms of 'free will' with its theological associations.

"Will relates not to the individual, but to the main engines of Universe...

"Will is the relationship between mind and brain, 'Will determines what we should do in all the special case circumstances. Will is not a muscle thing at all. People say I have a strong will, but you just have to determine what course to take in the special cases confronting you."

/~Above is in response to direct query from EJA about R->F's rare use of the term despite Margaret Fuller's interest in the German metaphysicians, Schopenhauer's world as will and idea, and so forthx7

- Cite RBF to EJA; Washington National Airport; 20 Apr'78

See Freedom: Degrees Of Free Will Options Volitions Electable: Elective Voluntary & Involuntary

See Meek Have Inherited the Earth, (1)(2)

V1U 9f OranlMtlona *

See Space Technology, 17)

See Structure vs. Reflexes

See False Property Illusion, (1)

(2)

(A propos of first seeing Robert Williams' "Natural Structure,")

- Cite RBF to EJA, Boar's Head Inn, Charlottesville, Va., 3 Jun»72

Williams: Robert:

See Mistake. 3 Jun¹72

Wind:

"The wind is just Sun power disturbing the atmosphere.**

- Citation *tc.* context at Wind Power Sequence (a), 13 Mar'74

MlnsLUwaia ,l*lo*a within Hilaa?

See Windworks Windmill, (2)

Wind Power, 9 Feb'76

* Uwlruang;

See In, Out **k** Around Experiences, (1)

Wlndlng:

See Unwinding

Windlass:

See Precession) (II)

Windmills!

Windmills turn out electrical power which operates on a direct current. The problem has been to adapt that direct current to electric utility systems which operate on alternating current In Wisconsin and 21 other states, utility companies using these converters, are allowing individuals to feed wind power into their electrical lines. The utility companies give these people wholesale credit for the power they feed into the system and charge them retail for what they take out. The public benefits by harvesting windmill power. The young people got busy and used their heads. Instead of having the public utilities fight them, they cut the utilities in on the action."

- Cite RBF to Susan Watters in W (Women's Wear Daily): 13 Kay*77

Windmills:

"In windmills the total frontal area is what counts. Just as that is ****iat** counts in designing buildings. We have a penetrating body in a penetrating medium. The bigger it is the more low pressure it builds up.

"A windmill is designed for average wind speeds. In the Greek isles, at Mykonos, they furl them at over >0 m.p.h.; the furling is like the gimballing of an umbrella."

__ Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan*75

Windmill: (;j

"I have a project coinc on windmills. Hen began to give up windmills when they began to burn their fossil fuels. Burning up fossil fuels, because those are the energies impounded by the vegetation and buried deeply in the soil. We are part of the Universe, this planet is, where energies are being collected, some day to become a star. And we are only really entitled to use a very little of our savings account energy--- to get things going but not to continually exhaust the savings account. Anybody knows better than that: we've got to live on our energy income. At any rate, once man got rural electrification and began burning up the fossil fuels, the farmers wanted to give up their windmills. Windmills, of course, did not produce very much power. So what can we do about it?

"Of course, wind power is Sun power; it's the effect of the Sun on the atmosphere of the Earth. And of all the energies that are available anywhere in large magnitudes, there is nothing to compare with wind power. But the only thijp'is, it is intermittent. So we're developing a beautiful new windmill using all the knowledge of <rodynamics. Aero-nautics started Just after the windmill had been given up, so the interim knowledge which has been acquired is phenomenal.' "

- Cite RBF at DSIPress Conference, NYC, pp. 13-14, 28 Jun*72

"We have some beautiful new windmills. And we're using the energy harness to generate electricity... and also to make hydrogen. With hydrogen and oxygen we have a circuit and then we make a fuel cell which is going to be 85 percent efficient. Finally we are going to get one windmill which is going to be able to take care of all the energy needs of one family. This is a very different story from when it just produced enough energy to put running water into your house, which the farmer used to do."

- Cite RBF at DSI Press Conference, NYC, p.14, 28 Jun'72

Seo Sailing Ship Effect Windworks Windmill

See Industrialisation: Successive Halving Time of National Industrialisation (1) Precession (b) Everybody's Business, (2) Now House, (4) No Energy Crisis, (2) Impossible: Only the Impossible Happens, (A) Technology: Enchantment vs. Disenchantment, (5)

Wind-0:

See House, 1938

"I've just come to the most extraordinary discovery of the meanings of the words outline, inline, and insight... all in our language of ins"and" outs..•those words, all this time, have been windowing the nothingness."

- Cite RBF by telephone from Windsor Castle, England, to EJA, Wash. DC; 25 Mar'76

Windows of Nothingness: ⁽¹⁾

"What Euler and all professional topologists called 'areas' are only windows in polynedrally conceptual systems. You look out the window at the nothingness of undimensional night---or of fog. The windows packaged the undimensionable nothingness into arbitrary somethingness which thus misassigns the dimensions of the windows and their closed-circuit edges to constitute dimensional attributes of the undimensional nothingness so framed. It is just like going to the blackboard and drawing a 'square' and saying to the students, 'A square is an area bound by a closed line of four equal-length edges and four equiangled corners,' without paying any attention to the inherently existent complementations of Universe. To start off with, the phenomenon 'square' is dependent on the phenomenon 'blackboard,' whose structural matrix alone maintained the symmetrical shape of the non-structurally-stabilized pattern of the

square. The closed-line pattern of the square inadvertently subdivides the whole surface of the polyhedral blackboard into two areas, both bound by the closed line of four equal edges and four equal angles. The four equal edges of the large complementary square are the same length as those of the small square; the big square's corners are 270° each while the small square's corners are 90° each. Moreover, the drawing of the square also inadvertently subdivided the insideness and outsideness of" - Cite SYNERGETICS, 2nd. Ed. at Sec. 261.02; 13 Nov'75

RBF DEFINITIONS

"the blackboard into concave and convex big and little squares, and also deposited part of the Universe as 'chalk' atoms onto the blackboard's agglomeration of atoms, which inadvertently rearranged the chemical element resources of Scenario Universe."

- Cite SYNERGETICS, 2nd. Ed., at Sec. 261.02; 13 Nov'75

See Somethingness & Nothingness. 7 Oct*75

Nature in a Corner, 17 Nov*75

See Area Nothingness Opening

See Probability Model of Three Care on a Highway. (3) Thirty Minimum Topological Share criteria, (1) Infratunable & Ultratunable, 8 Feb¹76

R8F Dr.FIIITIO.NS

Wind Power;

"Anywhere on Earth within 100 miles the wind is always blowing."

- Cite RBF to EJA, Wash, DC; 9 Feb'76

RBF DEFINITIONS

win4 Payer*

"Sun radiation effect precesses Earth's atmosphere in 90-degree circumferential direction as wind power, which wind power in turn precesses the windmills into 90~degree rotating.**

- Citation & context at Precession. (II), 19 Nov'74

^wln4..Power Sguen_{Ce}; (a)

"Your power companies like to get things going over wires and pipes so that can put a meter on it. To make money. The sailor learned to go from here to there just by the wind, which is just Sun power disturbing the atmosphere. The Navy Department agrees that there is no power on Earth such as the wind power. In one minute of one hurricane there is more power being released than in the joint atomic stockpiles of the United States and Russia. But this is not something that the company can make money out of.

"Now Mrs. Rockefeller has gotten very interested in my windmills. Windmills went out just as aeronautics began. And I've got a very fine young aeronautical engineer working with me, really we're doing very well with windmills. Mrs. Rockefeller wants to start something in Paine— going to get the people in Maine— in the windmill business.

"And I said that what you've got to do is get in on a service business— where you don't sell windmills. What you want to do is to have a truck— a platform— it has the windmill and all the generators and everything and you rent it to people while they're going to use it. Because the Maine people are going to go to Florida in the winter and they're not going to be around"

- Cite RBF to Arthur Anderson & Co., (p.23), New York, 1? Kar'74 **"when it might be vandalized. This equipment should not be anywhere except where it's working. So you have a service industry here which can rent such equipment.**

"So I can see the big power companies being jealous about sending something over their wire. They don't want man to really hook on to energy directly."

- Cite RBF to Arthur Anderson & Co., (p.23), New York, 13 Kar»74

"Although five percent of the Earth's surface can impound Sun energy by vegetational photosynthesis, only one percent of the Sun's locally impinging

llQgggBBb energy is actually converted by the vegetation because the vegetation cannot impound the infrared and other radiation energy in the electromagnetic spectrum.

"Among the vegetation Sun-energy impounders, no others can match the performance of corn. Corn converts and stores as recoverable energy 25 percent of the received ultraviolet radiation in contrast to wheat and rice--- which average only an 18 - 20 percent ¹ efficiency.'
"These considerations underscore the conclusion that wind power is in a class by itself as the greatest terrestrial Suneenergy harvesting, hfljffessing, and conserving medium."

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 25 May'73

Mud Ppwgr sequence (B)

"Present experiments show that flywheels--- as energy accumulators, can be employed efficiently in connection with variable winds to drive generators. The water and air waves circulating around our planet are also energy accumulators whose captured energy may be used to generate electrical, pneumatic, and hydraulic power systems,"

- Cite Ltr. to Mrs. Peggy Rockefeller, 25 May«73

"All biological life on Planet Earth is regenerated by etar energy--- and overwhelmingly by the star Sun's radiation.

The Sun radiates omnidirectionally 92 million miles away from Earth, with only one 2-billionth of its total radiation impinging upon Earth. The radiation arrives at a rate of two calories of energy per each square centimeter of Earth's sunside hemispherical surface per each minute of time. About half of that is reflected back omnidirectionally to Universe.

The other half, i.e., one calorie-per-minute-square-centimeter, is impounded by our planet's biosphere in ways known to humans and in ways making them available to human use granted humanity's permitted comprehensive, ecologically considerate, employment of its inventive capabilities and spontaneously cooperative potentials."

- Cite Ltr. from RBF to Mrs. Peggy Rockefeller, 25 May'73

Wind Power Sequence: (D)

(LOC.IC4 0

"No matter how dubious one may be of such wgs®realisations of our potentials, the fact remains that our net receipt and impoundment of cosmic energy amounts to 168 quintillion horsepower-per-minute, which is also statable as 125 quintillion kilowatts per minute which, with 525,600 minutes per year amounts to 66 septillion kilowatts per year (66×10^{21} KW), which is eleven-billionfold the world's present 5×10^9 KW production of electric energy power.

"If all humanity enjoyed 1973's 'highest' living standards, each human on Earth would consume 200,000 (2×10^5) calories per day. Assuming 5 billion (5×10^9) humans by 2000 A.D, each consuming 2×10^5 calories daily, we will need 1×10^{11} calories per day. Our actual daily terrestrial income of cosmic energy is 72×10^{10} calories. Our planet's usable daily energy income is therefore 72×10^{10} - seven-millionfold, our daily requirements of 2000 A.D."

- Cite RBF Ltr to Mrs. Peggy Rockefeller, 25 May*73

"About wind power, I am glad we pioneered in such experiments on Little Spruce Head Island 'early on,' I have been pursuing the subject in varying degrees of intensity since 1927 when I included windmills, air compressors, liquid oxygen, liquefaction equipment, and air turbines in the design of the first Dymaxion house.

"At Little Spruce Head Island in Maine in the summer, and on a Wisconsin farm throughout the remainder of the year, n our program is well under way to develop windmill-generated electricity to electrolytically convert pure Sun-stilled water into hydrogen and oxygen, thereafter to use the hydrogen directly for power purposes, or to re-associate the hydrogen and oxygen through the now wall-developed and much reduced-incost fuel cell to produce electric current at an overall 85 percent efficiency....

"Concurrent with rural electrification a third of a century ago, I saw that windmills went out just as modern aerodynamic research began. In order to take advantage of this potential scientific harvest, four years ago, I took on Hans Meyer, a brilliant aerodynamics scientist. We have had great success"

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May'73
flXnd. Pwcr SMMncr (2)

"in propeller blade development* We have not only developed much better blades, but with an accompanying 90 percent reduction in aerospace industry's cost of advanced propeller manufacture. In addition to Hans' new blades and aerodynamic cowlings, we have developed low-cost methods of mechanical linkage from the mills to the generator and have also developed new octahedral windmill mast structures employing some of my geodesic principles--- which are transportable, powerful, economical, and swiftly erectable.

'•In addition to our own windmills, we are installing on Little Spruce Head some of the Greek-island-type windmills with selffurling sails. They are very efficient.

"I have some interesting and comprehensively considerate figures in relation to wind power. Whereas three-quarters of the Earth is covered with water, the 25 percent that is not covered with water is covered in major percentage by ice, snow, deserts, rocky mountains, et. al. The percentage of our planet's surface whereon vegetation is impounding Sun (star) radiation by photosynthesis amounts to approximately 10 percent."

- Cite RBF Ltr. to Kirs. Peggy Rockefeller, 15 May'73

"Half of that 10 percent is always in the shadow or night side, which reduces to 5 percent the working area of the Earth's surface where vegetation is impounding Sun energy from which humans can produce commercial alcohol or leave to nature's further-ages-requiring fossil fuels production and storage in Earth's crust. Though solar energy impoundment inventions are fascinating to the imagination, as we shall discover, the amount of energy that can be captured by any local Sun-reflecting or lensing devices is relatively insignificant. Even though one-half of Arizona were turned into a direct sunlight energyconverting mechanism, that source would be negligible in productivity as compared to other sources. The local solar powercapturing devices will not work at night or when there are clouds. In fact, they work only during a few hours daily when The Sun is at a favorable angle.

"The area of the surface of a sphere is exactly four times the area of the sphere's great-circle disc (as produced by a plane cutting through the center of the sphere). The surface of a hemisphere is, then, twice the area of the sphere's great-circle plane. When we look at the 'full' Moon, we are looking at a surface twice the area of the seemingly flat circular disc in the sky."

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May'73

` ` All of the energy of our Earth comes from the stars, but primarily from the Sun (star) as radiation or as inter-astro gravitational pull.

' 'Twenty-four hours a day the Sun is drenching the outside of the hemisphere of the cloud-islanded atmosphere's 100 million square-mile surface area which is twice that of the disc of the Earth's profile.

""His gives us one billion cubic miles on the sunny side and one billion cubic miles on the shadow side. The atmospheric mass is kinetically accelerated in the constantly Sun-energy-saturated hemisphere, while simultaneously the atmospheric kinetics in the night hemisphere are decelerated.

' 'All around Earth, yesterday's Sun-impoundings perturbate the atmosphere by thermal columns rising from the oceans and lands. The shadow side consists of one billion cubic miles of contracting atmosphere, while the one billion cubic miles of atmosphere on the sunny side is sum-totally expanding. This brings about a myriad of high-low atmospheric differentials and world-around*

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May*73

"semi-vacuum!zed drafts, which altogether produce the terrestrial turbulence we speak of as the weather. The combined *two billion cubic miles of continual atmospheric kinetics converts the solar energy into 'wind power.'¹ Wind power is Sun power--- the greatest, by better than 99 to 1.*

"All the winds around Earth together with all the force they use produce the 150 million square miles of ocean waves, and to bend, swirl, twist, and to sometimes uproot the world's trees, bushes, grasses, dust storms--- and to form and scud around the Earth the 150 (sic) billion cubic miles of clouds and their many violent storms as well as all the billions of tons of water raised hourly into the sky to rain back upon Earth to maintain the vegetation--- this, and its many side-effect tasks, altogether constitute a 100-mile thick, 20 billion cubic mile spherical mantle which is indeed a Sun Energy Accumulator or SUN ENERGY STORAGE BATTERY whose power capacity is adequate to accommodate and eternally regenerate all of humanity's and all of its alltime-to-come needs and pleasures with a safety factor coefficient to 10,000 to 1."

* veAT

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May'73

Wind Power Sequence; (6)

"As the U.S. Navy reckons it, one minute of one hurricane releases more energy than that of the combined atomic, bomb arsenals of the United States and Russia. Deaign-scAce-wise it is simply a matter of coping with the calm .zephyr, gale, or hurricane variabilities of wind power.

"Great corporations have not as yet ventured into this field because wind energy has not seemed to be monofipolizable over a pipe or wire. However, enterprise can be rewarded, in greater magnitude than ever before, by producing and renting world-around wind-harnessing apparatus--- as they already do in the computer, telephone, car rental, and hoteling service industries.

"Hydrogen, harvested in the manner I described/.can be used immediately to operate all the world's piston or turbine- driven engines now driven by gasified petroleum products. The National Science Foundation spokesman has recently and publicly confirmed my statement that wind power can take care of all of our Earth's energy needs, and this can be accomplished in short order. The National Science Foundation's development strategy, however, is aimed exclusively at producing large,"

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May '73 offshore, ship-mounted windmill batteries to supply large cities. In contradistinction, my windmill development work is aimed at supplying individual consumer families....

"Wind power permits humanity to participate in cosmic economics and evolutionary accommodation without in any way depleting or offsetting the great ecological regeneration of life on Earth."

15

- Cite RBF Ltr. to Mrs. Peggy Rockefeller, 15 May '73

Wind Power:

"` Wind power is Sun power; it is the effect of the Sun on the atmosphere of the Earth» And of all of the energies that are available anywhere in large magnitudes, there is nothing to compare with wind power* But the only thing is, it is intermittent."

- Citation and context at Widnill (1) 28 Jun '72

Wind Power Harneal's Equipment:

See Inevitability Sequence, (1)

effect of Earth's rotation on wind

Q:

A.:

"What is the power?"

"Rotation is the heating-cooling pressure differential input. Rotation does not cause the wind. In fact, the wind goes faster from west to east than the Earth turns in the same direction. The rotation of the Earth changes sunlight and shadow, causing changes in temperature, causing changes in the weather causing the wind."

- Cite RBF reply to EJA Query re Ltrs, to Mrs. Peggy Rockefeller, 200 Locust, Phila., 5 Nov'73

See Cosmic vs. Terrestrial Accounting, (2)(3) Wind Power Sequence, (2)-(5) In, Out k Around Experiences, (2)

Wind Power Feeding into ^EXectriG ^utiXltY ^crid*

See Windworks Windmill. (1)(2) Windmills, 13 May*77

(533.12 }

See Energy Income

Windmills

Flywheel

(2)

See Energy Crisis, 14 Jun*73 Precession (bj ; (Hj*

"Then we discover additional mutual advantage to our house inherent in combination of the geometry of circle and the curving of sheet, not by virtue of the respective unique properties but by their interactive virtue when associated for purposes of housing. This new advantage is discovered as we consider the second major stress applied to house by nature. Second to gravity is wind stress.

"The average wind speed over the United States is computed by widely reported recordings is approximately 12 miles an hour. Houses may be considered aerodynamically as little shins whose standard cruising speed is 12 miles an hour, but which suddenly are accelerated to 30 miles an hour, then suddenly again have to go 50 miles an hour, and sometimes suddenly they have to go to 70 miles

an hour and then the flat planking begins to fly off as flat boards develop lift in parallel with the wind, which lift is opposed only by the friction of the nails amounting to but a few pounds in tension as nail pulling e merle nee confirms.

"Designed to look secure by guess and by nraye to the gods of inertia, conventional houses are not engineered from measured"

- Cite DESIGNING * NEL.' INDUSTRY, (RBF Reader, p.220), 1946
Wind Stress fr. Houses: {2}

"data to cope with the greater wind speeds which they sometimes encounter.

"Looking for chances to take advantage of high tensile ability of the new sheet, I became interested in the effects of wind stresses on houses and discovered in wind tunnel tests that a cube and hemisphere of equal volume indicate a drag advantage of 10 to one in favor of the hemisphere, that is the drag is 10 times greater on the cube. That indicates that we might either cut down the size and weight of our original structural members in the hemisphere to maintain equivalent wind strength to that of the cube or we might take part of the increment and turn it to greater strength advantage. Thus we might build a hemisphere structure that could take enormous wind stresses many fold those which a cube of an equal weight of structural members could withstand.

"Another interesting discovery in the wind tunnel was that the heat losses were in direct proportion to the drag. It was indicated that you might be able to reduce your amount of heat necessary to heat the building, to a very high degree, by employing efficient aerodynamic shape. Shape factors are used very little"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.201), 1946

"today in heating and ventilating, they have been toyed with to date only by higher mathematics, which concludes that there are great potential deficiencies to be had by measured evolution of shape control. In our own tests we had discovered the relative degree of that shape importance to heat savings in the coincidence of drag and heat loss curves.

"Having been in the building business in the 20s. I was particularly interested in heat losses because my material... was a very good insulating material.... We discovered that heat losses in buildings of comparable tolerance of Joint fittings was directly proportional to the drag. Houses represented very large obstacles, and the low-pressure tails on buildings are very long. They stream out to 200 to 300-yards in relatively mild winds. Houses are usually surrounded by trees and other houses and those tails get mixed up with each other, but if you discover a house out in the open you can observe this 300-yard pattern in the snow shaping as seen from an airplane.

"Air being highly compressible as it goes around large objects like houses you get a fairly high degree of compression at the widest beam of the obstacle to the wind. The result is a very"

- Cite Dr. "ICKIHC A HEW INDUSTRY, (RBK Reader, p.R03), 1046
Wind Stress Houses: (4)

"long low pressure tail because the pressured air shoulders dissipate their pressure outwardly as well as into the wake. You have a long lag in the rate of re-establishment of pressure equilibrium in the wake, and much energy is required from somewhere in the form of high pressure to satisfy the long low- pressure streamer. This wind wake is mildly dissimilar in MB behavior to the water wake of ships in that water is approximately noncompressible and such low pressure as enters a ship's wake must take place in the form of air bubble® expansions which whiten the ship's wake for great distances.

