

WHOLE EARTH CATALOG

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Fall 1968

\$5

WHOLE EARTH CATALOG 1968

Understanding Whole Systems

Buckminster Fuller
Cosmic View
Full Earth
Earth Photographs
The World From Above
Surface Anatomy
Geology Illustrated
Sensitive Chaos
A Year From Monday

General Systems Yearbook
Synthesis of Form
On Growth and Form
Tantra Art
Psychological Reflections
The Human Use of Human Beings
The Ghost in the Machine
The Year 2000
The Futurist

Shelter and Land Use

The Dymaxion World of Buckminster Fuller
Space Structures
Tensile Structures, Volume One
Dome Cookbook
Good News
Architectural Design
The Japanese House
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The Indian Tipi
Tipis
Aladdin Kerosene Lamps
Man's Role in Changing the Face of the Earth
Two Mushroom Books
Organic Gardening
ABC and XYZ of Bee Culture
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Industry and Craft

The Way Things Work
Introduction to Engineering Design
The Measure of Man
Thomas Register of American Manufacturers
New Scientist
Scientific American
Industrial Design
Product Engineering
Clearinghouse

Science and Civilization in China, Volume IV,
Part 2
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Brookstone Tools
Jensen Tools
Miners Catalog
Blasters' Handbook
Direct Use of the Sun's Energy
Structure, Form and Movement

Van Waters & Rogers
Bookmaking
Zone System Manual
A Sculptor's Manual
Creative Glass Blowing
Buckskin
Cut Beads
Melrose Yarns

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The Mind of the Dolphin
Information
9100A Computer
Cybernetics
Eye and Brain
Design for a Brain

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Intelligent Life in the Universe
The McGraw-Hill Encyclopedia of Space
Lafayette and Allied Catalogs
Heathkit
Modern Business Forms
American Cinematographer

American Cinematographer Manual
The Technique of Documentary Film Production
The Technique of Television of Production
Auto Repair Manual
Books
Subject Guide to Books in Print
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Community

The Modern Utopian
The Realist
Green Revolution
Kibbutz: Venture in Utopia
Dune
Groups Under Stress

The Merck Manual
Land for Sale
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The Armchair Shopper's Guide
How to Get 20% to 90% off on Everything You Buy

Nomadics

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The Retreater's Bibliography
The Book of Survival
The Survival Book
Survival Arts of the Primitive Paiutes
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Light Weight Camping Equipment and How to Make It
Backpacking
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Recreational Equipment
Gerry Outdoor Equipment
Kaibab Boots
Hot Springs
The Explorers Trademark Log
National Geographic
Sierra Club
The Narrow Road to the Deep North
Trout Fishing in American

Learning

Toward a Theory of Instruction
The Black Box
THIS Magazine is about Schools
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700 Science Experiments for Everybody

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We Built Our Own Computers
American Boys Handy Book
Pioneer Posters
Sense Relaxation
Zen Flesh, Zen Bones

Meditation Cushions and Mats
Self Hypnotism
Psycho-Cybernetics
A Yaqui Way of Knowledge
Fundamentals of Yoga
The Act of Creation
The I Ching

WHOLE EARTH CATALOG 1968

PURPOSE

We are as gods and might as well get used to it. So far, remotely done power and glory—as via government, big business, formal education, church—has succeeded to the point where gross obscure actual gains. In response to this dilemma and to these gains a realm of intimate, personal power is developing—power of the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is interested. Tools that aid this process are sought and promoted by the WHOLE EARTH CATALOG.

FUNCTION

The WHOLE EARTH CATALOG functions as an evaluation and access device. With it, the user should know better what is worth getting and where and how to do the getting.