"The heating energy inside buildings is converted in the air of rooms into the work of expanding air, and expanding it within enclosed chambers necessarily develops an Increase in pressure. So you have a high pressure in this side of your house wall and an enormous low-pressure tail on the outside to be satisfied, and your high pressure inside the house simply is extracted by successive energy conversions right through a masonry wall to satisfy the low pressure as does gravity pull the water down Niagara Falls. The high pressure is drafted directly through chinks or cracks, ergo the fine showing of weather stripping.

Q Cite DESIGNING A INDUSTRY, (RBF Reader, p.202), IQ46

"...People still/say that cold comes into their houses... they would say 'the cold is coming in and chilling the UOHi radiators upstairs on the northwest side so rapidly that we can't keep any heat in.' I'd go up and the radiators were cold. I went around the front of the building and even with a fairly good wind on that northwest side, it was almost still air; it was just the ideal place to light your cigarette. I had learned in the Navy that when we wanted to light a cigarette on board ship, you would go un in front of the nearest housing to discover almost still air. If you followed the radiator pipes down through the wall¹ and floors you found that they were cold all the way down to the cellar. In fact no heat was going up on the northwest side, and the pipes going to the southeast side were very hot, even when you shut off the valves. The heat seemed to be working toward the lee side and creating high pressure there to satisfy the low pressure. The balancing between high pressure and low pressure was using up all your fuel, we charged the pipes around from the furnace down in the cellar so that the pipes that started northwest were turned around and led southeast, but the heat still went out into the lee side so it was very clear that the chain of"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, n.93), 1016 "energy exchange events worked to provide a high pressure in closest proximity to the low-pressure side of the house and employed further energy to effect the energy release through the wall by various energy conversion principles to stabilise energy balance in the wake of the house...,"

“One way you ought to talk about the phenomena house and cold is that cold and vacuum are in physics almost identical--- that is you have energy in the presence of cold and in the presence of vacuum and when your energy--- either as heat of kinetically accelerated gas molecules or as radiation--- is eliminated, cold or vacuum alone remain. That is the best way for you to look at it. You see, when they say 'cold is coming in,' it is because energy as heat is dissipating so fast as to leave cold gases in your presence. Air that is cold because low in energy content moves to you so that you seem to feel cold draft but there is no physical entity 'cold'. Temperature should be thought of as relative Wheat concentrations or dissinations...•

"The large low-pressure area in the lee of the house, of course, tends to float upward thus adding to the upward angle."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p. 204), 146

"Trees are also aerodynamic design structures to permit a large frontal area necessary to the functioning of the trees.

"Trees tend to avoid destruction by the wind by rounding their lower frontal branches to the approaching air and by coning their upper branches to point in the direction of the leeward and upward draft, thus reducing drag to a vital degree,

"In the same way it became evident that a large ventilator could be designed to rotate upon the top of the house in such a manner as to focus the low pressure--- caused by the air passage about the building--- at a point about 45 degrees leeward and upward from the center of the

house. The ventilator was developed... until a successful design was arrived at which reduces drag to a minimum and prevents oscillation of the ventilator, while at the same time putting the focused low pressure to work in pulling the draft out of the building through a duct system that induces the draft to create an air conditioning circuit, as well as to remove dust from sweeping trans in the floor and odors from the kitchen and bathroom.

"Certainly air conditioning is a requirement of housing which"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.205), 1946 "attempts to raise the standard of living and to serve men over wide geographical ranges. It makes possible comfortable conditions for man in the atmospheric extremes of arctic and tropical zones from which he has been previously excluded by the inability of housing to provide atmospheric— thermal and humidity— balances with man's precise requirements to complement, for instance, his unique temperature of 98.6 F., whether white, black, or yellow, whether at pole or equator.

"Another effect served by the large, rotating, 18-foot diameter ventilator... is that of proofing the house against the explosion effect... of tornadoes, hurricanes, typhoon, and major explosions.... It is mounted not only rotatively but on a splined shaft which allows it to rise three feet above the house thus to release the pressure and then fall back into place as does the safety valve on a steam boiler,...

"This conversion of advantage is entirely an engineering responsibility to society..., So it becomes profitable to explore the advantage of the circle in terms of the efficient placement of energy units for the service it is desirable to provide."

"Placement of the energy units at the center of the circular"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.206), 1946

"area at once affords the shortest possible service distances in all directions and the greatest possible isolation... for conservation of energy potential. The energy loss is very great... so that a circle advantage is very important. It... indicates a maximum of service for least weight.

' 'With the central vantage point for generating air, light, sound, and work services, we discover that those services when in operation describe fountain-like flows upward, outward, downward in all directions with concentric flow for recycling below.... This fountain flow can be reversed, but in either case, maximum coverage with least distance is effected.

"The fountain flow is important for maintaining relatively warm atmospheric flow in winter, and reverse fountain... is most efficient in summer.

"As a fountain of water is seen to operate freely in space as a system, or a light outdoors in the night creates a hemispherical system of illuminated space by atmospheric refraction of light, so also do these other dynamic functions of heat, light, air, sound, and smell constitute natural systems of"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, O.206) 1QZ.6
' • /ind Stress &. Houses; (10)

' 'physical phenomena.... as does a lamp chimney protect the flame or an electronic tube protect the free functioning of its central element. The principle demonstrated by the boomerang is only a tracer device to demonstrate the boomerang refractions in all directions...

' 'Complementary handling of dynamic flows teaches that... in effect the principles of push and pull and their unique characteristics of distinctly limited compression behavior and almost unlimited tension behavior hold true also in, hydraulics, pneumatics, sonics, and electronics. You can pull or draft air over vast distances but you can push

it only a few feet by blowing... In the same way visible light is a pushed phase of radiation and is limited to relatively short distances through atmosphere and required enormous power to push it, while what we call electricity is tensioned or pulled radiation and the distances over which radiation can be drawn by wire is very great compared to searchlight beaming....

"Even as a tension-controlled lasso can be gyrated and thrown and wave impulses can be sent out controllably over it, as a snake whip may receive a wave by the wrist to hit an object and"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.207), 191,6

"return the wave as a tension circuit again to the sender, so does radio and radar tensively induce circuits to null radiation phenomena over almost unlimited distances,

"By simple attention to this phenomena of push-pull, enormous advantages can be gained by man over his environment through ... our dwelling machine,... Now with our ventilator employing outside air motion to accelerate interior dynamic fountain motion it becomes an inexpensive feat to provide excellent air conditioning. The aluminum duct subfloor makes a very good energy exchanger and recirculates enough warm air through it to keep your energy poised at the ankle level by the counter convection fountain motion, thus to retain the heat units in the house and to run the air through them using very little heat."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.208), 191,6

See Dynamic Air Conditioning

See Weather as Exchange of Highs & Lows. (2) How House, (5)

Wind Sucking Saucer: (

The Earth "is then, very clearly to us, a place in the Universe where energies are being collected and impounded and put away. Apparently, then, as we would have in our weather, there are low pressures and high pressures. We have discovered of course that the high pressures don't blow the wind from here to there. It's the low pressures that suck the air from here to there.

"You know, I've found that you can't push air any distance at all. The minute you push it it turns right around--- and stuff like this. But you can pull it over enormous distances. You can't push the air through the house, but you can pull the air through the house. Open the front door and open all the windows and all the doors inside and have a fan exhausting. . . Anybody got a piece of fabric? Just hand me quick a piece of fabric. Because you can just take a handkerchief and put your fingers like that and find out how you can pull it. It pulls around corners. You can pull it around the windows and the doors. You can't push it around those corners at all, but tension will pull it. So tension can pull the air over enormous distances."

- Cite RBF to World Game, Jun-Jul'69

SgcKinfi (2)

"So when they tell you the wind is blowing, it's always sucking. If there's a low pressure to the southeast, it's sucking it that way though it seems to be blowing off west. So you tend to like to face into the wind, but the fact is that what's bringing it about is the suction to the southeast.

"Having learned that there are atmospheric highs and lows, you can really begin to think about the way in which the Universe itself ought to be able to have Suns that are giving off energy in enormous ways; there must be some place where energy is being concentrated to become a new Sun."

- Cite RBF to World Game at NT studio School, 12 Jun-31 Jul'69 Saturn Film transcript, #327, pp.12-13.

Wind, Sticking:

See Hammering Sheet Metal, (2)

No Energy Crisis, (1)

Windpower Windmill: (

"The windmill from Kedco of Inglewood. California, was equipped with a synchronous inverter from Windworks of Mukwonago. Wisconsin, which embodies the latter's new, much advanced in efficiency, electronic circuitry for converting the direct current inherently produced by the windmill into the 110-volt alternating current required by most electrical equipment.

"Windwork's new high sensitivity electrical meters permit them to feed their alternating current directly into the public utility's power lines. When windpower-generated electricity is fed into batteries and that electric charge is later taken from the batteries for final light or power use, a loss of approximately 50 percent of the energy occurs. Feeding the unscheduled wind energy harvest directly into the power grid avoids this 50-percent, in-and-out storage loss. This innovation of windworks has now been accepted by the public utilities in 20 of the 50 United States. The utilities pay the local windmill owner at wholesale rates for the energy he puts into the system and charge him at retail rates for the energy he takes out. This increases the economic advantage of both the private windmill owner and the public utilities."

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, pp.12-13; 20 Sep'76

"It is a fundamental energy-income gain by humanity over and above dollar consideration.

"It is found that somewhere within a 100-mile radius the wind is always blowing: i.e.» within a 200-mile-diameter circle of 31.000 square miles. With proliferation of such local windmills, the public utilities can progressively retire significant amounts of their standby generators while also reducing their fossil fuel burning."

- Cite ACCOMMODATING HUMAN UNSETTLEMENT, p.13; 20 Sep'76
TEXT CITATIONS

Find:

"Designing A New Industry," (RBF Reader), 1946 : p. 204

See Head Winds

Hurricane

Jet Stream

Sailing with the Wind: Sailing into the Wind

Typhoon

West-to-East: Prevailing Winds

Beating to Windward

Weather as Exchange of Highs & Lows

Sea Ecological Pattern, 19 Sep'64

Cosmic vs. Terrestrial Accounting, (2)(3) Wave Pattern of a Stone
Dropped in Liquid, (b)

See Wind Always Blows within 100 Miles Windmills Wind Power 'Wind
Power Harnessing Equipment Wind Power: Effect of Earth's Rotation
Wind Power - Sun Power Wind Stress & Houses Wind Sucking Wind-
works Windmill

Window:

"As we have partially noted elsewhere (secs 536 and ¶¶ 604) Euler's three primitive topological characteristics of vertexes, faces, and lines are structurally identifiable as Joints, windows, and push-pull struts respectively. When you cannot see through the windows (faces) it is because the window consists of vast numbers of subvisible windows, each subvisible-magnitude window being strut-mullion-framed by a complex of substructural systems, each with its own primitive topological and structural components¶**

4.045"

- Cite SYNERGETICS 2 draft at Sec. ; 22 Nov'77

See Joints, Windows &. Struts

Area

Face

Opening

See Bird'

Wing

Winter:

'•I had hoped you could bring the book out this winter ... so it could be received during the metaphysical umbrella of the cold months."

- Cite HBF to Bill Whitehead of Doubleday re "Intuition "

14 Sept. 1971.

Wirable by Conductors:

See Focus - Beamable - Wirable, 1 Apr'72

Wlrea: Cloaeat Packing Of:

See Closest Packing of Rods

Wire Wheel:

"Nature coordinates in twelve alternatively economical degrees of freedom--- six positive and six negative. For this reason twelve is the minimum number of spokes you give to have in a wire wheel in order to make

(comprehensive *)

structural integrity of that tool. You have to have six positive and six negative spokes to offset all polar

or equatorial diaphragming and torque."

- Cite NASA Speech, p. 24

* from RBF Univ, of Rhode Island. 26 Aug '66, p. 199
.SfrtXt encs- 537-

. How many restraints do we have to have in order to make a really satisfactory wire wheel that is not going to be oscillating and getting into trouble? We find that we have to have a hub--- there has to be some dimension to it, carrying the load, and three restraints as in the drumhead. ... We discover that the three restraints make six altogether coming in tangent to the hub so the hub can rotate in place. Therefore we have to split each one into two, and each one becomes tangent to the wheel on one side or the other. We discover that it takes a total of 12 spokes to make stability. The minimix wire wheel has 12 spokes. We are beginning to get into some thing interesting here--- some basic information of fundamental degrees of freedom of equal and alternate. . . and the first set of really predictable structural relationships."

- Cite Oregon Lecture #3, p. 108. 5 Jul'62
VMB Wire Wheel:

"In the wire wheel man had made an island of compression which was the hub at a center of an atoll of compression which was the rim and the whole thing cohered tensionally, The integrity of the whole was invested in the tension so there was discontinuous compression, continuous tension."

- Cite OREGON Lecture #5 - p. 159, 9 Jul'62

Wire Wheel:

"In regard to your degrees of freedom, these are at minimum twelve for the wire wheel which requires twelve spokes, which are the six edges of the combined positive and negative tetrahedra whose vertexes are inherently turbinal--- and there can be the explosive wheel and the contractive wheel, bjr which all the tensions and compressions are reversed. Then it is to be noted that we need twelve double-rim increments between the external terminals of the spokes. This makes 24...."

_ Citation k. context at Twelve Universal Degrees of Freedom. (1) 4 May'57

See Tenaegrity: Wire Wheel

Wheel: Artillery Wheel i Wire Wheel

See Restraints, (2)

Twelve Universal Degrees of Freedom, (1)»

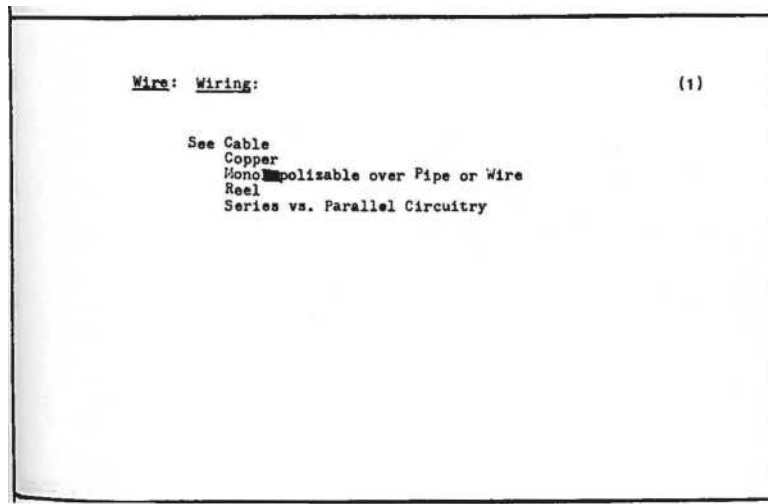
See More With Lesa

Track to Trackless

Invisibility: Tenda to Invisibility Visible to invisible

~~pitf-DgFTNTTTOKl~~ wire Eg Wlrfflogfl! (2)

See Economic Accounting System (C)-(D) Invisible Architecture (1) Pirates: Great Pirates (3) Extrasensoria11ty (1) Humans as Machines, (2)



(2)

See Invisible Pneumatics, 27 Dec'73

Visible Light va. Electricity, 1946

Wisdom:

"In due course the individual mind may comprehend The cosmically
ranging magnificence

Which synergizes of transforming the totality
Of already mind harvested knowledge
Thus compounding its unselfish considerations
And expanding its tolerance
Into appreciative awe»e

As all these synergize to generate wisdom.

Wisdom is evolved only by synergy

Which is the behavior of whole aggregates

Not predicted by the separate behaviors or cacterietics Of any one
integral part. c.rgo synergy ifi non-occurrant cerebrally During mono-
focus upon self in preoccupations Essentially exclusive of others."

- Cite EVOLUTIONARY 1972-1975 ABOARD SPACE VEHICLE EARTH,
Jan. '72, pp. 5-6.

Wisdom:

' 'Wisdom is

Experientially discovered

Synergetic awareness

Inherently transcendental

To separate informational data.

Wisdom contemplates - Cite RBF Dictation

for INTUITION

With wholistic advantage Sarasota. Fla.

8 Feb '71

And eschews lesser magnitude opining."

(Compare with INTUITION Feb, '71 Draft, Insert *, p. 8.)

Wisdom:

' ` The synergetic effect produced by the interaction of the known family of generalized principles is probably what is spoken of as Wisdom.^{1*}

- erariirahrurSpeSch, pp. 34-T5. U Nov«69

- Citation & context at Synergy of Synergies. 13 Nov¹69

sYN6 ETIC5 AFc. 1 S'a)

KbF DbFlhlTluHb

Jisdome;

"Intellections are cumulative pattern apprehensions and are synergetically integrative as wisdom and wisdom initiates new mathematical hypotheses."

- For citation and context see MMB* Intellections_T I960

Wisdom of Wisdoms:

****Knowledge is of the brain Wisdom is of the mind**

And there is herewith implicit An a priori wisdom of wisdoms.

- Cite INTUITION p.43, May »?2

Sea Cosmic Synergy

Synergy of Synergies Truth

Cosmic Wisdom

See Intellections, I960*

Synergy of Synergies, 13 Nov*69*

Wiiard, 18 Jul'72

Words & Coping, 7 Nov'75

Confession, 7 Jan'76

Wish:

Q. Do you wish to continue this communications mode?

A. "I do not wish anything. I am grateful for 'what happens'.¹"

- Citation and context at Questions: Answering Questions. Sep'73

"Three planes can never have a system because it takes four planes to have a withinness and withoutness."

- Cite RBF to EJA, Beverly Hotel, NYC, 14 Sep*71

Wlthinness and Withoutness;

"... The minimum zonally defined withinness conformation is tetrahedr®al and the minimum zonally defined withoutness is spherical."

- Cite OMNIDIRECTIONAL HALO, p. U2 i960

n. . . The most extensive lucidly conceptual and definable recollected-experience zone range lies between a tetrahedral 'withinness' twilight and a spherical 'withoutness' twilight, beyond which are the non- tuneable (1) outwardness and (2) inwardness--- the subtracted Euler's twoness from ndnconceptual finiteness which permits conceptual de-finiteness or definition of cognition."

- Citation at Cognition, 1960

** . . . A locally definiyve system . . . has an inherent withinness and withoutness. which two • • • differentiable functions inherently sub-divide all universe into the two unique extremes of macro and micro frequencies,**

Ct

- Citation and context at Considerable Set, 1959
- Citation and context at Experience,. Feb'50

See Considerable Set

Insideness & Outsideness

Heciprlcale of Permissible Viewpoints

System

System vs. Withoutness

Insideness & Outsideness

Internal & External

See Cognition, 1960*

Cosmic Synergy, Jan'72

Critical Proximity. 15 Feb'73

Experience, Feb*50*

Model of Nonbeing, 11 Sep'75

Omnitopology, 19 Dec'73

System, 27 May'72

XYZ Coordinate System, 14 Feb'71

Wizard:

"... The functions of the Grand Vir to the ruler was that of the mathematical wizard. the wiz of wiz-dom; and the wlz-ards kept their mathematical navigational ability to go to faraway strange places and to bring back strange miracle objects..."

- Citation and context at Scheherazade Number. 18 Jul¹72

Woe:

See Merchants of Woe

Wolf r William:

Transcript of RBF tape with Verner Smythe New York, tape 1, pp. 1-3,
25 Feb'69

Wolf:

Salm'

See Sweopout, 17 Oct'72

rforab:

"...At first we were just the inside. In the womb. In the womb we had tactile sensorial awareness of volumetric surroundment by the otherness, but no visual, aural, or olfactoral awareness of the othemess-surroundment. The child develops otherness awareness only as outside volumetric surroundment within which he finally discovers Me the Observer."

- Citation and context at System Awareness. 20 Feb'73

KBF DEFINITIONS

Womb of Total Human Consciousness:

"Each child emerging from its mother's womb is entering a larger womb of total human consciousness, which is continually modified and expanded by subjective experiences and objective experiments. As each successive child is born It comes into a cosmic consciousness in which it is confronted with less misinformation than yesterday. Each child is born into a much larger womb of more intellectually competent consciousness."

- Cite RSF Introduction to Gene Youngblood's EXPANDED CINEMA, p.31, Oct'70

See Synergetics, 6 Nov'72

Humanity Cannot Return into the Womb;

See Humanity, 30 Oct'73

Humana, Oct'71

"The young world. . . ie intuitively skeptical of the older world's customary ways of coping. That doesn't mean the young don't like their elders. It doesn't mean they disrespect all humanity born before them, but they realize intuitively that humanity is emerging from a womb of ignorance. The kids really feel this. And this is the most encouraging thing I know."

- Cite RBF quoted in HOUSE &. GARDEN Interview by Beverly Russel, p. 202, May '72

3. ' 'How do you cope with human suffering from

craving and want and Ignorance,, from preoccupation with the body and things?"

HBF: "You and I are life and not the organisms we employ, Cravings and wants do come from ignorance--as agitated by advertising. The answer lies in increased knowledge and gradual freedom from the conditioned reflexes of our elders.

"The physical is purely a complex of events—not things—in pure principle. The environment has everything to do with the way I behave. Here I am composed of 65 percent water which freezes or boils within very narrow limits. We had nothing to do with our design. We are here to employ our minds on a planet where gears and muscle are still in control. We are at the point of our final examination—emerging from the womb of permitted ignorance to function as a local monitor in relation to the regenerative integrity of Universe, • • e first came out of the orifice with muscle in control."

- Cite RHP to World Game Workshop*77; Phila., PA: 22 Jun*77

"But the physical is nothing' Wow that we have so many words to communicate with one another... it is all part of the great gestation process... we have maybe around eight more years to go... truth is emerging from an unprecedented acceleration of events, -le have the option! we may stop burning up the ship, While the numbers who are not thinking, the numbers in the system and in the bureacracies is enormous, but we have the options. But options do not mean the same thing as optimism. Birth is a very extraordinary and dangerous time."