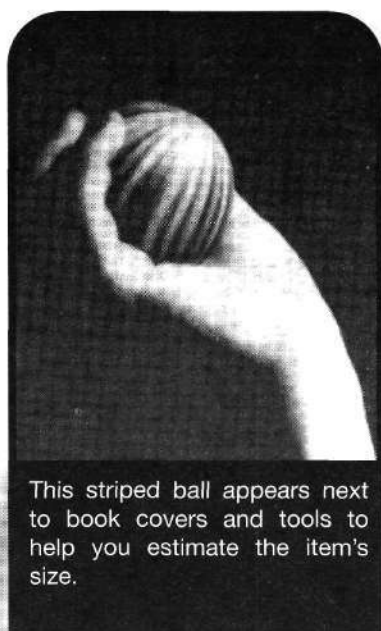
An item is listed in the CATALOG if it is deemed:

- 1) Useful as a tool,*
- 2) Relevant to independent education,*
- 3) High quality or low cost,*
- 4) Not already common knowledge,*
- 5) Easily available by mail.*

This information is continually revised according to the experience and suggestions of CATALOG users and staff.

USING THE 1968 CATALOG

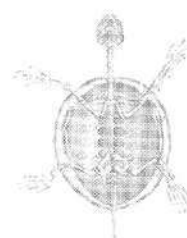
WARNING: *Using the access information from the 1968 Catalog will drive you nuts. Publishers begged us not to reprint the Catalog with their names anywhere near books they no longer carry. Please don't call a publisher and ask for a book because you saw it here.*



This striped ball appears next to book covers and tools to help you estimate the item's size.



The LIVE TURTLE indicates that a book or tool, or its worthy replacement, lives on. Not surprisingly, access has changed over thirty years. **See new access on page 62.** If the 1968 item is no longer available, but we have found a successor we think is worth noting, the replacement is also found on p. 62.



The DEAD TURTLE means that the tool or book is essentially not available. Maybe an antiquarian bookstore or gizmo collector has it. Check a library. As far as we can tell, nothing of equal excellence has replaced it. If you know of an outstanding successor, tell us.

Buckminster Fuller

The insights of Buckminster Fuller are what initiated this catalog.

Of the four books reviewed here, *Nine Chains to the Moon* is his earliest and most openly metaphysical, *Ideas and Integrity* his most personal, *No More Secondhand God* the most recent, *World Design Science Decade* the most programmatic.

People who beef about Fuller mainly complain about his repetition – the same ideas again and again, it's embarrassing. It is embarrassing, also illuminating, because the same notions take on different uses when re-approached from different angles or with different contexts. Fuller's lectures have a raga quality of rich nonlinear endless improvisation full of convergent surprises.

Some are put off by his language, which makes demands on your head like suddenly discovering an extra engine in your car – if you don't let it drive you faster, it'll drag you. Fuller won't wait. He spent two years silent after illusory language got him in trouble, and he returned to human communication with a redesigned instrument.

With that, empirical curiosity, and New England perseverance Fuller has forged one of the most original personalities and functional intellects of the age.

I see God in the instruments and the mechanisms that work reliably, more reliably than the limited sensory departments of the human mechanism. And God says observe the paradox of man's creative potentials and his destructive tactics. He could have his new world through sufficient love for "all's fair" in love as well as in war which means you can junk as much rubbish, skip as many stupid agreements by love, spontaneous unselfishness radiant.

The revolution has come – set on fire from the top. Let it burn swiftly. Neither the branches, trunk, nor roots will be endangered. Only last year's leaves and the parasite-bearded moss and orchids will not be there when the next spring brings fresh growth and free standing flowers.

Here is God's purpose – for God, to me, it seems, is a verb not a noun, proper or improper; is the articulation not the art, objective or subjective; is loving, not the abstraction "love" commanded or entreated; is knowledge dynamic, not legislative code, not proclamation law, not academic dogma, not ecclesiastic canon. Yes, God is a verb, the most active, connoting the vast harmonic reordering of the universe from unleashed chaos of energy. And there is born unheralded a great natural peace, not out of exclusive pseudo-static security but out of including, refining, dynamic balancing. Naught is lost. Only the false and nonexistent are dispelled.

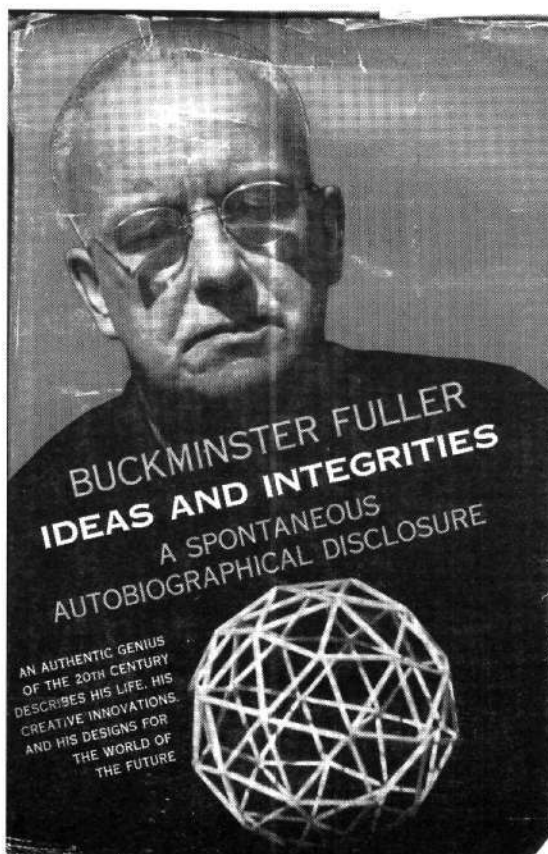
And I've thought through to tomorrow which is also today. The telephone rings and you say to me Hello Buckling this is Christopher; or Daddy it's Allegra; or Mr. Fuller this is the Telephone Company Business Office; and I say you are inaccurate. Because I knew you were going to call and furthermore I recognize that it is God who is "speaking."

And you say aren't you being fantastic? And knowing you I say no.

All organized religions of the past were inherently developed as beliefs and credits in "second hand" information.

Therefore it will be an entirely new era when man finds himself confronted with direct experience with an obviously a priori intellectually anticipatory competence that has interordered all that he is discovering.

[No More Secondhand God]

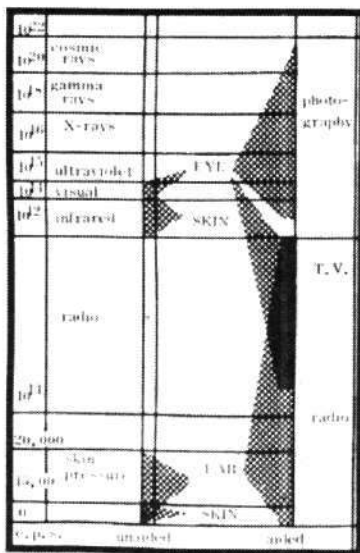


Ideas and Integrity
Buckminster Fuller
1963; 318 pp.

\$10.00 postpaid

from:
Prentice-Hall Inc.
Englewood Cliffs
New Jersey 07631
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WHOLE EARTH CATALOG