- Cite HBF to World Game Workshop'77; Phila., PA: 22 Jun'77

"The group womb of permitted ignorance is the resonance rich cushion for trial-and-error discovery of the mind by the mind, at which point of discovery of permitted universal survival by mind-discovered principles— in contradistinction to the inefficient power struggle of unilateral survival— all the 'cream rich' initial discoveries of original resource geography lodes become exhausted and humanity must operate with resources as M in E - Me*-- that is in pure principle.

"The group womb metabolic sustenance of naked, helpless, and ignorantly born humans and its progressive exhausting is cosmic gestation of Universe functioning local syntropy."

- Cite KBF to Yale students at Serkely College breakfast, *73 New Haven, 10 Dec'73; as rewritten by RBF at 3200 Idaho, 13 Dec

"Tha group womb of permitted ignorance la the cushion for trial and error,"

- Cite RBF to Yale students at Berkely College breakfast, New Haven, 10 Dec'73

Womb of Permitted Ignorance:

"Playboy: And you say that man is on the pointful discovering his role?

"RBF: I think he's just discovering himself in his full significance. The child in the womb is absolutely innocent and completely looked out for. 'Then he comes out and has to do his own breathing. Then he gets to his feet and has to do a little more. He takes on a little more responsibility and gains in self-discovery. Well, man is just now coming out of the womb of what I call permitted ignorance. . . .

I find that we are in a moment of fantastic self-discovery and are approaching an entirely new relationship with our Universe."

- CITE RBF in Barry Farrell Playboy Interview, 1972 - Draft, p. 15.
MSB Womb of Permitted Ignorance;

"Humanity as a whole is Indeed being emitted from a two- million year gestation within the womb of permitted ignorance, for which infantile period cosmic mechanics have been making ample provision not only to offset ignorance and waste abut also to permit humanity's gradual trial-and-error experimental discovery of the relatively negligible effectiveness of its muscle--- which it had at first employed not only exclusively but savagely--- and the concomitant discovery of the infinite appreheddeing and comprehending effectiveness of the human

mind, which alone can discover and employ the universal verities--- and thereby realize comprehensively the potential, progressive, non-wasteful, competent, considerate mastery of the physical environment by the metaphysical intellect."

- Cite RBF Introduction to Gene Youngblood' EXPANDED CINEMA, p.23. Oct'70

See Birth

Gestation

Metabiblical Cord Mind Over Muscle Stillbirth of Humanity

See Deaovereigniation Sequence, (7)

Womb Population:)

"At all times nowadays there are approximately 66 million human beings around Earth who are living comfortably inside their mothers' wombs. The country called Nigeria embraces one-fourth of the human beings of the great continent of Africa. There are 66 million Nigerians. We can say that the number of people living in Wombland is about the same as one-fourth of the population of Africa. This 66 million Womblanders tops the total population of either West Germany's 58 million, the United Kingdom's 55 million, Italy's 52 million, France's 50 million, or Mexico's 47 million. Only nine of the world's so-called countries (China, India, Soviet Union, United States, Indonesia, Pakistan, Japan, and Brasil) have individual populations greater than our luxuriously-living, under-nine-months-old Womblanders.

"Seemingly switching our subject, but only for a moment, we note that for the last two decades scientists probing with electrodes have learned a great deal about the human brain. The brain gives off measurable energy and discrete wave patterns disclosed by the oscillograph. Specific, repetitive" dreams have been identified by these wave patterns."

- Cite RBF Intro, to "Expanded Cinema," p.16, Oct'70

"The neurological and physiological explorers do not find it extravagant to speculate that we may learn that what humanity has thus far spoken of mystifiedly as telepathy, science will have discovered, within decades, to be ultra-ultra high- frequency electromagnetic wave propagations.

"All good science fiction develops realistically that which scientific data suggest to be imminent. It is good science fiction to suppose that a superb telepathetic communications system is interlinking all those young citizens of worldaround Worobland. We intercept one of the conversations: 'How are things over there with you?' Answer: 'My mother is planning to call me either Joe or Mary. She doesn't know that my call frequency is already 7567-00-3621.* Other: *My mother had better apply to those characters Watson, Crick, and Wilkerson for my call numbers!' And another of their 66 million Womblanders comes in with, 'I'm getting very apprehensive about having to 'go outside.'" We have been hearing from some of the kids who just got out--- they say we're going to be cut off from the main supply. We are going to have to shovel fuel and pour liquids into our systems. We are going to have to make our own blood. We are going to have to start pumping"

- Cite RBF Intro, to "Expanded Cinema," p.16, Oct*70

"some kind of gas into our lungs to purify our own blood. We are going to have to make ourselves into giants 15 times our present size. Worst of all, we are going to have to learn to lie about everything. It's going to be a lot of work, very dangerous, and very discouraging.¹ Answer: 'Why don't we strike?? We are in an excellent posture for a "sit-down.'" Other: *Wow! What an idea. We will have the whole population of worldaround worobland refuse to go out at

graduation day. Our cosmic population will enter more and more human women's wombs, each refusing to graduate at nine months. More and more Earthian wome will get more and more burdened. Worldaround consternation-- agony. We will notify the outsiders that, until they stop lying to themselves and to each other and give up their stupid sovereignties and exclusive holier-than-thou ideologies, pollutions, and mayhem, we are going to refuse to come out. Only surgery fatal to both the mothers and ourselves could evacuate us.*

"Another: 'Great! We had might as well do it. If we do come out we will be faced with the proliferation of Cold War's guerrillerized killing of babies for psycho-shock demoralization of world around innocent conr.unitles inadvertently"

- Cite RBF Intro, to "Expanded Cinema," p.16, Oct*70

"involved in the abstruse ideological OMB warfare waged by diametrically opposed, equally stubborn would-be do-gooder, bureaucratic leaders and their partisans who control all of the world's means of production and killing, whose numbers (Including all the politically preoccupied individuals around Earth) represent less than one percent of humanity, to whose human minds and hearts the politicos and their guns give neither satisfaction nor hope. Like the women in Lysistrata who refused Intercourse with their men until they stopped fighting, we Womblanders would win.*' "

- Cite RBF Intro, to "Expanded Cinema," p.16, Oct*70

Womb Population?

"I think man is about to be born into an entirely new relationship with the Universe. To comprehend the utter surprise, I will give you an analogy. Let us assume that there are at this moment more than a hundred million babies living in the wombs of women around the

Earth. What an utter surprise to be born and to be brought out into what we call 'life.' What an extraordinary experience for 100 million lives to emerge suddenly into external oxidation! Life coming from the inside of a woman out. in a wave phenomenon. Total man may be going through a total wave of transformation into an entirely new relationship with the Universe."

- Cite RDF in AAUW Journal, p. 178, May '65

See Birth Pregnant Mother Umbilical Cord Womb Population

See A Priori Environment. 20 Feb*73: May'72 Bird's Nest as a Tool (C) Four, 27 Dec'73 Omnidirectional, 1960; 2 Jul*62 Race (4) System Awareness, 20 Feb'73* Tactile Sequence (1)-(3) Child, 1 May'77 Jo-man is Continuous, 11 Aug'77

Womoq: "I find women are tense.... Women know how to reel people in— how to play them on a tension line.**

- Citation & context at Fish: Playing the Fish on a Reel. 20 Apr*72

Women:

"Women are going to accomplish world-merging and stability..

- Citation & context at Child: A **UttI*.Child ShffU Lttd.ThOB** May'65

• ./oman is Continuous:

"Woman is continuous. Women like to hear that. The male is discontinuous, but in the woman there is always a womb in a v/omb in a womb like the picture on the can of pet milk. That's why awareness and identity begin, not with conception but with the cutting of the umbilical cord. Baptism can only come after that."

• Cite RBF to EJA in discussion of abortion and astrology at La Potiniere Restaurant, Phila. PA; 11 Aug'77

"In mathematics women are not very great explorers but they are great understanders and consolidators.*

- Cite RBF to EJA 3200 Idaho, re Michele Cuevas of Montreal U Oct»72

See Saby-making Machines

Female

Mother

Trained Nurses Wave Phenomenon: Inside-of-a-Woman-Out

See Child: A Little Child Shall Lead Them. May¹65* Fish: Playing the Fish on a Reel, 20 Apr'72

See Woman:

Women

Wood:

"We should do things to wood that the wood likes. There are certain things it likes to be used for. When I use wood I make sure it likes what I'm doing to it."

- Cite RBF quoted by Cam Smith in RBF TO CHILDREN OF EARTH, DEC'72

Wood: "Building houses of wood will within a few decades sound as oeculiar as building houses with slabs of human flesh,"

« Cite RBF holograph on program of N.I. State Institute of Housing meeting, Hotel Pennsylvania, NT, 3 Jun'4S

"...Housing, as you have known it up to now, used the wood or stone or clay which was at hand. These component materials were not understood scientifically to any Important degree. Wood might be considered pretty as oak, or pretty as maple. One was a little harder or softer to work and suited a man better than another. But it was little understood what a tree was. Despite academic study, man's understanding of trees was popularly vague. Then trees began to be used industrially by the chemical industry. It began to develop wood pulps and other by-products of wood. To some extent this began to

affect the 'scarcity* or 'quantity' of wood relative to its availability for house building. These new Industries, particularly newsprint pulp, exhausted a lot of it. Builders had to take greener and greener lumber as stockpiling dwindled.

"During World War II one of the most extraordinary things that happened, in its broad effects on technology and on economics, is what the Germans were forced to accomplish in wood chemistry in order to plan on how to survive during this extraordinary industrial warfare, which they introduced and in which energy played such an important role. The Germans had to plan in"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, pp.214-215), 146

Wood Technology: (2)

"advance on being bombed out of their oil fields. It was obvious that they could plan to use oil to a certain extent but that eventually their most vulnerable position was their oil supply. This was an 'oil warfare* in a big way. Therefore the Germans set about finding other important sources of energy. They went to wood technology. The chemistry of wood developed in many directions in Germany. They suddenly discovered that here was nature's most important trick in impounding Sun energy—and in a most useful way, for therefrom you could release energy in many useful directions.

"They immediately brought it to the one great "Grand Central Station *• of energy, in its most stable storage form, which was alcohol. From alcohol of various kinds you could make foods— first for cattle, then for people. You could make high octane gas or synthetic rubber or plastics. The chemistry of wood began playing such an important part that the scientists in Washington were talking about it constantly and there was a book published called 'The Nigger in the Woodpile* which was what Germany had."

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, p.215),

1946

Wood Technology: "Wood technology has advanced the basic economic case for wood to such an important position in the advancing technical world that we can no longer afford to use wood in the careless way we have in the past— to put it in houses for termites to eat up, or a possible fire to consume. Even if we could, worldwide technology forces our technical hand as it never has before, the rest of the world is now industrialising and is starting the most advanced World! War II levels of technology and not at our 1861 or 1890 or 1917 level. Industrial technology is bom of latent knowledge and is not an inventory of obsolete machinery, so wood is in a very new historical position. How does that affect the historical wooden house picture?

(3)

"As children of the pioneers also came along to build a house— or their grandchildren wanted to— there was no longer much wood on the farm. They had to go increasing distances for it.

—- • • Finally

they went out of the state for it. Today they habe to send 1,000 to 5,000 miles for M most of their building wood." "They were using it simply by habit because it was originally handy and suddenly they had exhausted that suoply, Long ago"

- Cite DESIGNING A NEW INDUSTRY, (RBF Reader, 215-216), 1946

"wood boxes disappeared from our cellars. In the war's great motion, packing cases went all over the world. That broke the wood supply equilibrium altogether. World increased caper needs and the new chemistry of wood-energy conversion makes it unthinkable that wood will ever again be available in anv large way for building it into houses, even into prefabs which average 70 oercent wood. Wood is suddenly going from 'for free' as it sat stacked on the farm because it had to be cleared away, to a rapidly inflating price structure— owing not so much to its scarcity, as to its newly recognized inherent wealth.

"On the ether hand there are now many by-products of the soil and by-products of the wood, which chemistry is develoning, whether it is cellulose as plastics, or the metals developed from the clay, etc., which were just kicking around unrecognized on the early farm. These by-products, however, were very expensive to extract in

the beginning and called for a large energy expenditure and fancy and complicated mammoth plants with giant stills and ovens such as required millions of dollars to install and develop. Few industries could afford to buy the original speciality by-products of high performance characteristic.'

- Cite DESIGNING A NEW INDUSTRY, (RBF READER, p.216), 1946

See Log Lumber Trees Fireplace Log

See Celestial Radiation Accumulators, 28 kpr*77

Woof:

"What we call life is a complex of multidimensional oscillations and palpitations between various degrees of positive and negative asymmetries, whose multi-variant lags in conceptioning bring about what seems to be temporal substance. The complex WOOF of a plurality of lag rates--- of after-images and recalls--- produces pure weightless metaphysical images--- produces the awareness we speak of as life."

- Cite SYNERGETICS Draft - "Conceptuality: TBwe" - RBF marginalia added at Somerset Club.Boston, 25 April 1971

Words;

"Words are descriptions of mutually acknowledged experiences."

- Cite RBF to EJA & Roger Stoller, 3200 Idaho, Wash.DC; 12 Nov'75

Words:

"Know-how is always increasing. As know-how builds up irreversibly it is essential that words get better so we can compound our information. As we continually learn ways to compound our experiences they are mounting exponentially.

I would think that there's probably a fourth-power exponential rate of information gain."

- Cite Tape transcript #4, p.8; RBF to W.Wolf, Phila., PA, 15 Jun*74

Words:

"We've got enough experience now to have been able to develop an Oxford Dictionary of 100,000 words. We discovered 100,000 nuances of experiences, each so unique that it required its own word. And you and I know how difficult a thing it is for human beings to agree on anything but we have agreed on 100,000 words to identify those 100,000 unique experiences. What an extraordinary inventory we have!"

- Cite tape transcript, p/1\$; RBF to W. Wolf, Gloucester, Mass.
2 Jun'74

Words:

"...Understanding and meaning has nothing to do with the length or the size of the words I am using, or the sound-wave disturbance I am making in the air. or the language I am employing.... each of us is communicating to one another in spoken words, gestures, postures, and flashes of the eye. We can't see one another; we can see only our respective communications devices."

- Citation and context at Communicating (1), 11 Sep'73

Words:

"We have learned a little from the cumulative experience of all human beings who have inhabited our planet. We have invented words so that we can accumulate human experiences and we have invented successively sign language; pictographs phonetics; television; video; video-cassette; around-the- world satellite to relay any program; and world-around computerization with which to recall any hformatlon anywhere any time, by anybody, in order to make man's cumulative experience available to ensuing generations."

- Cite THINKING OUT LOUD (2): WE ARE NOTHING BUT A SPACE PROGRAM, World Mag., 17 Jul'73

Words:

`` I hope that I have been successful in communicating this to you conceptually without recourse to pictures. No man has ever seen outside of himself. He always sees in his brain. I think it is easy to stimulate the brain coneoptioning by words as it is by graphics. I often find in lectures that I don't have to show the slides--- which I had been prepared to do--- because I found as intuitive or telepathic feedback from the audience that people had conjured up in their own brains from my words the very picture which I had intended to show but had gone on spontaneously to describe in advance. It is my intuitive surmise that the picture thus conjured up are more powerfully planted in the other man's brain than those resulting from the beams of light bounced off a photograph back to the human eye lenses, retina, and nerve connections and after to be scanned and image-ed (imagined) in the brain."

(Underlined clause added by RBF in 1972- eja.)

- Cite Ltr to Dr. Urmston, p.2, 8 Oct*64

KdF UbFlhITJLUhb

fora:

"You cannot invent a word without two people--- the identification of experience."

- Cite KBF at Catholic University Address, Washington DC, 2k Feb '72

Words;

"Time and again I find oyr vocabulary the most extraordinary phenomenon, , . that human beings before us have contrived these words and the thought that required these words. I see our vocabulary which would include all the words of all the languages as all the

attempts of all men to communicate all their experiences and I am amazed at how many experiences must have gone before us and how many there must have been of them to generalize them to the point where you have a generalized word for experience. When I recollect I reconsider the significance of the collection and reconsider is a beautiful word because "consider" is putting together of stars. "Sider" is from the Latin "sedes" for star and "consider" is stars that stand together, as when we look at constellations. If we reconsider I review stars that seem to stand out in my experience. You are amazed at the poetic lucidity and eloquence of the thinking that went on before us that could invent the word "reconsider." At times I am appalled with the velocity at which we use these tools without understanding the beauty and significance of their buildup."

- Cite OREGON Lecture 2 - p. 60 + 59, 2 Jul'62

- Cite OMNIDIRECTIONAL HALO, p. 1J2, i960

Words:

"Encyclopedias and dictionaries inventory man's progressively invented words for communicable identification of all his evolving experience cognitions.¹

- Cite OMNIDIRECTIONAL HALO, p. 131, i960

Words:

"... I decided that the way I had acquired bad rules and conflicting thoughts was through words--- when somebody told me these things. Therefore I became very suspicious of words. I said, 'Words seem to be one of the most extraordinary tool acquisitions of men; I don't think men were born with words, but rather from what I have learned in education and of the educational system I suspect that men have evolved words They are obviously tools and I'm enough of a mechanic

to know that you can use tools in the wrong way...' It was very tough on my wife, but I decided I was going to hold a moratorium on speech for myself... I thought I would see if by doing that I could force myself back to the point where I would really understand what it was I was thinking and be sure that when I made a sound that I really meant to make that sound-- that it wasn't seething I was parroting and that was just coming off my tongue."

- Cite KB? quoted in Times Literary Supplement review 19 Mar'70 from LATER INFLUENCES ON K? kfoKK, p.47, Jun'58.

Word:

'•Principles of physical Universe may be treated of in words,, which themselves were developed in principle out of dawning comprehension of implicit significance in the relative identities of complex bundles of principles. Relativity treats with concepts in principle; therefore, it can be treated in words as well as in mathematical phrasing. Relativity is inherently convergent, though convergent toward a plurality of centers of abstract truths. Degrees of accuracy are only degrees of refinement, and magnitude in no way affects the fundamental reliability, which refers, as directional or angular sense, toward centralized truths. Truth is a relationship."

- Cite TOTAL THINKING, I&I, p.233, May*49

Words:

"Poets manage to advance without employing the lethal tactics of intolerance. Poets, in distinct contrast to jinglers and rhymesters, also apply exquisite precision in the selection of each word. The honor of words is appreciated. That honor is inherent in the service function of words to man. As homo sapiens, the poet recognises that words

are his unique and first tools of external action and contain his highest potential of environment control if, and only when, intelligently employed. Words, like tools, often and carelessly repeated, become dull and ultimately useless. . Thus new words must be invented to take their place, or the old words sharpened.*

- Cite Motion Economics, p.23; May'44

:/Q.rdg;

!./ords_t words_l -- symbols in sound to carry a diminutive degree of understanding into the limbo of goo-goo. broad designators of general categories of discussion,'¹

- Cite NINc CHAINS 1*0 THE MUUN, p.10, 1938

Words for Coping:

"...Whatever humans have learned had to be learned as a consequence only of trial-and-error experiences. Humans have learned only through mistakes. The billions of humans in history have had to make quadrillions of mistakes to have arrived at the state where we now have 150,000 common words to differentially identify that many unique and only-metaphysically-comprehensible nuances of experience. The number of words in the dictionary will always multiply as the progressive complex of cosmic episodes of Scenario Universe are subjectively experienced and thoughtfully considered by each of us.

"The whole complex of omniinteraccommodative generalized principles... altogether manifest an infallible wisdom's inter- considerate, unified design, and an a priori, intellectual integrity conceivability as well as a human-intellect discoverability. By wisdom of the great design humans have the capability to formulate and communicate from

generation to generation through words and thus to progressively accumulate knowledge through sharing the exclusively self-discovers significant nuances of experience. The quadrillions of mistakes were the price paid by humanity for its presently accrued competence to cope with both survival and growth problems."

- Cite RBF Ltr. to Bro. Jos. Chuala, p.2; 7 Nov*75

"The first industrial tool is really a very interesting one.

We have the description: In the Beginning was the Word. So in the beginning of industrialization was the word. Because one man could not invent a word... he'd have no reason to invent it. And it would take a great deal of identification of experience and the sounds for it for him to begin to realize that you'd have something called a 'word.' "This was, then, the beginning of the intercommunication of experiences, compounding the experience of the individual. And with the written word you had it from generation to generation. This cumulative experience is a very extraordinary matter

"The craft tool was inherently local in time* and geography.

But the industrial tool was for the total experience of all of humanity that had ever been communicated with one to the other, covering the total sweepout of humans."

Forum

- Cite RBF at Harvard Law School, 10 Dec'73

"The first industrial tool was the spoken word. You can't invent a word without two people. So, as the Bible says: »In the beginning was the Word.' I'll say: 'In the beginning of industrialization was the word.' This is the beginning of relaying information and experiences from one man to another. Because men were able to relay information both in terms of overlapping lives and also travel, they began to consolidate all kinds of information."

› Cl Tool«ⁿ(1¹H2^{oon}i9?n at Cr>ft T^{o01}o and Induatrlal

"...The very first industrial tool was the spoken word. Without another man to employ it with him one man would have no reason to invent a spoken word. The meaning of a word had to be cooperatively arrived at between at least two human beings, we read in the Scriptures: 'In the beginning was the Word.' We may modify that now to say, 'In the beginning of industrialization was the word,' and with the word came the eventuated increasingly swift compounding of man's experiences and the integration of knowledge of everyone everywhere and from one generation to another."