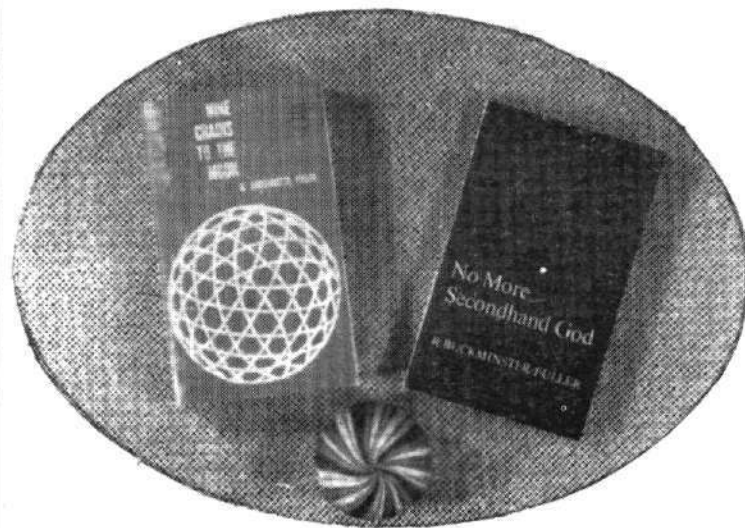
Standing by the lake on a jump-or-think basis, the very first spontaneous question coming to mind was, "If you put aside everything you've ever been asked to believe and have recourse only to your own experiences do you have any conviction arising from those experiences which either discards or must assume an a priori greater intellect than the intellect of man?" The answer was swift and positive. Experience had clearly demonstrated an a priori anticipatory and only intellectually apprehendable orderliness of interactive principles operating in the universe into which we are born. These principles are discovered but are never invented by man. I said to myself, "I have faith in the integrity of the anticipatory intellectual wisdom which we may call 'God.'" My next question was, "Do I know best or does God know best whether I may be of any value to the integrity of universe?" The answer was, "You don't know and no man knows, but the faith you have just established out of experience imposes recognition of the a priori wisdom of the fact of your being." Apparently addressing myself, I said, "You do not have the right to eliminate yourself, you do not belong to you. You belong to the universe. The significance of you will forever remain obscure to you, but you may assume that you are fulfilling your significance if you apply yourself to converting all your experience to highest advantage of others. You and all men are here for the sake of other men."



WDS Document 1

World society has throughout its millions of years on earth made its judgements upon visible, tangible, sensorially demonstrable criteria. We may safely say that the world is keeping its eye on the unimportant visible 1 percent of the historical transformation while missing the significance of the 99 percent of overall, unseen changes. Forms are inherently visible and forms no longer can "follow functions" because the significant functions are invisible

There are very few men today who are disciplined to comprehend the totally integrating significance of the 99 percent invisible activity which is coalescing to reshape our future. There are approximately no warnings being given to society regarding the great changes ahead. There is only the ominous general apprehension that man may be about to annihilate himself. To the few who are disciplined to deal with the invisibly integrating trends it is increasingly readable in the trends that man is about to become almost 100 percent successful as an occupant of universe.



Nine Chains to the Moon
Buckminster Fuller
1938, 1963; 375 pp.

\$2.45

No More Secondhand God
Buckminster Fuller
1963; 163 pp.

\$2.25 postpaid

both from:
Southern Illinois University Press
600 University
Carbondale, Illinois 62903
or
WHOLE EARTH CATALOG

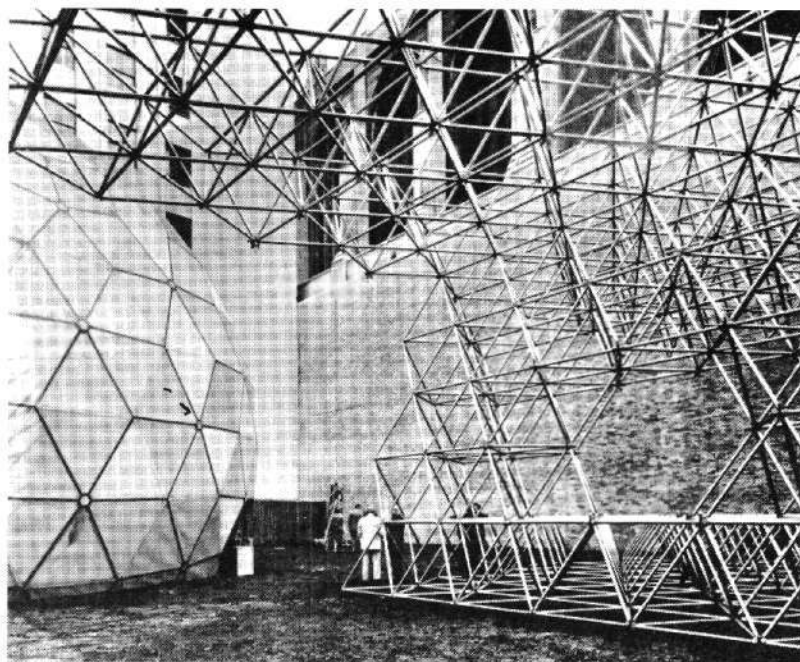
[Ideas and Integrity]
Thinking is a putting-aside, rather than a putting-in discipline, e.g., putting aside the tall grasses in order to isolate the trail into informative viewability. Thinking is FM – frequency modulation – for it results in tuning-out of irrelevancies as a result of definitive resolution of the exclusivity turned-in or accepted feed-back messages' pattern differentiability.
[“Omnidirectional Halo” No More Secondhand God]