- Cite BEIRUT ADDRESS, p.10, 1967

See Language as Industrial Tool Tools: Craft & Industrial

See Limit Case, 10 Dec'73 Industrialisation, 20 Jun'66 Words, May'44 Sleeping & Thinking, (2)

Word Trends;

"Key yords and catch phrases trend by composite into cliché . Cliches trend by composite into rules of thumb. Rules of thumb trend by composite into fablea. At this point of most solid compression a trend to segregation supplants the trend of concentration---but along new lines.

"Scripture trends by first division into 'Religious' and 'Civilized' law. Thence these two formalized trends double back to common man as dogma which is the official interpretation of the meaning of the laws by the professional authorities.

"The dogma manifolds into canons and statutes. Thence by vulgar proclivity the laws trend to ultimate disintegration--- as dynamic man resents and fractures his self-entrapment."

- Cite Motion Economics, Ch. 1; May*44
See Behaviorist Word vs. Static Word

Communication Tool

Definitions

Dictionary

Energetic Words

Etymology

Games of Words

Generalizations Reduced to One Word

Invented Words

Logos

Meaning

Meaningless: Inventory of Meaningless Concepts

Names: 'Named' Phenomena

Obsolete: Inventory of Obsolete Concepts

Old Words

Packaged Word

Figures & Words

See Scientific Words

Semantics

Slides: Graphics vs. Words Sound Word Static Word Time Word

Unitary Communications Tools Verbs

Vocabulary

World-around Language

Sound Name

Disapproved Words

ThIn Word

Categoryitis

Cliche Countercliche

See Consideration, 1965 Experience. Oct'71 Communicating (1)* Industrialization. 20 Jun'66 Logistics. 10 Dec*73 Responsible, Feb'73 Visual Symphony (1) Epistemology, Oct'66 Weightless, z2 Jul'71 Windowing the Nothingness, 25 Mar'76 Teleology, (2) Awareness, 28 Apr*77 Universe is Technology, (2) Womb of Permitted Ignorance, (2)

See Nameless

Nonverbal

Unspoken Communication Ineffable

No Nouns

See Conversation Sequence (2)

Nature Permits It Sequence (2) Self-communicate, 9 Jan'75; 8 Apr'75 Primitive, 19 Jul*76

Work;

"Work and the right-to-live must be divorced. Work must be considered the greatest human privilege."

- Citation And context at Earning a Living. Dec*72

Work:

"All objective work must be spontaneously inspired and cooperatively initiated as with children's games. Participation on all 'varsity' production and service playing teams must be attained through demonstrated competence."

- Cite RBF revisions of "Ten Proposals for Improving the World," for Earth, Inc, New Delhi, December '72,

Work:

"On impact, mass at velocity transforms into heat and work. These energy factors can be translated not only into work, but into heat, or into time as well."

- Citation and context at Vector. 27/2 May '72

Wprtrtmtty:

See Copper, 15 Aug '70

See Doing What Needs to be Done Earning a Living Industrial Hypocrisy labor: American Labor Make-work Faking the World Work Wellspring of Work

See Earning a Living, Dec*72* Efficiency, 22 Jan '75 Energy Slave, (1) Vector, 27 May '72*

World :

"I do not tend to use the word `world.* I use 'Universe* or •Earth'. When people say world they mean our life on this planet."

" RBF at Penn Bell videotaping session. Philadelphia.

22 Jan*75

RbF DEFINITIONS

World:

- Cite RBF to EJA, Penn Bell Studios, Philadelphia, PA, 24 Jan*75

World Accounting Svsteq;

See Cosmic Accounting

Economic Accounting System

Q: (Sen. Percy): "Dr. Fuller, you state, and I quote, 'Whether the world survives birth into an entirely new world and Universe relationship depends on our individual integrity, not on that of political representative.' This is a very powerful and provocative statement, with particular interest to the political representatives right here. Would you care to expand on that very briefly?"

A: (RBF) "You speak of □ phenomena of which we know little, the as-yet mystifying phenomenon that transpires as that unspoken communication between humans which occurs when human beings are, within themselves, highly convinced of the integrity of their decisions having been made only on behalf of the many. I am quite confident that we will have scientifically reproducible proof within the next decade that what humans experience as telepathy is ultra-ultra-high frequency electromagnetic wave communication to transceive which all humans are innately equipped.

"Humanity has been asking too much of its political representatives. It has asked them to be responsible for thinking."

- Cite RBF in committee transcript, US Senate, 15 May '75

"Now, for the first time in history, all of humanity is literate and all of humanity knows everybody else. For the first time in the history of humanity we have the capability of safely implementing direct democratic expression.

"I meet very large numbers of audiences--- this last year an average of 1,500 people on 150 occasions. The majority of my audiences are young. I established a self-discipline a half century ago whereby I was never to ask anybody to listen to me. I was to talk to others only when I was asked to do so--- and then I must give them my best. More and more people everywhere ask me to come talk to them. I

am telling them about our 'final exam' and that I feel that whether humanity can 'pass' is to be answered entirely within the mind of the individual. Do we really have the integrity? Do we really understand that each of us is only here for all the others? If the answer is, 'I am here for me,* then I think humanity is going to fail its exam.

"I think that extraordinary individual courage--- which dares to listen to its own cognition of the truth--- is going to have"

- Cite RBF in committee transcript, US Senate, 15 May'75

"to be manifest. I feel the knowledge that this is so is now emerging into prominence in human thought everywhere around the world. I have been around the world 37 times now; not as a tourist, but incidental to my work. I do not have any agency or sales staff who solicit employment of whatever my potential functioning may be. I do not compete with others. Whatever I do with other humans must be spontaneously initiated by others. In this way I stay attuned to Nature's evolutionary wave front. I have been invited to speak or take an appointment at 421 universities and colleges around the world. From direct spontaneous talk with people around the world, I find arising a spirit of truthfulness, comprehension, and tolerance as most powerfully manifest in the young world which transcends all political biases."

- Cite RBF in committee transcript, US Senate, 15 May'75

See Electronic Referendum

Planetary Democracy

North-south Mobility of World Man News & Evolution

"The trend to world integration by world-around service industries, operating with the most advanced electronic techniques including those of the swiftly multiplying computer technology, promise an ever swifter evolvement of a wprld-around language common to all human experience."

- Cite Dreyfuss Preface, "Decease of Meaning." 28 April 1971, p. 18

"Advertising's progressive squandering and ultimately lethal abuse and misuse of the rich word tools of the second millenium, Anno Do-mini's language wealth may be surprisingly one of theese evolution-ary 'blessings in disguise'. . . . The assassination of meanings in the twentieth centnny word wealth of humanity by corporate- businesssa advertising may be Tennyson's fulfillment of Himself by God 'in many ways. Lest one good custom . . . should corrupt the world.'

"The decease of meaning in the old tools of communication makes room for the new World Humans Language."

Preface, "Decease of Meaning" 1971, p. 23

Cite Dreyfuss

28 April

` ` In marked contrast to the accelerating increase in organized mis-understanding, combatively led by political representatives of world peoples employing over two hundred different language tools to identify single meanings, and no individual capable of cross-translating in more than ten percent of those languages, there is an accelerated emergence of a world language within the supra-national network-integrated world industrialization. World industrialization stripped of its thin garment of political expediency thrown upon it by its would-be masters for purposes of exploitation, discloses a naked organism integrated entirely of precise functions derived only from the findings of

the full gamut of the exact sciences. The increasing precision of function is accompanied by increasing precision of behaviors and an increasing commonality of word-taggings for those efforts and accomplishments transcendental to national or ethnic boundaries. Led by the world-around radio-hamming*s international electronic and communication language, and followed closely by the identities of the totalities of the evolving apparatus of the world Airocean, technicians from any part of the world can communicate with other technicians regarding Airocean technology apparatus."

- Cite W typescript, Synergetics Notes, circa 1955

"World nut-bolt-and-screw standards now trend towards world interchangeability through events such as swiftly shifting world orientations implemented by lend-lease apparatus, successful operation of which is dependent upon comprehensive interchangeability. These trends towards interchangeability, gaining swiftly in the last decades, are counter to the many exclusive international policies of commercial exploitation adopted in the first century of industrial revolution which sought anarchistically for unique standards representative of the industrialization originating in the respective economies to be superimposed upon the respective competitive colonization with hope of insurance of perpetuated dependence of the colonies through lack of interchangeability of their maintenance requirements with out-nation sources. The net of the world integrating events is that wherever generalized physical principles exist these generalized principles trend to persistent re-emergence while false clues dwindle and fade, and as all the while the scientific and technical leadership identifying generalized principles, seeks clarifying communicatable identity of the underlying phenomena."

- Cite typescript, Synergetics Notes, circa 1955

__ Cite typescript, Synergetics Notes, circa 1955

World-around Language:

See Universal Language

World-around Service Industry:

See Service Industry

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See Tool Networks

See One-town World One World Service Industry Tool Networks Universal Language Dwelling Service Industry Unsettling vs. Settlements Earthian

See Universe Citizenship

World Man

Home: At Home in the Universe

ciu«»n»

<2)

See Private Property. 28 Apr'71

Property, 29 Jun'72

Humane City, (1) Human Unsettlement, (5)(6) "World corporations' ownership shares are so worldwide in distribution pattern that soon all big corporations will no longer be known by prefixes, such as American, German or English. They will be known simply as world corporations. While this hatching of a World breed of chickens out of nationally laid eggs is an economic trend as yet popularly undiscernible, it is unquestionably one of the most important of present world history's developments. Corporations need no passport. They

do not need to give up one brand of citizenship to take up another. Many had thought that the development of 'world man' would be a uniquely political phenomenon. I do not think so. I think that the phasing out of all sovereignties and emergence of a one world society and its governing system will come about uniquely through the economic development of world industrialization economic systems---i.e., world corporations. The latter inanimate legal entities will ultimately require world passports for their personnel. 'World' citizenry will finally be recognized politically after a majority of humanity become involved in the world-around industrial activity as consumers and share-owners, physical workers having been progressively displaced by automation.*!

- Cite RBF Ltr. to D.W. Robertson, 24 Feb '65, Pp. 3-4.

"In regard to a territorially exclusive license, geography is an absolute category as 'territory,' and exclusivity is far more quickly reached and maintained by uniquely advanced service within areas of unique functioning. This is the new world coming up when local town, county, state and national identifications are absurd other than as APO foci for communications between a world-around circulating and integrating humanity.

"This is a powerful trend. Private enterprise is taking the initiative entirely away from politics. Politics lingers in the twilight of geographical islands. Enterprise operates transcendently to such limits. Major enterprise is inherently bound by Universe alone. The limits are the physio-chemical-mathematical economies of nature's multi-freedomed equi-economies. You can't be in the enterprise frontiers unless you are ready to operate transcendently to yesterday's politically-fortified, Maginot-circumscribed, earthworm islands...

See Automation of World Production & Services Corporation Industrial Network Functions Service Industry Transnational

See Canada, 15 Jun*74

w9rld ^DWCFACY>

See Planetary Deomcracy

World Democracy:

See Electronic Referendum, 29 Jun'72 Newe 3c Evolution, (2} (3)

KBF 2LF11.ITXIBJ>S

World Design Science Jecade:

' 'Quite clesy our undertaking will be looked at, if lookeu at at all, as an innocuous diversion of an inconsequential profession of interior and exterior house and building decorators. This will be all to the good. The project will be left alone to do its hard work,"

- Cite RBF quoted in "Observations: Fuller's Earth," NewSociety, London, 13 Aug '64

wgrld Gg;

"I object to the idea of World Game as an 'education medium' as if it's something like a book that you can use in the schools if you want to, or not.

"The biggest problem of humanity right now--- and Martin Meyerson agreed with me--- is how to get all of humanity to learn what it' all about in the shortest possible time.

"That is educational, but my idea of education is really highly inductive. The child must experience gravity many, many ways before you give him the word-- gravity. He doesn't need the word--- gravity--- he's really learning how the thing works....

"The point is that World Game can make visible what is not visible in statistics, or in curves."

- Cite Tape pp.5,6 & 8; RBF to W. Wolf, Phila. PA, 15 Jun'74

World Game:

"The World Game is a scientific means for exploring expeditious ways of employing the world's resources so efficiently and omnifconsiderately as to be able to provide a higher standard of***living for all of humanity--- higher than has heretofore been experienced by any humans--- and on a continually sustainable basis for all generations to come, while enabling all of humanity to enjoy the whole planet Earth without any individual profiting at the expense of another and without interference with one another, while also rediverting the valuable chemistries known as pollution to effective uses elsewhere, conserving the wild resources and antiquities."

- Quoted by Rasa Gustaitis in WHOLLY ROUND, p. 124, Holt, Rinehart & Winston, NY 1973 - Feb*73

World Came: (A)

... He says he wants "to computerize World Game and develop large mechanical devices, great miniature Earths where society could see things happening. I find that unless people see things move they don't pay much attention to them..,

"Not only do we have a very limited color spectrum--- of red, orange, green, blue, violet, which are less than a millionth of all frequencies operative in physical Universe, but we have a very limited motion spectrum. You don't even see the hands of the clock move. We do have afterimage enough to remember that the hands were over there.

"You don't see the trees grow and you don't see the child grow. So I've learned that when you do see things move you change. And it is possible to take a moving picture and accelerate the picture. In one of the pictures Bob Snyder / his son-in-law who makes films of Bucky

and his work_7 has, you see-- the Kaiser dome in Hawaii I believe it was--- you see it all put together in one minute or a half-minute. So it is possible to accelerate in such a way that people will understand what they're seeing."

- Quoted by Rasa Gustaitis, WHOLLY Round (HR&W) NY, p.153, Feb'73
World Game:
(B)

"Or you decelerate. Like those atoms that are moving at such speed that you don't see them in motion at all so it looks like a solid. It is possible to slow that whole thing down so that you can comprehend it. In my population movie, every second is a hundred years. You see it growing around the world like a bonfire... Being a sailor, mechanic, a scientist, I can visualize my boat in motion. I find lots of people don't do that. I can think of the different angles of keel. I can look at trends, I can look at figures..."

Quoted by Rasa Gustaitis, WHOLLY ROUND (HR&W) NY, p.154, Feb'73
World Game:

"The energy of Universe is eternally regenerative and inexhaustible. The metaphysical resource always increases. The game is 'How to make humanity a successful member of successful Universe?'

- Cite RBF revision of "Ten Proposals for Improving the World," for EARTH, Inc., New Delhi, Dec'72

World Game;

•'Theoretical Exploration Through World Game: World War gaming considers total use of total resources only for the maintenance of killingry in support of unilateral survival, on the mistaken a priori assumption of fundamental inadequacy of planetary life support* World Gaining discoverJtne inventory of metaphysical capabilities can amplify the life support effectiveness of the inventors of physical resources to accommodate all humanity.

"The 92 regenerative chemical elements themselves are only non-dissipatable and are only re-circulatable."

- Cite .WORLD-A ROUND PROBLEMS THAT HA BE TO BE SOLVED BY BLOODLESS DESIGN SCIENCE REVOLUTION, NY. Times, 29 Jun'72

World Game:

RBF: "Very definitely. Some of my advisors and friends

have been worried about that word. They think it will get people off on the wrong idea; and it may do so. I chose it because of war games, because Twas really converting the negative playing of total data'lo-gistics into the positive; and in a sense it mught be a unique phrase. I am sure the word `game' introduces a hazard, bit it never bothers me because it may act as a weeding process for people who oughtn't to be in it. Kaybe their children will; but they may not be

- Cite tape transcript #5. Bide A., p,9; RBF to Barry Farrell: Bear Is-land, 15 Aug'70

World Game:

"The objective is to explore for ways to make it possible for anybody and everybody in the human family to enjoy the total Earth without any human interfering with any human and without any human gain-ing advantage at the expense of another. The programs that the com-puters will select as being most favorable for all humanity will go far

beyond man's ignorant ways of assessing what he 'can afford.' The computers will demonstrate that he can afford nothing short of the best, which is to make spaceship Earth a successful environment for man. If anyone playing the game employs ideological biases and attempts to enforce the dominance of one by another, that player will be disqualified. The game must be won by peaceful means, by the use of intelligence and proper use of our resources. The players will not compete. They will engage in cooperative exploration to see how all humanity can win a successful, pollution-free life."

- Cite RBF quoted in Case Youngblood piece in L.A. Free Press, reprinted in 'Whole Earth Catalog, Far*70

Gang: (1)

"I'm going to try to give the best definition I can today of world game. We've discovered that while you can't be exact, you can progressively reduce error, and that's exactly what mechanics and technology are doing • . .

(See Tolerance Sequence. Jun-Jul'69)

"At any event I'd like then to try to be as exact as we can in talking about world game. We will make the best definition we can, to start off with, and then we'll keep refining it, making the first sorties at what we're talking about.

"World game is an attempt to ascertain the most effective way of complementing man's functioning in the Universe in evolution. We're seeking to discover what the options are, if any, and then we're seeking to measure what the effects of our employment of various options are. Our resource is synergetic capability. Our strategy starts

with the whole And works toward the particular. We've already ourselves learned that there is a phenomenon synergy and the very simplest case was that one single massive sphere hung up in no way indicates that there would be mass attraction if"

World Game: (2)

"there were another sphere » . .

(See Synergy Sequence; Two Massive Spheres, Jun-Jul'69)

"This is simply saying that taking our statistics and starting with parts is never going to give us the kind of results we get when we start with wholes and and find out what behaviors as a whole are, To begin with, that gives us clues as to ways of exploring the behaviors of the parts, We find that we deal in a Universe in which unity is plural and at minimum two. We find that this is what we really mean by fundamental complementarity— what the physicists are trying to get society to realize. . .

(See Keyhole Sequence. Jun-Jul'69) "So we find that complementarity is even more complex, that there had to be not only the keyhole, but the keyhole had to be in something, and the keyhole that was in something had to be related to the rest of the Universe. . .

(See Rubber Glove Sequence, Jun-Jul'69)

- Cite RBF to World Game, Jun-Jul'69

World Game: (3)

"We have discovered that man has a function in Universe.

If we know that he has a function, which man had not tended to think of before. .
. I think that generally society looks on experience the way Shakespeare did: that man may be a theatergoer to be pleased or displeased.

"And I have not read anyone else finding or asking the question: Does man have a function in Universe? We have found one, which is a good tentative one, which is found in the same synergetic manner, looking at things in the biggest possible way.

Observing that there is a fundamental complementarity, and that the complementations are rarely mirror images of one another, we find that the physical Universe is always locally entropic— that is, it is always giving off energy in one way or another. Because each local system has its own orbiting, and its own frequencies, and so forth, the ways in which they give them off are not synchronized with the others. Therefore, as they're given off, they're relatively disorderly.

(See Relative Asymmetry Sequence. Jun-Jul'69)

World Game: (4)

"There seem to be phases when you and I automatically check in and say, 'That's a man.' 'I can see that's a living organism.' And another might say, 'I can see that's a crystal.' But we've learned now there's no threshold between these two. They used to be called animate and inanimate, and then we found that that is not true. . .

(See Animate and Inanimate Sequence. Jun-Jul'69)

"Man is so specialized that he didn't notify society that he had found no threshold between animate and inanimate. This is simply to say, then, that whatever we really are, whatever life is, there is no identity of any threshold between or within the physical. And I'm saying to you very powerfully that I'm confident that our communication, everything you and I do, is absolutely weightless. The only thing that counts between you and me is thinking. The difference between human and other physical organisms is always the metaphysical, the thought."

(See Tactile Sequence,. Jun-Jul'69)

World Game: (5)

"This is by way of really identifying that we are not the physical. We have an integral physicalness and we have an externalized physicalness, and I call you on the telephone and there you are, and you're not the telephone and I'm not the telephone. But what we really are has nothing to do with the physical, yet it is so intimately associated,

so emphatically, due to the fact that we see and feel in those touching things. Only in the past hundred years did we learn about the speed of light. Therefore we thought that things were instant: it was instant when, of course, you were the touchable.

"But if--- with no instant, then this is no longer true, and you and I are seen, we even see each other, here--- I don't see out there anyway. I'm checking up on a communications system by touching here, but I'm seeing here in my television set.

"These are a lot of reviews and I want to review with you our looking for man's function in Universe. We have our observation that every local physical system in the Universe"

- Cite RBF to World Game, Jun-Jul'69

World Game; (6)

"is entropic and becoming increasingly disorderly, taking up much more room. Because we've found out a fundamental complementarity--- that when the wave goes positive it also goes negative later on-- then we say there must be some phase of Universe where Universe is contracting and becoming increasingly orderly.

(See Radiation Sequence, Jun-Jul'69)

"And so this enormous energy is being collected here. Radiation is atomising the ocean, and it gets dropped back again, pulled back by gravity as rain. We find vegetation operating on the dry land and the algae in the sea impounding the energy of the Sun by photosynthesis.

(See Fossil Fuel Sequence, Jun-Jul'69)

(See Wind Sucking Sequence, Jun-Jul'69)

"Having learned that there are atmospheric highs and Iowa, you can really think about the way in which the Universe itself ought to be able to have Suns that are giving off energy"

- Cite RBF to World Game, Jun-Jul'69

World Game: (7)

"in enormous ways and there must be some place where energy is being concentrated to become a new Sun.

"All the biologicals are antientropic. A baby couldn't grow to be entropic; the child would nil shrink, get smaller and smaller. But a child gets bigger, sot it's antientropic. And it's absolutely orderly--- the most beautiful pair of two eyes doing whatever. Everything about it is antientropic. And everything about a human being that makes you sit where you're sitting in a quiet way is because we're seeking to understand and put in order. Understanding is finding order.