Common to all such “human” mechanisms – and without which they are imbecile contraptions – is their guidance by a phantom captain.

This phantom captain has neither weight nor sensorial tangibility, as has often been scientifically proven by careful weighing operations at the moment of abandonment of the ship by the phantom captain, i.e., at the instant of “death.” He may be likened to the variant of polarity dominance in our bipolar electric world which, when balanced and unit, vanishes as abstract unity I or O. With the phantom captain's departure, the mechanism becomes inoperative and very quickly disintegrates into basic chemical elements.

This captain has not only an infinite self-identity characteristic but, also, an infinite understanding. He has furthermore, infinite sympathy with all captains of mechanisms similar to his

An illuminating rationalization indicated that captains – being phantom, abstract, infinite, and bound to other captains by a bond of understanding as proven by their recognition of each other's signals and the meaning thereof by reference to a common direction (toward “perfect”) – are not only all related, but are one and the same captain. Mathematically, since characteristics of unity exist, they cannot be non-identical.



Our Air Force Radomes were installed in the arctic mostly by eskimos and others who had never seen them before. The mass production technology made assembly possible at an average rate of 14 hours each. One of these radomes was loaned by the U.S. Air Force to the Museum of Modern Art in New York City for an exhibition of my work in 1959-1960. It took regular building trades skilled labor one month to assemble the dome in New York City.

WDS Document 2

I define 'synergy' as follows: Synergy is the unique behavior of whole systems, unpredicted by behavior of their respective subsystems' events.

[Ideas and Integrity]

selfishness (self-preoccupation pursued until self loses its way and self generates fear and spontaneous random surging, i.e., panic, the plural of which is mob outburst in unpremeditated wave synchronization of the individually random components).

[No More Secondhand God]

4 whole systems

To start off with it is demonstrated in the array of events which we have touched on that we don't have to "earn a living" anymore. The "living" has all been earned for us forever. Industrialization's wealth is cumulative in contradistinction to the inherently terminal, discontinuous, temporary wealth of the craft eras of civilization such as the Bronze Age or Stone Age. If we only understood how that cumulative industrial wealth has come about, we could stop playing obsolete games, but that is a task that cannot be accomplished by political and social reforms. Man is so deeply conditioned in his reflexes by his millenniums of slave function that he has too many inferiority complexes to yield to political reformation. The obsolete games will be abandoned only when realistic, happier and more interesting games come along to displace the obsolete games.

[WDS Document 3]

Tension and Compression are complementary functions of structure. Therefore as functions they only co-exist. When pulling a tensional rope its girth contracts in compression. When we load a column in compression its girth tends to expand in tension. When we investigate tension and compression, we find that compression members, as you all know as architects, have very limited lengths in relation to their cross sections. They get too long and too slender and will readily break. Tension members, when you pull them tend to pull, approximately, (almost but never entirely), straight instead of trying to curve more and more as do too thin compressionally loaded columns. The contraction of the tension members in their girth, when tensionally loaded, brings its atoms closer together which makes it even stronger. There is no limit ratio of cross section to length in tensional members of structural systems. There is a fundamental limit ratio in compression. Therefore when nature has very large tasks to do, such as cohering the solar system or the universe she arranges her structural systems both in the microcosm and macrocosm in the following manner. Nature has compression operating in little remotely positioned islands, as high energy concentrations, such as the earth and other planets, in the macrocosm; or as islanded electrons, or protons or other atomic nuclear components in the microcosm while cohering the whole universal system, both macro and micro, of mutually remote, compressional, and oft non-simultaneous, islands by comprehensive tension; -compression islands in a non-simultaneous universe of tension. The Universe is a tensegrity.

[WDS Document 2]

I was born cross-eyed. Not until I was four years old was it discovered that this was caused by my being abnormally farsighted. My vision was thereafter fully corrected with lenses. Until four I could see only large patterns, houses, trees, outlines of people with blurred coloring. While I saw two dark areas on human faces, I did not see a human eye or a teardrop or a human hair until I was four. Despite my new ability to apprehend details, my childhood's spontaneous dependence only upon big pattern clues has persisted.

I am convinced that neither I nor any other human, past or present, was or is a genius. I am convinced that what I have every physically normal child also has at birth. We could, of course, hypothesize that all babies are born geniuses and get swiftly de-geniused. Unfavorable circumstances, shortsightedness, frayed nervous systems, and ignorantly articulated love and fear of elders tend to shut off many of the child's brain capability valves. I am lucky in avoiding to many disconnects.

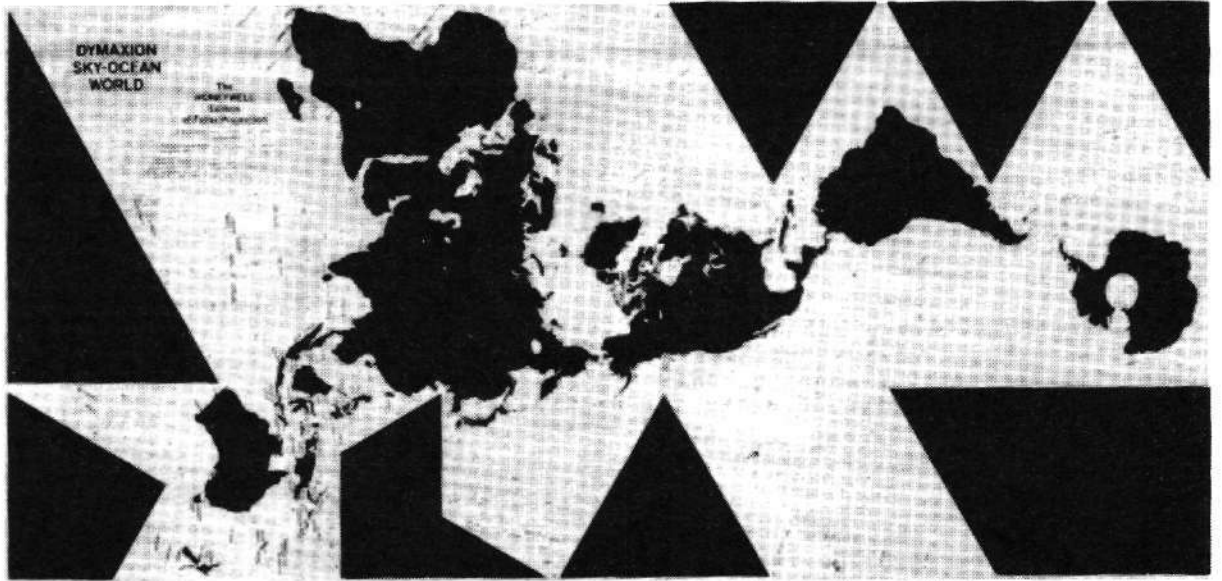
There is luck in everything. My luck is that I was born cross-eyed, was ejected so frequently from the establishment that I was finally forced either to perish or to employ some of those faculties with which we are all endowed-the use of which circumstances had previously so frustrated as to have to put them in the deep freezer, whence only to hellishly hot situations could provide enough heat to melt them back into usability.