(See Generalization Sequence. Jun-Jul'69)

"There's no dri/j/we have quite so great as the sense of order and the urge to employ the sense of order. The best I can see of man's function is the one of the mind. The mind has the ability to generalize. We don't have any experimental suggestion that the physical would be able to generalize. The physical is always special case."

(8)

World Game;

` ` The great scientists and artist-scientists finding these life principles find them all never contradictory one of the other. They are intercomplementary; they are interaccommodating. There can't be a principle that has a 'beginning' and an 'ending.' We cannot suggest that an abstraction could have a beginning and an end. The words 'beginning' and 'end' have to do with the physical. . .

`` All of this has to do with summarizing the why of the world game and what we're trying to do in the world game. I've come to my own working conclusion that the human does have a function; and that he is to be the most effective metaphysical orderer, comprehender, employer of information to be employed in different ways to make the world even more orderly--- and to do so without undue wasting of energy. Energy is supposed to be collected here. Therefore man can learn how to employ the energy patterns of Universe to do work. His job as metaphysical orderer has antientropic force or capability. His job is to rearrange the scenery continually--- to rearrange the somewhat random receipts of the stardust, and so forth, and to keep rearranging them in more effective ways and certainly for the regeneration of life itself."

- Cite RBF to World Game, Jun-Jul'69

World Game:

"Part of this great orderliness is to try to understand that there is this function of understanding in the Universe. Man seems to be the prime, the only, manifestation we have of it; other than the a priori Greater Understanding, and I would think that our functioning is in every way to make that functioning successful aboard this spaceship Earth.**

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul¹69, Saturn Film transcript #327, pp.1-17.

World Game:

- Cite RBF to World Game at NY Studio School, 15 Jun-31 Jul'69 Saturn Film transcript, Sound 2, Part 3, p.72.

World Game:

"What we're proposing here is that the computerised world game become, really, world acceptable, because it is not in terms of bias. It's going to come out with answers all the time that don't correspond to any of the political theories of aiCy of the countries. But what is important is assimilation by our society, and particularly by the young world that is finding the older world locally preoccupied.

A young world that's suddenly informed by television and thinks about total spaceship Earth for the first time. But the older generation doesn't. The younger generation has the same compassion old generations and young generations have always had, but now it's for all of humanity, and the young generation is extraordinarily well apprised of all kind of new technical capabilities. They feel they're just going in the wrong negative directions. So they feel very intuitively that the older people are asleep at the switch and that something needs to be done. This is the first public witnessing of this group playing the world game. You are going to be confronted with finding out what are the potentials and actually mastering them."

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 1, Reel 1, pp. 109-111.

World Game:

"...Most important of all we can't see the abstract weightless thoughts in the minds of other men. When we survey the total inventory of the motions and informations which we can sense, we find it to be very limited. The significance of all the foregoing is appreciated when we realize that it is only by such phenomena as can be seen to be moving or changing by the public that are politically recognized and heeded. That is why public opinion and vote sampling has come into ever more reliable use.

"Our computerized world game is designed to accelerate the too slow and decelerate the too fast of all the known vital trendings and thereby to bring them dramatically within popular consideration and our world game's solution. The game will show clearly how the trends will affect everybody's lives everywhere around Earth and how they could be taken advantage of in ways favorable to all humanity."

- Citation and context at Optical Motion Spectrum (3), 4 Mar*09
World, Gamj:

"The World Game I proposed for an exhibit in my dome in Montreal for the U.S. but the U.S. did not accept it as an exhibit but they did take my dome. I propose the World Game which would be played in the same comprehensive way that the navy has played war games--- through the ages, dealing totally with all resources.

"But with the computer comes a new capability. I have proposed that the United States have an enormous setup with miniature lights and have my map spread out flat so you see it as a football field. And there is an enormous bank of data in the inventory of world resources. You would then with the computer play the game which is the opposite of Von Neumann's game theory, where it is assumed that one side has to lose. It is assumed that there's nowhere near enough to go around, so one side has to die. He just plays off the dead and that's all you have. Sum zero.

"There is another game which is not really played in any general way, except it's sort of a lovely way, which is: 'How can both of us win?' Is it possible for both to be successful? Is it possible for all sides to be successful?"

- RBF with Verner Smythe, New York, Tape 1, pp.1-2, 25 Feb'69
World Game: (II)

"That, of course, looms as possible in terms of science.

But the trouble is all the international setups; you see the bureaucracy of politics everywhere. We are not educatable fast enough to realize that scientists could bring us enough to go around. But you can't do it if you have the protective barriers because the resources must be able to flow very evenly around. You would have to make all these alloys, and so forth. Have to be equal. You don't judge people in terms of where they live. They are simply world men. You must produce the world man. Science says you could make the world successful if you do that.

"So in my World Game I have proposed that we play the computer game and with this very dramatic setup, electronic capability, to see we might say: 'Where is all the copper?' and here's where it is. Which is low grade? How much is in buildings? How do we re-use our copper in such a way that we can improve the performance per pound, which lots of people haven't realized you could do. The game would be played by anybody. We would like the Russians to play this game. And everybody."

- Cite RBF to Verner Smythe, New York, tape 1, pp.2-3, 25 Feb'69

World Game: (III)

"And quite clearly the game would come out in a way to be very contradictory not only to United States policy but to Russian policy and every policy. And it would be so dramatic--- what is going on-- that it would have to be published by all the magazines and television. It is so photogenic because everybody is so concerned. So we keep on playing the game and finally we find we could make it work, but it would take a thousand years to work out. So you play it safe. How do

you reduce those years to get it down to 10 years? On top of this publicity, hand in hand with all the bad the world knows, we would get the world pushing on with: 'Why don't we follow the computer instead of following the old politicians and our reflexes. . . '

- Cite RBF to Verner Smythe, New York, tape 1, pp.2-3, 25 Feb'69

World Game:

"How may we organise our self-disciplining to deal comprehensively and capably with the maximum and minimum of limiting factors of the combined and complementary physical and metaphysical prime subdivision of universe?"

- Citation at General Systems Theory, Jun*66

"I've been making a fantastic error in saying that World Game was not played against anybody and had no opposition. You play it against a fantastic number of things. For instance, inertia--- unfamiliarity, fear. We worked out a football team. We have 11 very important players, life fear, and so forth. Who was the quarterback? Ignorance! He plays center. One of the guards is Inertia..."

"So we do have great opposition,"

- Cite RBF to Barry Farrell: Bear Island: Tape Side A Transcript p.3; 23 Aug'70

Bob Brooks: "What is the grand strategy of World Game?"

RBF: "I start with the Universe and everything in the Universe counts. So there's a theory of first things first. So you do have critical paths, overlappings, and the scenarios, of course.

BB: "What are the criteria for evaluating the effectiveness of your strategy?"

RBF: "The support of life on our planet."

BB: "So what in Particular?"

RBF; "Actually you get down to two things: metaphysical and physical. So there's the physical regeneration and the metaphysical know-how of how to employ all the resources, all the patterns, that are operating in Universe.... These are the criteria of what you need to keep a human being going."

- Cite Tape transcript, pp.16-17; RBF to Bob Brooks, 2 Jun'74

"Well, I might just also say that at the same time we were playing the world game was the first time that a man landed on the Moon. And I don't think it's coincidental. I mean I think that the consciousness of the world manifests itself in several different ways, and I think it was just absolutely vital that we were playing world game at the same time, and we could get the idea that there was a man, one of us, standing on the Moon looking back and seeing the whole Earth for the first time. It's really quite astonishing that we've never been able to see the whole Earth before, and we've never been able to play, not as politicians, but as world men.

"So I think the basic assumption that there are going to be political problems that will exist for a long time, but now for the first time we can really see the whole Earth, we can begin to work with the whole Earth in mind. . . There's been an enormous amount of attention paid to politics, and not much attention paid to understanding the whole of the world at one time:

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part 3, pp.78-79.

World Same» World Peace Games»

See Peace, 19 Oct*71

See Automation of World Production 4. Services Bare Maximum Club
of Rome: Limits to Growth Design Science 4 World Game Dwelling:
World-around Network Dwelling Service Economic Accounting
System Energy Capital Sequence Energy Income Sequence Energy
Slave Exponential Model vs. Limits to Growth Gross World Product
Sequence General Systems Theory High Voltage Power Transmis-
sion Leaders Can Yield to the Computer Metals: Recirculation of
Metals Options: Discovering What the Options Are Pollution Control
Population: Population Stabilization Geoscope Politics vs. 'World
Game

See Resource Inventorying Service Industry Starting with Universe
Spaceship Earth Sequence Tools of Reorientation Wind Power
Sequence World Power Grid

See Politicians, Mar'70

Scenery: Rearrange the Scenery (2)

World Power Grid (3)

General Systems Theory, Jun'66*

Inventory, 28 Apr'74

Local vs. Comprehensive (2)

Visual Symphony (1){2}

Navy Sequence (7) Economics, 1 Feb'75 Impossible: Only the Impos-
sible Happens, (A)(B)

jforld as Idea in the Hind of $G_9 < |$:

See Eccles, Sir John. C., 14 Feb'72

rforld language:

See Anglo-American Universal Language World-around Language

See Geoscope - World Looks at Itself Universe Considers Itself Seeing
the Whole World at Once Geoview

World Man:

"The definition of a town as a place where you work and sleep will become realistically that of a one-town world. The whole historical pattern is going to be completely altered where men are inherently intimate with one another. Instead of being inherently remote we are inherently intimate. Everything we have done in all of our economic organization, the whole past history of man has been on the basis that we are remote. <<'e are just going to have to reorientate ourselves to the fact that we are inherently intimate. This is going to bring about an entirely new set of circumstances. We are not separate countries or separate nations. We will be just as intimate as we are on the subway: you don't really know where anybody comes from. There will be no national or continental distinctions whatsoever."

- Cite Oregon Lecture 4, p, 117. 6 Jul'62

See Locomotion: Radius of Man's Locomotion, (1)

See Crossbreeding World Man North-south Mobility of World Man
One-town World Sovereignty: Elimination Of Universe Citizenship
Water: Trend Toward living on Water World Citizen Young World Ho-
mogenizing of Nations Unsettling vs. Settlements Earthian Universe
Citizenship Human Unsettlement Home: At Home in the Universe

See China, (C)

Economic Accounting System: Human Life-hour Production, (1)(2)

Philosophers, 22 Aug'70

Planet Earth, 10 Nov'72

Private Property, 28 Apr*71

Property, 29 Jun*72

Soleri, Paolo, 10 Sep*75

Television: Third Parent, 14 Oct*69

9elve Universal Degrees of Freedom: General Systems, (IV)

World Game, (II)

Ghana Dome: Self-chilling Machine, (2)

See Dymaxlon Airocean World Map Transformational Projection

Wjrld Hoaaureaent!

See Coemetry

See Transnationalism vs. Colonialism, (1)

World Corporation, 24 Feb'65

World.Jatum va. Local Pattern:

"Ideologies and passport--- we don't need them. They were originated by people locked into their national identities. Passport regulations are no longer appropriate.... The whole world is still locked into its petro-pap-pipelines.... The great silence is the thorough intuitive awareness that world pattern will replace local pattern and that know-how accounting will supersede physical accounting."

- Cite RBF at Penn Bell videotaping, Philadelphia, 29 Jan'75

See Cosmic & Local

Human Unsettlement

Proximity de remoteness Privacy vs. Community Unsettling vs. Settlements

World Pattern vs. Local Pattern:

(2)

See Human Unsettlement, (6)

Locomotion: Radius of Man's Locomotion,

20 Sep* 76

Dymaxion Car, (1)(2)

"This now feasible intercontinental network would integrate America, Asia, and Europe and integrate the night and day, spherically cycling, shadow-and-light zones of Planet Earth and would occasion the 24-hour use of the now only 50 percent of the time used world-around standby generator capacity whose 50 percent unused capacities heretofore were mandatorily required only for peak load servicing of local interconnected energy users. Such continental network integration would overnight double the already-installed and in-use electric power generating capacity of our Planet."

- Cite RBF quoted from his writings by ` .Im. Marlin, Architectural Forum, p. 76, Feb*72

"The problem is always the electrical power. It's always the necessity of processing the food and getting the food to the people. It's fine to grow it in this area, but if you can't store it, you can't feed the people who are living in the other area.

"So, using all the information we've gotten about power and generating stations, and realizing that really the most efficient thing would be to overlap day and night and seasonal changes, we developed a way of ... in a sense, cycling all the information toward one central scenario . . . which was to set up a major power grid over the face of the Earth. . .

"The first thing we find out is that if we do this, if we incorporate all the total potential, we gain about 15 trillion kilowatt hours, which is about a fifteenth of the total required. We begin to see that all over the globe we're able by 1980 to bring everybody to the bare minimum, which is about 2000 kilowattCBB hours per capita. . . Based on this information we draw one continuous network which is essentially a closed system with existing transmission technology."

- Cite RBF to World Game at NY Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part 3, pp. 53-56.

"Due to the fluctuations in local systems where peak demands occur at different times, you can use the same amount of generating capacity more efficiently, with no increase in terms of more plants.

"Another efficiency factor comes when we begin to cross the continent and we see that we begin to change seasons, so there are different amounts being used--- seasonal changes like day and night.

"This network allows you to bring in the income energy sources. One of the problems with wind power or solar power is that they are not dependable. For instance, if this city depended on solar power--- for the last two weeks it's been cloudy--- and we would have been in a lot of trouble. If you can tie into a network though, then it can feed in at times when the Sun is shining, but you don't worry about it, because you have other sources that you can get through your network.

"All these lines represent an enormous quantity of metal tied up in shipping, which could be scrapped and cycled into the power network. . . The synergetic effects of new technologies"

- Cite RBF to World Game 12 Jun-31 Jul'69

"would probably reduce or eliminate the need for the actual metals to be invested in the system. But we are not investing anything new. What we're trying to do, and what world game is really always trying to do, is just to show what can be done with present efficiencies."

- Cite RBF to World Game at NT Studio School, 12 Jun-31 Jul'69, Saturn Film transcript, Sound 2, Part 3, pp.57-65.

TEXT CITATIONS

World Power Grid:

Utopia or Oblivion: Geosocial revolution, p/198

See Electrical Network

High Voltage Power Tranemieeeion

(2)

Enchantment Disenchantment, (5)

World Power Grid:

See Technology:

Karld / Syataa=

See World, 24 Jan'75

See Intuition, 1 Feb'75

World, 24 Jan'75

See Copper, (A)

Copper Sequence, (I)(II)

Saddy, (1J

Electromagnetic Spectrum, 22 Apr'61

Extrasensoriality, (1)

Inhibit, 9 Apr'40

Locomotion! Radius of Man's Locomotion, (1)

Metals: Recirculation Of (a)(b)

More With Less, Kay'70

More with Less: Sea Technology, (1)(4)

Navy Sequence, (3)-(7)

Pure Principle, 6 Jul'62

Transnationalism vs. Colonialism. (3)

Wealth, (F) '

Weapons Technology Sequence, (A)

Building Business, (2)

Human Unsettlement, (1)(2)(4)

Fortress Mentality, 12 May'77

See Copper Sequence, (VIII)

Daddy, (1)

Dome: Rationale For, (I)

Dwelling Service Industry, (A)(B)

Extrasensoriality, (2)

Locomotion: Radius of man's Locomotion, (1)

Solid State, 13 May'73

Wealth, (C)

Wood Technology, (1), {3}

Pathology: Preventive vs. Curative, (1)

Mutual Survival Principles, (1)

Human Unsettlement, 13/(4)

Politicians 4 Defense Budgets, 20 Sep'76

Culture, 27 Jan'77

Fortress Mentality, 12 May'77

No Energy Crisis, (B)

Prior to 1975 the Dymaxion Airocean World: Waterocean was known as "World One." RBF has now redesignated this as "World Two."

- Cite RBF to EJA, Phila. PA, 22 Jun*75

See Dymaxion Airocean World: Waterocean

Prior to 1975 the Dymaxlon Airocean World: Airocean was known as "World Two."RBF has now redesignated this as "World Three."

- Cite RBF to EJA, Phils. PA, 22 Jun'75

See Dynaxion Airocean World: Airocean

See Invisible Masters, Jun'56

See Conscious World

Earth Gross World Product Sequence Halfway-round-the-Worlding
Making the World Work Satellite: World Satellite Sensing Trees:
World-around Colors of Trees Not Out of This World Old World
Population: Center of World Population Real World

One-world Management One-town World Seeing the Whole World at
Once Third World City Management Concept of World Government

PftF D rf l*J H HLBtMS

World:

(JA) W

See World Accounting System

World-around Language

World Service Industry

World-around Tool Networks

World Citizen

World Corporations

World Democracy
World Design Science Decade
World Game
World as an Idea in the Mind of God
World Language
World Man
World Map: Dymaxion Airocean World Map
WorUd Measurement
World One: World Two
World Power Grid
World War I: World War II
World Passports
World / System
World / Universe
See World Looks at Itself

KBF UEFIINIUNS

Worm:

"The almightfmight decid® to invest mind in a worm, but the worm wouldn't get enough information to make it worthwhile. Kan i® unique m being in the middle of the animal kingdom."

- Ca.te--RDF-trr-KJTTtarbendale, 2 Apri-i- *71-~

Citation at Mind. 2 Apr'71

dorm;

. And then the male birds fly off to sweep out areas of maximum anticipated metabolic advantage. . . . Worms."

- Cite RDF quoted by Reyner Banham in "The Dymaxicrat," Arts Magazine, Oct *63. (RBF speaking at University College, London.

Worm:

"The other day I was complaining that □□□□ was acting like a worn and was destroying the assets of the company, to which Bucky aptly retorted, "Well, what do you expect a worm to do, start building apples?"

- Cite RBF quoted in letter from Cynthia Lacey to BJA, Ltr. dated 21 Aug 1946.

See Bird's Nest as a Tool. (A)(B) Boltzmann Sequence, (6) Ecological Pattern, 19 Sep'64 Mind, 2 Apr*71* Organic Model, Oct'66

rtBF utFIKiriuhS

Wfiw: (1)

'Energy is being given off by the local systems, then when the gears are not meshing--- though each gear is in orderly matter in its own right, ',/hen the gears don't mesh they're just tangent, as they take up much more room than when they mesh. And these are omnidirectional gears, more or less spikes. So that when they don't mesh they take up much more room. So the local physical world is continually more disorderly and nonsynchronized and taking up more room and therefore expansive. So the physical is increasingly disorderly. .
. 1 would point out, however, that there are times when the desynchronous systems do synchronize, host of you have had the experience of hearing maybe an airplane with two engines that are not synchronized, a boat with two engines mm that are not synchronized, but every so often they syncronize accidentally in a sense and so you hear it go ..'../tUu./AAuu.VrtziL./uu as they come into synchronization.

"bo while the locals are giving off energies that are not synchronising, every so often they do. Some of the WA..UU's are fairly high frequency. Some of the WAAUU's are very slow."

- Cite rtBF at bli-S, u.kass., Amperst, 22 July '71, falx 13, pp. y-10

hBF u&FINiTAUh

(2)

Wow:

"Some of them take over hundreds of millions of years for each wow. And if you haven't been around long enough to come to the next wow, you don't realize that it is orderly, that in due course it is matching, but on a very slow frequency basis. So because all of us have relatively very short lives, there seems to be a great deal of disorder to us, which m would not seem disorderly to us if we had longer spans of observation . . . We have very significant information coming to us from those who are doing the largest measuring and the most minute measuring. We do have entropy and the physical is expanding and temporarily, locally, very disorderly. It seems very clearly demonstrated in all our experience that the physical assumes a complementary oscillating phenomenon often when we have not been able to discover it. He suspects the positron to be possibly demonstrable sometimes when he's only found the electron. And he has this theoretical existence which

may in due course make experimental demonstrations of the actual occurrence of that which he had held to be operational±ji theoretically. In this kind of assuming it would seem to be absolutely logical that we have a physically expanding UjUVeXjejwhichs getting more and more crowded, and therefore

- Cite iiiNS, 22 July *71, Talk 13, p. 10 (Cont}

kBF JaFU.iriuiiS

Ww: U)

"the expansion is in acceleration. That there must be some phase of the Universe where the physical energies are contracting and increasingly orderly. In order to sustain a regenerative Universe, it could not just be all expansive. There have to be collections to balance it, very much as we think of our experiences with the weather, we have low pressures and high pressures in the atmosphere, and the low pressures are exhausting it by vacuumizing, pulling the energies out of the highs until that low pressure itself forms a high pressure. There is a great pulsative exchange of highs and lows. An 1 felt that what our physical Universe sumtotally might have is just such a pulsating. I'd be very interested if we could discover some phase of the Universe where the energies are contracting and becoming increasingly orderly."

- Cite RDF at SIMS, U. Mass., Amherst, 22 July '71, Talk 13, pp. iv-11

Wow:

"A wow is an interference phase where, for just a second, it is not in interference."

- Cite RBF to EJA, J200 Idaho, Washington DC, 21 Dec. '71.

Wow;

"The game of Universe is like chess. . . The vector equilibrium becomes the checkerboard and you can change the frequency to suit anybody, . . , Wow-Wow, synchronisations ... A Wow is an interference. . . Adding to it the complexity of mass attraction ..."

- Citation & context at Che sg: Ganje of Universe, 7 Oct'71

Wow: The Last Wow:

(1)

"The energies that fit into our local system here on Earth are energies given off by other systems. Every chemical element has its unique frequencies, and those frequencies can be thought of as the teeth of a gear. . . In synchronization you have two engines of an airplane or boat and they don't turn over at exactly the same rate, so you hear rhoOWW, rrhooOWW. rrhooOWW. They come into phase and go out oT phase. Universe is doing just that with these constantly associating and disassociating energies. Some take millions and millions of years before they rrhooOWW. But in any case we can observe that these energies appear disorderly merely because they are temporarily not meshing with something else.

"When the gears and the teeth don't mesh, they talup more room. You get an omnidirectional crowding, thingsmoved faster and faster around the periphery to accommodate the continual expansion of crowding and disorderliness. But the limit of that velocity is what Einstein called the speed of light, the speed of radiation of all kinds, 186,- 000 miles-a-second. This is top speed because when you get to where everything is in phase, all the crowding stops."

- Cite RBF to Barry Farrell Playboy Interview, 1972 - Draft, p. 11

Wow: The Last Wow: (2)

"In other words, energy in disassociation expands outwardly until it reaches the last cycle in the total regenerative system. We know about total regeneration because physics has demonstrated that energy is never created nor lost. So we know that as men alive in the Universe, we're dealing in a finite system of overlapping scenarios in which finally the whole scenario tape gets melted down and reprinted and we get a new show."

Playboy Interview, 1972. Draft, p. 12.

- Cite RBF to Barry Farrell,

'The speeds of all the known different phases of measured radiation are apparently identical despite vast differences in wavelength and frequency. Einstein's adoption of electromagnetic radiation expansion--- omnidirectionally in vacuo--- as normal speed suggests a top speed of omnidirectional entropic disorder increase accommodation at which radiant speed reaches highest velocity. This highest velocity is reached when the last of the eternally regenerative Universe cyclic frequencies of multi-billions of years have been accommodated, all of which complex of nonsimultaneous transforming multivariateied frequency synchronizations is complementarily balanced to equate as zero by the sura totality of locally converging orderly and synchronously concentrating energy phases of scenario Universe's eternally pulsative, and only sum totally synchronous, disintegrative, divergent, omnidirectionally exporting and only sum totally synchronous, Integrative, convergent and discretely directional individual importings."

- Cite KBF to EJA in response to a request to repeat his "brief sentence" on the sphere as a meeting of convergences See SYNERGETICS, "Scenario Universe," Sec. 325. and "Tension and Compression," Sec. 614.08. 19 Jul*71

Wow: The last .tow: (A) <

"Finding a Universe in which energy is not being lost, Einstein assumed a finitely regenerative physical Universe. Some of the regenerative transformations occur rapidly; others very slowly. As energies which were in smooth coordination within a system are given off entropically they do not immediately synchronise with energies given off by other systems, due to the fact that every chemical element has its unique frequencies. Toothed gears correspond with

wave frequency cycles. Waves are cyclic. Whatever the number of teeth might be, we can call the wave frequency. Two gears that do not mesh can only be brought into tangent proximity and take up more room than do

meshing gears. Frequencies given off entropically that don't mesh with energies given off by other systems take up more room in Universe. Therefore we have a physically entropic Universe that is everywhere locally taking more room, ergo expanding, and increasingly disorderly, from the short time-span local viewpoint. However, from time to time you will have frequencies synchronized. You may be familiar with the sound of an airplane's engines when they are not synchronized. You hear them go, periodically . . . wow

wow . . . wow . . . wow . . . because every so often they do

- Cite Museum Keynote Address, Denver, pp.12-13, 2 Jun*7*

to: The teat Wow? (B)

"synchronise. Amongst all the various energies being given off locally and entropically in scenario Universe--- some of them wowwowwow-wowwowwow, very fast--- and some of the periodic wows may not occur for multi-year spans; and some of the periodic wows don't repeat in less than 100 million years and greater spans. The significance of Einstein's assumption of a maximum 186,000 miles per second velocity of radiation of the energies being given off in a disorderly omnidirectional way, is that there is a top speed. And while 700 million miles an hour, or 186,000 miles per second is very fast, it is very slow in comparison to no time at all. And this 700 million miles an hour top speed of Einstein has utter significance because it means that when we come to the last periodic wow--- necessary to accommodate all frequencies--- Universe doesn't have to expand any more and relative disorder ceases.

"The significance of Einstein's radlational top speed is that there is a point of complete regeneration by which our Universe is the only and minimum perpetually self-regenerative system, a self-regenerative Universe of fantastic complexities and design of great integrity, of which then the sum-total of"

- Cite Museum Keynote Address, Denver, pp.12-13, ² Jun'71

"running through the total film takes hundreds of billions of years before it accomplishes its remotest re-wow."

- Cite Mu seaurm Keynote Address, Denver, pp.12-13, 2 Jun'71

Wow: The Last Wow:

"The significance of the top speed of radiation is just waiting for the last 'wow!'^{*w}

- Cite RBF to EJA, Somerset Club, Boston, 22 April 1971

"Eddington*8 Proof of Irreversibility: A box of wooden matches dumped on the table. Each one splinters the other a little; therefore there are little hairs sticking out. They could never be put back in the box in the same way without pressing, i.e., without investing more energy. {Here operates the law of the increase of the random element.) The cycle keeps on, time and again, from dust to atoms to proton to neutron... This is what nature is doing: pulsating highs and low pressures... maximal dispersal, and then reassociation, because of regeneration: 100 million years later they'll all be back in the box again.... at the last Wow!

- Cite RBF to EJA, Somerset Club, Boston, 22 Apr*71

Sywf<senes *SEC34*]

See Asymmetry

Black Hole

Comet: Around Comes the Comet Again

Cycle: If You Wait Long Enough the Cycles All Reoccur

Expanding Universe Meshing

Meshing &. Nonmeshing Negative Universe Oscillation Synchronization

See Chess: Game,of,Universe, 7 Oct'71*

Degrees of Freedom, 13 Dec'73 Entropy, 16 May'72 Self-regenerative,
2 Jun'71

' 'ragaMUty:

See Omnidirectional Typewriter

Pattern Strip Aggregate Wrapabiliti

Unwrap

Tetrascroll

Winding 6c. Unwinding

Unbandage the Sphere

"The last time I visited Frank, he introduced me to his fellows, saying, 'I am an architect interested in science. Buckminster is a scientist Interested in architecture.' His name will be known through the centuries for reasons that are entirely mystical, because he understood, as does every great scientist, that the more we learn the more we realize how little we know. He saw science supplying things for art to work with. He was the last of that era of great composers.

I was the instrument man."

- Cite RBF to Bill Marlin, TSatnrday Review;" 4 Oct'75

F. L. WEIGHT QUOTATION

Wright: Frank Lloyd Wright on R. Buckminster Fuller:

'Buckminster Fuller-- you are the most sensible man in New York, truly sensitive. Nature gave you antennae, long- range finders you have learned to use. I find almost all your prognosticating nearly right--- much of it dead right, and I love you for the way you prognosticate. To address you directly will be a hell of a way of reviewing your book--- I know. I should write all around you, take you apart, and put you together again to show--- between the lines-- how much bigger my own mind is than yours and how much smarter than you I can be with it and leave the essence of your thoughts untouched.

"But I couldn't do it if I would and I wouldn't do it if I could. To say that you have now a good style of your own in saying very important things is only admitting something unexpected. To say you are the most sensible man in New York isn't saying much for you--- in that pack of caged fools. And everybody who knows you knows you are extraordinarily sensitive. . . Faithfully, your admirer and friend, more power to you--- you valuable 'unit.'^{1*}

- Cite Frank Lloyd Wright, Taliesin, Spring Green, Wisconsin, 8 Aug. '38. from a review of NINE CHAINS in Sat. Review of Lit., 1? Sep. '38; also frontispiece in R.W. Marks RBF Book.

. right, fr&cLU k-cya.-

See Artist, 24 Jan'72

Artist: Histrionics, (1)

McLuhan. 1-arshall, {1}

"It is possible for us now to take the design initiative, not waiting for patrons to tell us to go to work and thereby freeing ourselves for the scientific designing of a successful livingry system for man in Universe. . . There are no patrons with free capital initiative who are con-

cerned exclusively with world problems. However, there was nothing fundamental to stop the Wright Brothers from considering the use of all the sky surrounding the Earth and all the technical knowledge accrued to mankind and all the developed resources of the Earth in their invention and development of the airplane. Their province was inherently transcendental to sovereign nations and political theories. Their fLOHm victory affected all men everywhere. Within ten short years the two Wright brothers did more for mankind--- by bringing men to their collective senses, and by bringing men together around the world to witness one another's ways of life, and one another's individual integrity, thereby to understand each other-- than all the politicians have been able to do in all the milleniums of history."

- Cite MEXICO '63, pp.15-16, 10 Oct »63

Wright Brothers Airplane:

See Invention, May'70

Periodic Experience, (6)(7)

See Axis: Finger-wrist Axi

Writing:

"I work on different books at the same time— like a painter

- Citation & context at Naga to Ed an, 17 Oct*74

Writing;

"Once you get into writing you find suddenly that you're tapping a much larger audience and that they really will support it."^t

- Cite RBF address at MXC, Dubuque, IA, 15 Dec. '71, p. 14

See Author

Book

Fuller, R.B; His Writing St>Je

Fuller, R.B: Writing Synergetics Publishing

See Naga to Eden, 17 Oct*74*

Pole Vaulter, 2 Jul'75

Communications Hierarchy, (2)

Fuller, H.B: The Thinking Me, a8 Dec'76

tfron Door:

See Science Opened the Wrong Door

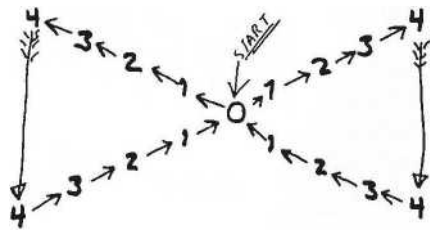
Wrong;

See Doing Right Things for Wrong Reasons

XYZ

I—Configuration with One Ball at the Center: (1)

"Applying the indig-numerology to the multiplication tables this wave phenomenon reappears dramatically with each integer having a unique operational effect on other integers. For instance, the prime numbers three and five: you look at the total multiplication patterns of these and find that they make a regular X:



- Cite SYNERGETICS draft at Sec. 1012.15, 1 Feb'73

X

X Configuration with One Ball at the Center: (2)

"The fourness (+4) and the fiveness (-4) are at the positivenegative oscillation center; they decrease and then increase on the other side where the two triangles come together with a common center in bow-tie form. You find that the sequences of octaves are so arranged that the common ball can be either number eight or it could be zero. That is, it makes it possible for waves to run through-waves without having interference of waves.

/ "' • Each ball can always have a neutral function among these / aggregates. It is a nuclear ball whether it is in a planar

/ array or in an omnidirectional array. It has a function in

I each of the two adjacent systems which performs like bonding.

/ This is the single energy transformative effect on closest

packed spheres which, with the arrhythmical sphere--- space---
space--- sphere-- space--- space--- together suggest identity with
the neutron-proton interchangeable functioning."

• or it could be one.

- Cite SYNERGETICS galley as rewritten by RBF at Secs. 1012.14 and
1012.15, 19 Dec>73

£ Configuration with Pall at the Center:

See Ball at the Center

X an Symbol of Symmetrical Expansion:

See Teleology: Bowtie Symbol

X Ray:

See Diffraction

XR-Pffordlnasf : (1)

"The most economical distance measuring between the peripheral points of such XYZ systems Involved hypotenuses and legs of different lengths. This three-dimensionality dominated the 2.000-year scientific development of the XTZ- c. g_t. s, •Comprehensive Coordinate System of Scientific Mensurations.* As a consequence, identifications of physical reality have been and as yet are only awkwardly characterized because of the Inherent irrationality of the peripheral hypotenuse aspects of systems in respect to their radial XTZ interrelationships.

"Commanded by their wealth-controlling patrons, pure scientist have had to translate their theoretical calculations of physical system behaviors into coordinate relationship with physical reality in order to permit applied science to reduce theoretical inventions to physical practice and use. All of the analytic geometers and calculus mathematicians identify their calculus- derived coordinate behaviors of theoretical systems only in terms of linear measurements taken outwardly from central points of reference; they locate the remote evIt points relative to those centers only by an awkward set of perpendicularities emanating from and parallel to the central XTZ grid"

- Cite SYT.ERGLTICS at Sec. 825.32 + 33, Sept.'72
- Cite SYNERGETICS at Sec. 825.33. Sept'72

...The XYZ coordinates in themselves, as heretofore adopted by man, has seeming validity only in its linear and spatial characteristics independent of time and physical reality."

- Citation & context at Vector Equilibrium. 21 Dec'71

The Euclid XY2 coordinate geometry does not have

time. Synergetics inherently has time: it deals with anything that exists."

- Citation at Synergetics, 21 Dec¹71

- I ull Hill ~Hi III linn-Ti||||i nr,

"Science identifies as subjective and objective, respectively, the inadvertently experienced stimulations of life, on the one hand, and the deliberately initiated and experimentally instituted responses to the subjective stimulations. 'Pure* science seeks to find mathematical order permeating the subjectively acquired data, and applied science employs objectively the mathematical orders discovered in formulating them into special design uses.

"Both the pure science analysis of the subjectively acquired data and the applied science employment of the relationships involves mathematically patterned identification of the pertinent special-case use data in respect to a universally coordinate dimensioning system and a transformational frame of reference.

"After eons of KSEfiBBSB evolutionary development the universal coordinate system as processed to 1971 world-around scientific use (as, for instance, in recording the vast harvest of data of the most recent International Geophysical Year)"

- Cite RBF holograph, Beverly Hotel, New York, 14 Sep'71

"is the 'three-dimensional* XYZ, c g_t s system together with a table of numerical constants for converting the mathematical information into a variety of incrementation languages unique to special areas of scientific employment;

as, for instance, in electrodynamics, chemical associability, fluid mechanics, quantum mechanics, etc."

- Cite RBF holograph, Bevesty Hotel, New York, 14 Sep'71

KbF DtFlimiuwS

XYZ Coordinate System:

- 'You cannot demonstrate the fourth dimension ..1th 90-degree models.'

- Cite

XOME-Hall, Kew York- J 2 'axoh 1??1 __

* Citation at Fourth Pinen.lon, 12 Mar'71

RBE DEFINITIONS

XYZ Coordinate System:

'Nature's coordination system may not be Cartesian.

- Cite P. PEARCE, Inventory of Concepts, June 196?

"Because science has a fixation on the 'square,' 'cube,' and 90-degree angle MwriteMHSBl as the exclusive 'unity,' its 'constants' are irrational. This happened only because they entered nature's structural system by the wrong 'portal.' If we use the cube as volumetric unity, the tetrahedron and the octahedron have irrational number volumes."

- -Cite-CardetoTTdal-*—Ilra-ft—

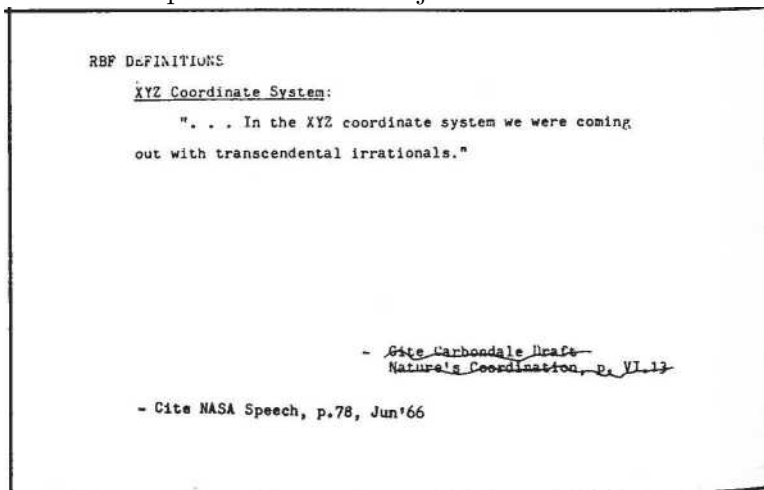
-Return to Modeli*bllity~p V.1Q

"So far man has dealt but meagerly and non-comprehen- sively with .
._the powerful planning capability of /general systems theory/ So far he has employed only limited systems theoryin special open-edged infinite systems, e.g», 'Tie Tac Toe" rectilinear grid systems. The arbitrary parameters of infinite systems can never be guaranteed to be adequate statements of all possible variables. Infinite systems engender and infinite number of variable factors.

"In order to be able to think both finitely and comprehensively, in terms of total systems, we have to start off with universe itself as a closed finite system which misses none of the factors, '1/e must also include all the universal degrees/ of freedom. Though containing the frequently irrational and uneconomic XYZ dimensional relationships, universe does not employ the three dimensional frame of reference in its ever-most-economical, omni-rational coordinate system transactions. Nature does not use rectilinear coordination in its continual intertransforming. Nature coordinates in twelve alternatively equi-economical degrees of freedom--- six positive and six'negative."

pp 23,24, Jun'66

la t>rfitE« pffRFM.M- SFC JjT.eltl-fMWsV CUE "'S" 'pe:ch



RBF DEFINITIONS

XYZ Coordinate System:

"Cubing does not permit the making of nodes of N or N⁵. . . ."

"Because we cannot find a fourth perpendicular to the XYZ system that will not be parallel to either X or Y or Z, we cannot produce a 'fourth dimensional' model" /Tn that system_x7

(Adapted.)

- UH-te~6arboftdale—

tn Mndah 1}jty., pp

"Unfortunately we as yet teach our children the awkward and inefficient geo-mathematical coordination system IBB wfarich forced science to give up'raodels,' but left science with a plethora of irrational 'constants' as seemingly constituting the only known quantation accounting bridges between various transformation states and mathematical appraisals taken in various fields of independently inaugurated scientific inquiry."

. science found that invisible behaviors of nature could be ferreted out by instruments and computationally mastered without recourse to conceptual models, which had become seemingly invalid due to the inability to model fourth dimensionality with I,T,Z 90° coordination which however could be readily computed mathematically,

"(The natural four axis, 60 degree, tetrahedronal coordinate system . . returns 'conceptuality' of dynamic structural principles to scientific validity.)**

- Cite KEPES, P. 80, 1965

Cite Oregon Lecture #8, p.291, 12 Jul'62

` ` If we ext end'-the vector, equilibrium out towards square*' and one of its triangles octahedra and tetrahedra would accumulate on the square and triangular faces. We find there are different aspects, some which look squarish and some which look triangular. Sometimes they get to looking like some other kinds of parralel lines. In the" isotropic vector matrix **you can find the XYZ coordinates, but when you use them to do your accounting they give you very uncomfortable numbers. We haven't at any time said thatwhat man had been using as the XYZ coordinate system is invalid. It is there and it works, but it is awkward. It is arbitrary and awkward and apparently not the way nature found the most easy to do most of her accounting."

KBF DEFINITIONS

"There was another important kind of a gap between science and society, the same kind of gap that was brought about by the assumption that dimension automatically meant 90 degrees."

- Cite Oregon Lecture #4, p. 142. 6 Jul*62

"The leading mathematicians and physicists will say to you that an attempt has been made time and again to correlate arithmetic and physics, arithmetic and chemistry, and it has never come out in a rational manner despite the fact that chemistry goes H_2O and not H_pO . Nature disclosed time and again rational and very simple number formulations, but men's own coordinate exploring has been characterized by many constants, all of which are irrational and they are transcendental irrationals--- they cannot be solved. . . Apparently nature is using a geometry in which no lines ever go through the same points. This is pretty exciting in a world that is nonsimultaneous."

- Cite Oregon Lecture p.88. 5 Jul'62

RdF DtFINKluM'

"In" Synergetics' "isotropic, vectorially triangulated, the omnidirectional matrix initiations fn angular and linear accelerations are rational and uniformly modulated, whereas in the XYZ coordinate analysis of the calculus only the linear is analyzable and the angular resultants are usual;y irrationally expressed."

- OMNIDIRECTIONAL HALO, p. 156, i960

Lacking awareness of the comprehensively rational coordinating facility available in nature (which upon its discovery we have named Energetic-Synergetic Geometry—En/Syn Geom, for short), men have developed and adopted their special-case local coordinations of modular mensuration as necessary observational frames for accounting

the special local aspects of nature with which they have been respectively preoccupied. From time to time it has become desirable to integrate the data harvested in various specialized fields. On such occasions it has frequently happened that the special-case coordination systems are mistakenly assumed to have general capabilities which they do not possess. For instance, there is the mistaken assumption made by analytical geometgers that the special three-dimensional case XYZ coordinate system constituted 'The* generalized case of all coordinate accounting. The

XYZ coordination of analytic geometry this became limited to linear expressions of the radials of exclusively 90-degree central angle relationships— wherefore, despite that physics had discovered the equally valid linear and angular acceleration functions of an omni-interaccelerating Universe, all of its behaviors had to be translated into linear coordination.'*

- Cite RdF Ltr to Collier's (full text), p. 2A, July'59

"Even in 1960 most, scientists as well as laymen will say •squaring' when referring to 'second powering' of numbers, and 'cubing' when referring to*third powering.' En/Syn Geom. says 'triahgling' and 'tetrahedroning,' respectively. And because triangling and tetrahedroning are two and three times, respectively, more economical of available local space (and nature insists on being most economical) En/Syn Geometry is the most economical accounting system of nature.

"The assumption that XYZ linear expression was essential to the translation of observed phenomena into computational analysis, as well as the translation of computational analysis into realized technology, imposed the invention of the calculus.

This and other errors of prime assumption resulted in an interaccounting of the data won by remote disciplines which in turn seemingly disclosed that these remote areas of inquiry were inherently interlinked only by irrationally ratioed values. The well-known irrational constants. Pi, e, etc. stand as present-day monuments to the awkwardly ratioed communication links.

- Cite RBF Ltr. to Collier's (Full text), pp.2A~3, July'59

See Analytical Geometry

Bubbles in the Wake of a Ship

Cartography: Conventional Projections CCS: C.G.S System Frame of
Reference Ghostly Greek Geometry Octahedron: XYZ Coordinates
Cubing: Cubic Accounting Interperpendicular

Perpendicular

Science Opened the Wrong Door

Two-way Rectilinear Grid

See Calculus. (1)-(3)

Field, U Feb'73

Fourth Dimension, 12 Mar*71*

Isotropic Vector Matrix. 6 Nov*72

Linear Acceleration, 6 Jul'62

Rest of Universe. 3 Feb'73

Synergetics, 21 Dec*71*

Tetrahedral Coordination of Nature, 1965

Vector Equilibrium, 21 Dec*71*

Modelability, (a)

Quantum Sequence, (2)

Convergent vs. Parallel Perception, 13 Nov'75 Multidimensional Ac-
commodation, 11 Dec'75 Fourth-dimensional Synergetics Mathemat-
ics, 14 Dec'76 Space as Nontuned Angle <fc Frequency Information,

22 Feb'77

Precession of Two Sets of 10 Closest-packed Spheres,

"We know the fundamental intercomplementations of the external convex macro-tetra and the internal concave micro-tetra with all conceptual systems. Looking at the four successive plus, minus, plus, minus, XYZ coordination quadrants we find that a single 90-degree quadrant of one hemisphere of the spherical octahedron contains all the trigonometric functioning covariations of the whole system. When the central angle is 90° then the two snail corner angles of the isosceles triangle are each 45°. After 45° the sines become cosines and vice versa. At 45° they balance.

Thereafter all the prime numbers that can ever enter into prime trigonometric computation (in contradistinction to complementary function computation), occur below the number 45. What occasions irrationality is the inability of dividends to be omni-equi-divisible due to the presence of a prime number of which the dividend is not a whole product.

”This is why we factor completely or intermultiply all of the first 14 prime numbers existing between 1 and 45 degrees, inclusive of which 14 we multiply the first eight primes to many repowerings which produces the Schehehazade Humber which, when used as the number of units in a circle, becomes a dividend permitting omnirational computation accommodation of all the variations of all the trigonometries of Universe.”

- Cite SYNERGETICS, 2nd. Ed., at Secs. 1238.23-.24, 14 tay'75

”We were always looking at the XY2 quadrant— focusing on the quadrant at the center of the octahedron, rather than on the functioning of the covariations.”

- Citation 4 context at Trigonometric Limit_t 22 Jun'72

See Octahedron: XYZ Coordinates

Spherical Quadrant Phaaes

See Octahedron: Eighth-Octahedra, 16 Dec'73 Planck's Constant, 16 Aug'70 Rest of Universe, 3 Feb'73

Y

Yacht:

See Intuition: Sailing Yacht "Intuition*

Sailboats

Yacht: Ocean Racing Yacht:

See Now House, (3)(5)

Year 2000:

"In relation to increments of time and of prediction, I am confident that I cannot predict for A.D. 2000. Though it is only a little over a generation forward, I do not believe that any human being can foresee with any accuracy as far ahead as that 35 years. What will go on in this next period will be more of a change than has occurred in the whole history of man on the whole Earth. All the trend curves which we may examine show rates of acceleration which underline the unprecedented nature of the changes to come."

- Cite THE YEAR 2000 reprinted in AD, Feb 1967

See Building, 10 Sep*74

Heartbeat Magnitude Sequence, {2)

Orbital Feedback Circuitry ve. Critical Path.

9 Sep'74

See Binary

bits; Bitting

Dot-dash-dot-dash

Now-you-see-it-now-you-don't

Pulse Pattern

Something-nothing-something-nothing

See Cosmic Discontinuity & Local Continuity, 15 Jan'74

Geometry of Reality, May' 49

Integer, 15 Oct'72

Radiation is Information-carrier, 9 Jun*75

Resolvability Limits, 30 Apr¹77

Scenario Universe, Jan*72

Wave, undated

ilites Quarks as asic Notes, (2)

TEXT CITHTICNS

Yes, no, ho;

Synergetics; Fig. 415.55*

Seo Pulse Pattern

See X Configuration with One Ball at the Center, (2)

^Y_{na-Qr-no} ^F_{icld};

See Sovereignty, (2) Causality, Jan*77

Yesterday:

'•Many children see thousands of airplanes before they see a bird, yet their first books are full of cows and pigs and Farmer Brown--- yesterday."

- Cite 1 SEEM TO BL A VEKB, Queen, May *70 (Not in Bantam edition)

Yesterday's Cereals:

See Death, 4 May'71

Yesterday*s Certainties;

"For the billions went only for the swiftly obsoleting bigger, faster, and more incisive modifications of yesterday's certainties."

- For citation and context see Science: Left Hand and Right Hand Sci-
ences. May '65 ---

See Property, 29 Jun*72

See Antientropic Ordering Principles, May'65

Yeaterday; Fading Away of Remote Yeaterdava:

See Macrocosm, (p.175) May*?2

See Morley Poem: Greatest Poem Ever Known, 10 Oct¹63

See Fortress Mentality

See Building Industry, (3)

Yesterday'a Make-do Mietakea:

See Housing, 13 Nov*69

See Reverse Optimism, Aug*64

Yesterday Set:

"... Touch is the yesterday set."

- Citation and context at Senses (1), 22 Nov*73

See Wind Power Sequence, (4)

RBF DEFINITIONS

Yesterday's Textbooks;

"We have been tolerating the fictions only because they were included in yesterday's textbooks which we say, also ignorantly, we cannot afford to replace. The time has come, and there is little of it left, within which to effect entirely new world-around educational strategies,"

- Citation & context at Axiom, 13 Nov*6y

Yesterday's Virtues:

"Yesterday's virtues become play's vices and vice versa.'

-Cite VERY FOGGY OUTSIDE, 8 Mar*73

See Custom: Lest One Good Custom Corrupt the Vhrld

Xe»t»r<iav:

(1)

See Innocence of Yesterday

Now VHHI

Past

Myopia of Yesterday

See Dynamic Frame of Reference, (4)(5)

Macrocosm, May'72

Scenario, May'72

Universe, May`72

Star Events, Mar'71

Dymaxion Airocean World Map, 8 Nov'73

Tetrascroll, (2) '

Unsettling vs. Settlements, 20 Sep'76

See Yesterday*s Cereals Yesterday's Certainties Yesterday's Concept
of "Into the Next World" Yesterday's Erroneous Assumptions Yes-
terday: Fading Awqy of Remote Yesterdays Yesterday's Ignorance
Yesterday: Our Ignorance of Yesterday Yesterday's take-do Mistakes
Yesterday's Rare t Sublime Moments Yesterday: Myopia of Yesterday
~~Yuiw.mfui—fifiiii'lUM—YiiiiIh nii'J~~ Yesterday Set Yesterday's Sun-
impoundings Yesterday's Textbooks Yesterday's Virtues Yesteryear
Yesterday's Private Castle Mentality

Yesteryear:

See Failure aa Norm of All Yesteryears

Yin-yang: (1)

"Goldy tries putting a light inside a translucent tetrahedron. Next
she encloses the translucent tetrahedron Inside a translucent plastic
sphere. The light at the system center casts the shadow lines of the
tetrahedron's six edges outwardly and symmetrically onto the plastic
sphere to produce the outlines of a spherical tetrahedron. Goldy

draws circles around each of the spherical tetrahedron's four comers of such a unit radius that each of the four circles is tangent to each of the three others. Using a sharp-edged cutting tool, she severingly follows around the perimeter of one circle to its point of tangency with the next adjacent circle, and there she inflects her« cutting tool to follow around that next tangent circle to its next point of tangency, where she once more inflects her cutting tool's severancetrace to follow around the next circle to reach the next tangent point; which procedure she repeats until finally returning to the point of origin.

"She completes the severance and cuts the spherical tetrahedron's surface apart in two similar equi-area sections, each of which corresponds to the two similar, dumbbell-profiled, skin sections of a baseball. With these two similar, half-a-sphere-surface"

- Cite GOLDYLOCKS, pp.G6=G7, 16 May*75

Yin-yang: (2)

"sections precessingly aimed toward one another in such a manner that the bulge of one section registers symmetrically with the half-circle valley on the other, Goldy finds that she can sew the edges of the sections together around a core to produce a baseball.

"Goldy shows the bears that when you look at the baseball with the inflection point of its 'S'-pattern stitching located at the circle's center and aimed directly toward you, you will see that the baseball's surface pattern is the same inflection pattern as that of the most profound oriental symbol: yin-yang.

"This observation makes Goldy say to the bears that it would seem that long ago human minds of the orient had discovered precession, tetrahedra, and synergy. Goldy says that those ancient people'who had discovered those principles must have kept them secret to surprise people and thereby gain powerful, popular, mystical accredita-

tion; and that during the millen-iums since, humanity had lost track of the yin-vang significance. Daddy bear answers, 'We have been watching the humans since they landed on your planet a few millions of years ago and can say that is just what happened.'"

- Cite GOLDYLOCKS, p. G7-G8, 16 May>75

Yin-yang:

"Each lobe of a baseball is simply a precessed triangle of a tetrahedron. The baseball is yin-yang--- not in a plane but in Universe. The baseball is telling you about precession. Complementaries do precess."

- Cite RBF at Penn Bell videotaping, Philadelphia, 28 Jan'75

Y_{in}-Y_an<-

"fin-fang is a picture of a minimum tetrahedron knot interference tying."

- Citation & context at Knot, 7 Nov*73

Hn-yanx:

(1J

See Male & Female

Yin-vane:

12}

See Knot, 7 Nov'73*

See Maharishi Mahesh Yogi

Yoga =

See Intuition Sequence, (1) Self-discipline, May*72 Thinking, (1)

"You do not have the right to eliminate youraelf; you do not belong to you. You belong to the Universe, Your significance will remain forver obscure to you, but you may assume that you are fulfilling your role if you apply yourself to converting your experience to the highest advantage of others."

- Cite RBF quoted by Alden Hatch in "RBF: At Home in the Universe p. 90, rrrora transcripts, 1972

"You do not belong to you... You belong to the Universe.'*

- Citation and context at Man aq Function of Universe. 4 July*72

"You do not have the right to eliminate yourself. You do not belong to you. You belong to the Universe.

"You can always get nearer to the truth. Now the young people really want to know about things. They want to get closer to the truth, and my Job is to do all 1 can to help them. They are the trim tab of the future."

- Clt. RBF quoted by Graeme Hardie in article in Pace, Hor'67

Not Belong to You:

See Man as a Function of Universe, 4 Jul*72*

Trespassing: Not Trespassing (B)

You and I and the Lamppoat:

See Local System, Jun'bb

Pronouns: I - We - Us, (1)

You and I as Pattern Integrityes:

"Alexander King once produced a play on an empty stage. He filled the theater by describing the settings... like a movie picture run backward: The man Jumping from the pool back to the diving board... Pinapples... Putting the banana back on the bush. Rain in the sky.... And you find that in no time you have become part of the air back over the Himalayas.

"You and I were never anything but beautifully designed pattern integrities. Our friends say, 'You and Joe have to get together. Joe has a red telephone.' But we are all self-rebuilding telephones. Pattern integrities. That's how you can have interstellar transmission of man by scanning your frequencies. It's just the opposite of Darwin's building blocks."

" Ci £2 Ja'75 Penn Bell videotaping session, Philadelphia,

IQU & I an Pattern Integrities:

See Life Is Not Physical

See Lifetime: Personal Lifetime Experience for

Elective Investment. 31 Kay'74

Pattern Integrity, (5)

Womb of Permitted Ignorance, (1)

Human Beings *6c*. Complex Universe, (11)

You and Me:

"I am certain that I am not the avoirdupois of the most recent meals I have eaten, some of which will become my hair, only to be cut off twice a month. The... lost pounds of organic chemistry obviously wasn't 'me,' nor are any of the remaining presently associated atoms 'me,' We have been making a great error in identifying 'you*' and 'me' as these truly transient and ergo, sensorially detectable chemistries."

- Citation and context at Life Is Not Physical- 11 Sep'73

You and Me:

**"Life, and the Universe that goes with it, begins
with two spheres: you and ae
and you are
always prior to me."**

- Citation at Life. 19 Jun(?1

KBF uLFituTihS

You and Me;

"Fortunately, the overall chronology of industrial scientific history indicates that, despite the extreme hostility of these extreme out-camps, the commonwealth of 'you and me¹ is thrill"¹¹¹* approaching* rhQ speed the approach is

- Cite Nine. UHAlKd TO THE WUH, p.88, Iyj8
See Sight: No Man Haa Ever Seen Outside of Himself,
May'72 '

See Thinkable You and Me

Competition: Elimination Of
See Communicating, {2)

Competition, Jan*72

Games, Jan'?2

Life, 19 Jun'71*

Life is Not Physical, 11 Sep'73*

Meek Have Inherited the Earth, (2) Organics & the Nucleus, 26 May'72
Rope, Dec'?1

Trespassing: Not Trespassing, (b) Verb: I Seem to be a Verb, 1o
Aug'70

See Inadequacy of Life Support
Competition, Jan*72

See Economic Accounting System, (2) Games, Jan¹72

Interference as a Social Model, 6 Jul'62 Leaders: Take Away the
Leaders, 1967 Making the World Work (2) More With Less: Sea
Technology, (3) Nonproduction, 12 Jun'69 Obsolescence. Apr*72
Politics, (1); 1972 Success, (1) Watergate, Sep'73 Desovereignization
Sequence, (3) Building Industry, (11)(12)

ihn as a Function of Universe, 30 Apr'76

See Hearable You

Identity

Matrix of You 4 I Smellable You Thinkable You Touchable You

See Hole in the Universe. 23 May'72

I, 11 Oct'73

See You Do Not Belong to You

You & I

You i I as Pattern Integrityies

You & Ke

You & Me as an Invention

You or Me

iQung *k* Elders:

**See Design Revolution: Pulling the Bottom Up, (9) tfomb of Ignorance,
May'72 Geometry of Reality, May'49 Poets, circa 1970 Dymaxion Ar-
tifacts, (1)(2) Psychiatry, (1)-(5)**

Teung World:

• • • The increasing eearch on the part of the younger world for
a greater understanding of themsalyee and for identification of
humanity's function in the cosmic scheme.

- Cite HIPER, World.Mag., p. 38, 4 Apr*73

Young World;

"The young people see that we cannot correct such negatives as air and water pollution by local means for, obviously, the air and water flow everywhere around our planet and affect everybody and thus, if anything may 'belong' to anybody, they realise that the spaceship Earth's prime resources belong to everybody.

"The young people see clearly that we cannot control our environment until we gain enough confidence both in ourselves and others to permit us to use both our physical resources and our higher faculties to induce each one of us to deal as intelligently with all the world and all people as we would with our most trusted and beloved friends.

"To be able to coordinate and take the initiative, the TV generation see that they must face up to these facts of the organic omni-interdependence of our whole spaceship Earth's component resources and people.

"The young feel the older ones are no longer capable of such realistic farsightedness. The older generation has been frustrated too long. It is too slavish and lacks fundamental confidence that technoscientific innovations can be made to work and that man can be both physically and metaphysically"

- Cite RBF in Plain Dealer interview, 4 July'72

iQunc World:

"Successful.

"?e older generation Is wrong in its axiomatic assumption Ju ^ai¹ history teaches us is that there is not enough for both of us and that it has to be »you or me to the death, as there is not enough for both of us to live.*" "

- Cite RBF in interview by George J. Baraann, Plain Dealer. Cleveland, 4 Jul'72 *

Young World:

"Hope of humanity's self-validation Is manifest in the youth of today who are casting off all the so-called educational preoccupations for sustaining the status quo. Youth* tends to Jettison the status qua aside, as does the chick breaking out of Its egg leaving the shell behind irreversibly broken. ...

"Flay the great a priori intellectual Integrity of eternally regenerative Universe grant glorious flight to the chicks,"

- "Cite A Uef pp, 4..\$, 15 -S*p¹?4-

- Citation and context at Statue Quo. 1\$ Sep'71

Young World:

"So I'm saying to you that it's now perfectly clear that not only is there no race, there is no class. Here we are. One of the most extraordinary moments of our life to realize that we are really one. This is very important for us to realize because our young world in its compassion for the underdog, for the ill-treated, its feeling then for the poor is such that it wants to cast its lot with the poor. And there has been a tendency of the young them to take on standards that are really lower and less imaginative than other standards in order to get into this working class world, which they have a great compassion for. I'm simply saying to you now that it's a matter of our elevating all . . . all of humanity. We have then, instead of pulling the top down, vindictively, it's a matter of pulling the bottom outwardly. And here we are the new integrating world. Here are our challenges: a complete reversal of all the seemingly obvious of yesterday. Here are the fundamental conditions that we are brothers, and that we are meeting here . . . with this drive of ma youth to find about how we can really use our minds. And not just use our minds to give ourselves special advantages, or some sensation, but so we can really be of great fundamental use to our fellow man."

r) (uve

Cite RBF address at SIMS, U.Mass, Amherst 22 Jul'71

Y^{ou}ng World:

"hooking for signs of ... a reorientation of humanity--- signs beyond those of the rejection of custom by youth and the latter's manifest yearning for greater understanding, demonstrated in its sorties into mystic cultures, . . . "

- Cite Dreyfuss Preface, "Decease of Meaning." 28 Aptil 1971, p. 13

Young World:

'The young realize, as their elders do not, that humanity can do and can afford to do anything it needs to do that it knows how to do.'

- Cite RBF Intro, to Gene Youngblood's EXPANDED CINEMA, P. J2.

Oct* 70

Young World?

'•More and more of the young world is going into the university and into more and more research and we are going to get to the point, I think, where a very large number of the individuals of humanity---it happens first to the scientist---will begin to recognize and integrity of Universe and an integrity of the total experience of life that will be of the order apparently experienced by some of the first very great men---such as Christ, or the theoretical unit man who is thus reported. This takes the place of religions. No one is asked to believe anything. Everybody makes firsthand discoveries. If you want to read it, I have written a book... being published by Southern Illinois University which comes out this fall and is called 'No More Secondhand God' and it has to do with just what I am saying here.'

- Cite Oregon Lecture ,75, p.163; 9 Jul'62

"It's all a question of hanging on through this period of peril, because once man reaches the point of the 'haves' being in the majority, the mood of the politicians will change very dramatically. So it's a question of encouraging man to really be aware of his great potential and not throw away his chance for success. I can understand why there's such impatience with those who fear change and really do find themselves rooted in the old ways. But for the young people to expect older people to get their conditioned reflexes out of their system in a hurry is unreasonable, ./e are coming to success by virtue of all the people who fall in the fantastic continuity of sacrifice that has been made by all humanity all down the line. The number of human beings

who have perished and sacrificed and given themselves is just unbelievable, and I don't like to hear any young people belittle what society has been through to bring it to where it is now. Boy! It's been a hard-won battle, and we are now very close to where it can be won. And it could also be lost because of kids becoming intemperate and not being tolerant of the people around them."

- Cite RBF quoted by Barry Farrel, Playboy tape transcript, p.63, Feb '72

RBF Dr.Fli'1 i'IGHS

"Particularly the people close to them, people who really do love them and are in fantastic pain about not being understood. There is a gap, or whatever you'd like to call it, and no wonder! It's an awful big ilump we're talking about---• a tremendous jump. It's a circumstance tantamount to leaving the womb. And just because it's obsolete, that doesn't make the umbilical coru no good. Hoy, it was great! And all the umbilical cords of history, all the traditions, all the things we've come through are absolutely magnificent.' "

- Cite RBF ouoted by tiarry Farrel. Playboy tape transcript, p. 63, Feb '72

Young World:

It J

See Child Sequence

New Life

Old Generation: Old Life: Older World

Womb of Permitted Ignorance

World Man

Young i Eiders

See Back Pack, 20 Sep'76

Bathroom as Symbolism tc. Association, 20 Apr'72 Carbondale Office, 10 Aug*70 China, (C)

Custom: Lest One Good Custom Corrupt the World, (2) Daddy, (1)(2) Democracy, 15 May*75 Ecology Sequence. (G) Economic Accounting System: Human Life-hour Production, (1)

Energy Crisis, H Jun'73

Future of Synergetics, 19 Apr'66 Good i Evil Sequence, (2) Geodesic Dome, (2) Immigrant, Dec'69 Intuition Sequence, (1) Isotropic Vector Matrix, 6 Nov*72 Now House, (1) Poets, 19/0

Politics & Property, 6 Jul*76 Romantic, 1969

See Self-debiasing, 14ay*65

Sex, 16 Oct`72

Status Quo, 15 Sep'71*

Teleology, 15Jun'74

World-around Communications Transcends Politics (3)

You, Nov'67

Building Industry. (10)

Fourth-dimensional Synergetics Mathematics, 14 Dec*76

Enough to Go Around, (2)

Windmills, 13 lay*77

Options, 13 i«ay'77

(In 1971-72 RBF began ending his lectures with variations of the above statement.--- EJA)

- Cite RBF quoted by Tine Jeffrey in the Naport News Daily Press, T Apr'73

Youth. Truth & Love:

See Fuller, R.B: On Werner Erhard & est; 22 Jun*77 Man as a Function of Universe,
30 Apr'78

Z

RBF DEFINITIONS

Z Cobras:

“Each of the three-vector, action-reaction-and-resultant. minimum event Z cobras has two open ends and two internal angles. The two Z cobras have together four ends and four internal angles. We will call the open ends male and the internal angles female. We can marry the two Z cobra, halfquantum events in an always consistent, orderly manner by always having a male end interconnected with an internal female angle. When all four such marriages have been consummated, we have produced one tetrahedron, i.e. one quantum, i.e., one prime minimum structural system of universe.”

- Cite RBF rewrite of SYNERGETICS galley at Sec. §11.12, 6 NOV 1973

Z Cobra: (1)

See Action-reaction-resultant

Basic vent

Happening Patterns

Minimum System: Minimum Structural System

Quantum: Paired-event Quanta

S Curve

Three-vector Teams

Three-phase vectors

Open Triangular Spirals

Z Cobras: (2)

See Sixty Degreeess, ? Oct^f71

Zeiss Dome:

"When my dome was first shown in the Museum of Modern Art in New York, Arthur Drexler--their curator of architecture--- and others said that my geodesic domes had been anticipated by the Zeiss Dome in Germany.

"But the Zeiss Dome did not anticipate my tensegrity structures at all. The Zeiss Dome was triangulated, but only as a reinforcing grid for concrete. With all that concrete they did not realise that the structural integrity was in the reinforcing net itself---that it could stand by itself. The workmen found it. stiff enough to climb on, and were photographed doing so, but none of the engineers involved assumed that such a grid building had any serious structural capability in its own right. Engineer's logic is based entirely on a compressional continuity which may be only held together by tension."

- Cite HBF rewrite of 7 Oct'^{fc} entry; done at 3200 Idaho, Wash, DC; U Oct'76

Zeiss Dome:

"When my dome was first shown in the Museum of Modern Art in New York, Kenneth Snelson and others said that my geodesic domes had been anticipated by the Zeiss Dome in Germany.

But the Zeiss Dome did not anticipate my tensegrity structures at all. The Zeiss Dome was triangulated, but with all that reinforcing they did not realise that the structural integrity was in the net itself---that it could stand by itself."

- Cite HBF to EJA, Nicholas Restaurant, N.Y. City; 7 Oct'76

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See Constant Zenith Projection

Transformational Projection

Twenty-foot Earth Globe & 200-foot Celestial Sphere

Zenith:

See Constant Zenith Projection

?ena'a Paradox =

See Interference: You Can't Get There from Here.

19 Dec'73

Torque at the Center of Convergence, 20 Feb'73

"Zero is the inside-out phase of conceptual integrity; it is the eternal complementation of system."

- Citation and context at Zeroohase (1), 4 Nov¹73

Zero;

"Comprehensive universe is amorphous and only locally finite as it transforming!/ differentiates into serially conceptual pattern integrities, so far much larger than humanly apprehensible, some much smaller than humanly apprehensible, ever occurring in nonsimultaneous sets of human observings, time-cancelling, harmonically integrative synchronizations are supra or subhuman sensibility and longevity experiencibility whose periodicities are therefore so preponderantly unexpected as to induce human reactions of overwhelming disorder, so that ... suddenly around comes the comet again for the first known time in humanly recorded experience, periodically closing the gap and periodically pulsing through eternally normal zero."

Cite RBF amplification to EJA on citation re Comet in Oregon Lecture

5, p. 1 58. Now in SINERGE1 iCS Iraft Sec.

'Tension and Compression.' 19 July'71

[fcs-io J

Zero;

"Einstein's adoption as normal speed, the adoption of electromagnetic radiation expansion— omnidirectionally in vacuo— because the speeds of all the known different phases of measured radiation are apparently identical, despite vast differences in wavelength and frequencies, suggests a top speed of omnidirectional entropic disorder

increase accommodation at which radiant speed reaches highest velocity when the last of the eternally regenerative universe' cyclic frequencies of multibillions of years have been accommodated, all of which complex of nonsimultaneous transforming multi-variatied frequency synchronizations is compleaentarily balanced to equate as zero by the sum-totality of locally converging orderly and synchronously concentrating energy phases of scenario universe's eternally pulsative, and only sum-totally synchronous, disintegrative, divergent, omnidirectionally exporting and only sum-totally synchronous integrative, convergent and discretely directional individual importings."

- Cite RBF to EJA in response to request to repeat his 'brief sentence* on sphere as meeting of convergences. See SYNERGETICS draft 'Tension add Compression,' Sec. 614.08 19 July'71

Zero:

In coordinate symmetry "as they move in towards the opposite vertex, all these velocities come to zero at the same time.

The only variable was size. So size and size alone can come to zero. The conceptuality of these aspects never changes.⁷¹

TiilWiid imr---~~~¹¹

RDF 4 R|i«7 Blackafceiw-itutel, Chisago, 31 Kay 19? ty pw 25 * 36, - Citation and context at Tetrahedron: Coordinate Symmetry.

31 May >71

AS

Zero:

"The center ball of a vector equilibrium is zero.

The frequency is zero, just as in the first layer the frequency was one. Sc zero times 10 is zero, to the second power is zero, plus two is two. So the center ball has a value of two. The significance is that it has its convave and its convex. It has both insideness and outsideness. it is as far as you can go.. You turn yourself inside out and it goes

in the other direction again. This is a terminal condition. I give you then a tetrahedron which has an external and and internal: a terminal condition. This is exactly why, in physics, Einstein is correct with the conservation of the universe because there is a limit M.nt at which you turn yourself inside out. You get to the outside and you turn yourself inside out and come the other way. This is why radiation then does not go off into a higher velocity. Radiation gets to a maximum and then turns itself inwardly again--- it becomes gravity. Then gravity comes to its maximum concentration and turns itself and goes outwardly, becomes radiation."

- Cite REF tape to EJA and Bu'li, Blackstone, Chicago, J1 Kay '71. Pp. 17-1 a.
Zero:

"Size alone can come to zero--- not conceptuality. In the jitterbug we need a sizeless nucleus for the pumping model The point is the micro-cosmic turning around between going inwardly and going outwardly."

Blackstone Hotel, Chicago, 31 May 1971.

- Cite RBF to EJA

Zero:

Because of their pragmatic bias,

The Romans had no numerical concept that corresponded

To the idea of "no sheep,"

That is, the zero.

rfhen they came upon the Arabic cipher,

They had no feeling for it

And didn't think of it as having any meaning.

They thought of it as a decoration

And useu it as a punctuation mark at the end of a sentence Or the way we use "over" In radio communications.

- Cite NUMEROLOGY DRAFT, April '71, p. 6

Zero:

The truth is zero. You can't get to the truth

You can't be exact because truth is zero."

~~WAFB Tltfi; Ji. J9, W-firfl?Q-~~

- Citation at Truth. 19 Oct'70

Ze&fi:

"Because of their pragmatic bias,

The Romans had no numerical concept that corresponded To the idea
of 'no sheep,* that is, the zero.

"When they came upon the Arabic cipher,

They had no feeling for it

And didn't think of it as having any meaning....

"The cipher made possible

Multiplication;

Which with Roman numerals

Had been impossible....

"The cipher made it possible

For anybody to make calculations."

- Cite RBF draft NUMEROLOGY, 4.4, 1970

RBF DEFINITIONS

Zero:

"... every positively weighted particle has its negatively weighted
complementary, but non-mirror-imaged, counterpart behavior--- all
of which combines to disclose that the integrated weights of physical
universe add to zero.^{1*}

- Citation & context at Universe,. 13 Nov'69

Zero:

"□ . . The vector equilibrium is the true zero reference of the energetic mathematics."

- ~~Cite Garbondale-Dreft~~ - ~~Ora-ft~~

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C,rL Jun*66/LC<M

"ZT M ZE** M«eL-sec *SHo.oij*

;BF DEFINITIONS

Zero:

"It was more difficult, socially and scientifically, to discover¹ zero' than to discover 'one' or 'two.'"

(The context is: "We might say to the social scientists: 'It is just as scientific to discover that there is no formula as it is to discover a formula'.")

- Cite AAUW JOURNAL, Fay 1965, P, 1?6

Zero:

"We have vector equilibriums mildly distorted as nature goes positive and negative in respect to the equilibrium and everything that we know as reality has to be either a positive or negative condition. She does not get caught at the zero because vector equilibrium is really a zero."

□ Cite Garbondale-Dreft • Mature'«t-rnnrri1natién_rv--W.43

#7, y, zsr

Vf AS 7ER0 fAoPEL

11 Jul'62

"Positive and negative cancel as the principle zero."

- Citation and context at Reciprocity (3), May'49

Zero;

"Equilibrium between positive and negative is aero."

Cite SECOND HAND GOD, p.36, 9 Apr'1>0

ASMKo IMPEL -SEc U4 0.0)1

KbF DaFlhITIUNS

Zero Condition;

"The old Greek sphere's surface was anywhere and everywhere tangent to an infinity of planes, which planes were for an infinitesimal moment thought to be 'self-evidently' congruent with the holeless spherical surface, ergo around each of the sphere's infinity of surface points the sum of the surface angles was always 360 degrees. It is this zero condition of the calculus which is proven by physical experiment to be untrue, for no solid surfaces have been found and there may exist only a spherical galaxy of minutely discrete energy events whose most economical and comprehensive interrelationships consist always of local intertriangulations the sum of whose surface angles is always one tetrahedron less than the number of vertexes multiplied by 360 degrees."

- Cite Ltr. to Dr. Robt. W. Horne, 14 Feb '66, p. 4

See Vector Equilibrium as Empty Set Tetrahedron, 2 Nov'73

Zero Energy

See Cryogenics

Energyless

Zero Energy:

(2)

See Hexagon, 30 Dec'73

10 F² + 2

F - 0

10 x 0 - 0

0+2-2

"Because people thought the nucleus was one, they missed for so long the significance of the atomic weights in the Periodic Table."

"/hen you isolate the neutron you are isolating the concave, rhen you isolate the proton you are isolating the convex."

- Cite SYNERGETICS draft at Secs.415.10-12, 29 May»72

See Initial Frequency

Plus-and-minus One Equilibrium

See Universal Integrity: Second-power Congruence of Gravitational & Radiational Constants, 9 Jan'74

Vector Equilibrium as Empty Set Tetrahedron_t 2 Nov'73 Omnidirectional Terminal Case Corner, 13 Nov'75

- Citation and context at Intellect. 16 Aug'50

See Vector Equilibrium as Starting Point, 8 Apr'75 Model of Nonbeing, 11 Sep»75

Zero Limit:

See Trigonometric Limit: First 14 Primes, 14 Jan'74

Zero Model vB, Thing-in-itself:

See Vector Equilibrium: Field of Energy, (A)(B)

Zero Model va. Thing-In-ltself:

z_{crc} l:lnliiuimcaa=

See Cosmic Limit, 4 Nov'73

See Nonmoment

See Point, 6 Nov¹73

Zero-nineness:

"When the four planea of each of the eight tetrahedra move toward their four oppoaite vertexes OM the momentum carries them through aero-volume nothingness of the vector equilibrium phase. All their volumes decrease at a third-power rate of their linear rate of approach. As the four tetrahedral planes coincide, the four great circle planes of the vector equilibrium all go through the same nothingness local at the same time. Thus we find the vector equilibrium to be the inherent zero-nineness of fundamental number behavior."

- Cited at Vector Equilibrium: Zerophase, 30 Aug*75
- Cite SYNERGETICS, 2nd. Ed. at Sec. 1013.42, 11 Sep»75

See Octave Wave Model, 9 Apr* 75

Scheherazade Nuxnbere: Declining Powers Of, 22 May'75

Zero - Normal;

See Zero, 19 Jul'71

Zerophase: (1)

"At eternal 'outset' the vector equilibrium's frequency is none--- non, which is inactive, which is different in meaning from nonexistent. Zero is the inside-out phase of conceptual integrity; it is the eternal complementation of system. Quite the contrary to 'nonexistent,' it means only 'eternally existent' in contrast to 'temporarily existent.' Experience is all temporary. Between experiences is the forever eternal metaphysical, which cannot be converted into existent. Zerophase, i.e., the absolute integrity, is a metaphysical potential in pure principle but is inherently inactive. The inactivity of zerophase can be

converted into activity only by pure principle of energetic geometrical propagation of successive positive-negative-positive-negative aberrational pulsations which intertransform locally initiated Universe through vector-equilibrium complex frequency accommodations in pure principle. The propagative pulsations are unopposed by the inherent but eternal, limitless, unoccupied outwardness of absolute metaphysical integrity. The unlimited metaphysical conceptual equilibrium integrity permits the limited specialcase realizations. The limited cannot accommodate the unlimited.

— Cite RBF rewrite of SYNERGETICS galley at Sec. 445*11.

4. Nov'73

Zerophase:

"The unlimited metaphysical can and does accommodate the limited and principles-dependent physical; but the physical, which is always experiential and special-case, cannot accommodate the metaphysical independence and unlimited capability."

- Cite RBF rewrite of SYNERGETICS galley at Sec. 445.11, 4 Nov'73

Itijb JFIMTIUNb

Zerophase:

"Nature does not really become disorderly. She goes through a zerophase as we saw in the vector equilibrium, at which equilibrium state nature refuses to pause or to be caught in structural stability. She goes into progressive asymmetries, and all the crystals are built up asymmetrically in positive or negative triangulation stabilities--- which is the maximum asymmetry stage. And then nature turns and repeats her transformation through equilibrium to the opposite triangular stability of positive and negative. The maximum asymmetry will probably be in the range of plus four and minus four, or the fourth degree--- or fourth power--- of symmetry. The octave, again."

Cite SYLEKGi.TICS, "Numerology," p. 1b, Oct. *71.

Zerophase:

"Pulsation, the vector equilibrium is the nearest thing we will ever know to eternity and God: the zerophase of conceptual integrity inherent in the positive and negative asymmetries which propagate the problems of the consciousness. . . "

- Citation and context at Experience. 12 Sep'71
- QiX» ROF tB EJAj b overly Hotel, blow—tir 9ept7 'l??!

"**f AS ?£KO** «6t>EL - Sec 4

RBF DEFINITIONS

SM* Zerophase:

"Absolute Truth . . an omni-zerophase condition. . .**

"The metaphysical passes through but fails to remain at the zero of equilibrrious truth. . .

--OXtacJemiulua Model VO OLUIMMo Mortals- 2-Dec16ft.

- Citation at Truth. 23 Dec¹68

Zerophaae:

"A point is a tetrahedron of conbined lerophaae of both altitude and baae."

- Cite PENNSYLVANIA TRIANGLE, p. 10. Nov'52

Zerophase - Inexpressible:

See Vector Equilibrium as Starting Point, (1)

See Absolute Integrity

Tetrahedron: Zerophase

Vector Equilibrium: Zerophase

Zerophase - Inexpressible

Zerophaae:

(2)

See Experience, 12 Sep»71*

Frame of Reference, 4 Oct¹72 Line, Nov'52 Nature. Jun'66 Triangle,
Nov'52 Truth, 2j Dec'68*

Vector Equilibrium (II)

Zero Point;

"Waves are octave

And one reason why they don't interfere with one another

Is because of the zero.

If we apply the octave wave pattern

To the wave phenomenon or radio waves and other high Waves pass-
ing through seeming solids, frequencies,

Or low frequency waves, ⁸

We can imagine that the lack of interference could be explained
through the crossing of the high frequency waves Through the much
lower frequency waves At the zero point."

- Cite NUMEROLOGY Draft, April 1971

See Noninterfering Zero Pointe:

See Point, 6 Nov'73

Point: Inboiund Point, 23 Sep'73 Vector Equilibrium, 11 Dec'75

See Conceptuality Independent of Size No-aixe Conceptual Model
Sizeless

See Zerophae, 4 Nov'73

Zero Tetrahedron: "A zero tetrahedron is vector equilibrium is Universe.

- Cite OMNIDIRECTIONAL HALO, p.148, I960

See VE; Zero VE t Zero Tetra

VE: Zero Tetra

Zerophase

Empty Tetrahedron

See Topology: Synergetics & Eulerean, 16 Nov'74

Torque at Center of Convergence, 20 Feb'73

"The zero volume phenomenon altogether avoids the operationally prohibited concept of a plurality of lines going through the same point at the same time. In the zero volume tetrahedron each of the four great circles are folded into a 'bow tie' pair of double-bonded tetrahedra, each of which is doublebonded to the three others. The eight vertexes of the eight tetrahedra at each of their four open corners only seemingly pass through each other, whereas each converges in the other and turns around divergently outward at 60 degrees, thus producing a nucleus with an energy potential of eight but presenting the topologically visual aspect and enumeration of one."

- Cite RDF to EJA, J200 Idaho Ave, NW, Wash, DC; incorporated in SYNERGETICS, 2nd. Ed. at Sec. W 10 Dec'75

^zera ^vQ1WHS:

See Hedra, 10 Apr'75 Zero-nineneas, 11 Sep'75

Zero Wave:

"Not only is there an external zero intervallng between all the unique octave patterning sets in every one of the four positive, four * negative systems manifest, but we find also the wave-intermodulating indigs within each octave always integrating sum totally internally to the octaves themselves as nines, which is again an internal zero content which produces in effect a positive zero function vs. a negative zero function, i.e., an inside-out and outside-out zero as the ultracosmic zero wave pulsativeness."

[IH]

1223.5', 9 Mar'73

- Cite SYNERGETICS draft At Sec.

See Octave Wave

Zero Weight:

"The average of all plus (+) and minus (-) weights of universe is Zero weight. The normal is eternal."

www.r-t-rif 11 | 2

* Citation at Normal. 25 Mar'71

Zero height;

• "The physicists have discovered that every fundamental component of Universe has its opposite. Negative weights and positive weights altogether cancel each other, and the average weight of all physical phenomena of the Universe is zero--- as is also the weight of thought 'zero'.¹

- Citation and context at Dream. 1968

Zero Weight:

(1)

See Weightless

See Dream. 1 y68*

Normal, 25 Mar¹⁷¹*

Ssrai (1)

See Absolute Zero

Calculus: Zero Condition

Centers of Equilibrium Symmetry

Conceptual Zero

Cosmic Zero

Cypher

Heat vs. Zero

Limit

Nine `` None □ Zero

Noninterfering Zero Points

Nothing: Nothingness

Powering: Zero Power

Sum Zero

Terminal Condition

Truth: Zero of Equilibrious Truth

Perfect » Zero

Face Congruence with Opposite Vertex « Zero - Empty Off-zero

Half Zero

BUF WII' HHTIIIIK

Zero: (2)

See Eternal, 2\$ Par'71

Positive &, Negative, May* 49 Prime Otherness 2J Sep*73 Sensorial
Identification of Reality Split Personality, 15 Jan'74

Tetrahedron: Coordinate Symmetry, 31 May'71* Truth, 19 Oct'70*,
23 Dec'68*; 22 J_un»75 Reciprocity (3)* Universe, 13 Nov'69*

Zero:

See Zero>di8connectednese

Zero Energy

Zero Frequency

Zero Inflection
Zero Limit
Zero Minimumness
Zerophase
Zero Point
Zero-nineness
Zero Tetrahedron
Zero Size
Zero-time-space-size
Zero >Vave
Zero Weight
Zero Moment
Zero Volume
Zero Model vs, Thing-in-itself
Zero t System
Zero = Normal

Zigzag; Right-left: Halfway Averaging;

H)

See Bits: Bitting

Deliberately Nonstraight Line
Cybernetics
Halving the Halves
Reduction by Bits
Trim Tab

Servomechanism
Generalized Dichotomy
Ruddering
Steering: Steerability
Left & Right

Democracy, 13 Nov'69

See

Energy Event, Mar'71

Social Sciences: Analogue to Physical Sciences, (1)(2)

Zonal Mosaic Tile:

See Projective Transformation, (3)

Zone:

"The domain of a nucleus is an ineffable point; it is only a zone."

- Citation and context at Domain. 11 Feb'73

Zone:

'•There is a gravitational system zone of concentration with min-max zone system limits."

- Citation and context at Gravitational System Zone. 14

Zone of Lucidity:

See Omnihalo, Nov'?¹

Zone pf N_{6M} tral Heconanca:

See Vector Equilibrium, 1J Nov'69

"First division of Universe into omnidirectional radially- defined zone between maxima and minima withinness and without- ness sense and experience tunability, affects not only the local tuned-in system, but the balance of Universe within and without, even as does the little and big spherical triangle subdivide the system zoneness circumferentially, so also do the basic maxima and minima radial and circumferential dichotomies which are the basically differentiated, 90-degree acceleration functions and inherent receprfical self-precessors."

(Above text closely parallels text at Omnidtrectional, 1954-59)

- Cite RBF Ltr. to Donald W. Robertson, p.4» S Jan*55

"Thought identification and communication to self or others must tune in a zoned system, with inherent center-of-zone equilibrium 'sphere,' and therefore possessed of inherent wave propagative inward-outward tendency between the unstable variable limits, or infra-ultra twilights confining the clearly tunable mean interior-exterior zone limits occurring between the ultratunable macrocosmos and the intratunable microcosmos."

- Citation and context at Residual Error, 1954

See Gravitational System Zone Nuclear t Nebular Zonal Waves Twilight Zone Point vs. Zone Min-max Zone System Limits Octant Zone

Zone: Zonal: Zone System:

(2)

See Boats at Anchor Retard the River's Flow. 1960

Domain. 11 Feb'73* *

Individual Universes. 28 Oct'73 Prime Dichotomy, (1)(2) Residual Error, 1954 Universe, 5 Feb*56 Halo Concept, Jun'71

Zoo: Directors of Zoo:

See Kenner, Hugh, 23 Jan'72

- Citation fc context at Thinking, (II), 23 Jun*75

• ~~armuyut.~~—0? .Tttly- *?! , p_r 20'

- Citation and context at Proton & Neutron (A), 22 Jul*71

- Cite RBF Introduction to Victor Papanek's "Design for the Real World," 9 Apr*71

- Citation at Central Angle. 21 Dec*71

- Citation and context at Love. 15 Oct*72

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