[WDS Document 5]

In the 1920's with but little open country highway mileage in operation, automobile accidents were concentrated and frequently occurred within our urban and suburban presence. Witnessing a number of accidents, I observed that warning signs later grew up along the roads leading to danger points and that more traffic and motorcycle police were put on duty. The authorities tried to cure the malady by reforming the motorists. A relatively few special individual drivers with much experience, steady temperament, good coordination and natural tendency to anticipate and understand the psychology of others emerged as "good" and approximately accident-free drivers. Many others were accident prone.

In lieu of the after-the-fact curative reform, trending to highly specialized individual offender case histories, my philosophy urged the anticipatory avoidance of the accident potentials through invention of generalized highway dividers, grade separators, clover leafing and adequately banked curves and automatic traffic control stop-lighting systems. I saw no reason why the problem shouldn't be solved by preventative design rather than remedial reforms. My resolve: Reshape environment; don't try to reshape man.

[WDS Document 1]



The Honeywell edition of Fuller's world map (more brightly colored than previous editions) is available.

\$4.00 postpaid

from P.O. Box 99, Carbondale, Illinois 62901

However, man unconcernedly sorting mail on an express train with unuttered faith that the engineer is competent, that the switchmen are not asleep, that the track walkers are doing their job, that the technologists who designed the train and the rails knew their stuff, that the thousands of others whom he may never know by face or name are collecting tariffs, paying for repairs, and so handling assets that he will be paid a week from today and again the week after that, and that all the time his family is safe and in well being without his personal protection constitutes a whole new era of evolution-the first really "new" since the beginning of the spoken word. In fact, out of the understanding innate in the spoken word was Industrialization wrought after millenniums of seemingly whitherless spade work.

[The Unfinished Epic of Industrialization]

The Unfinished Epic of Industrialization

by R. Buckminster Fuller 1963; 227 pp

from World Resources Inventory, Carbondale, Illinois 62901

Concept Twelve - SELF DISCIPLINES

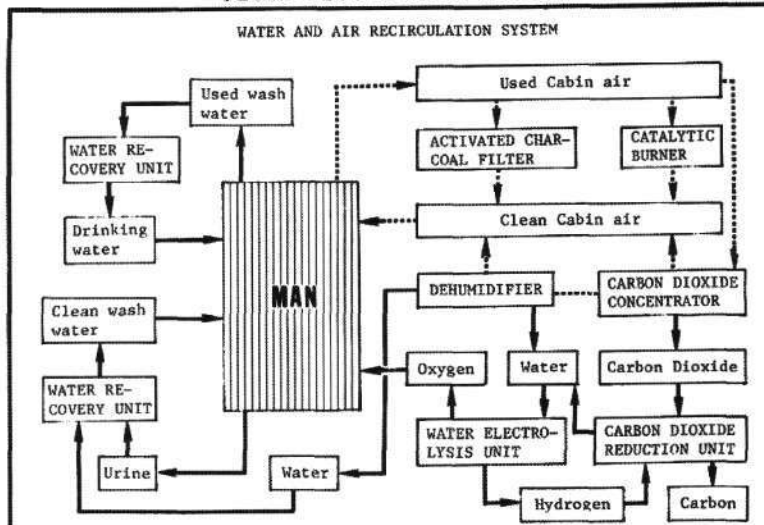
Working assumptions, cautions, encouragements, and restraints of intuitive formulations and spontaneous actions. My own rule: "Do not mind if I am not understood as long as I am not misunderstood."

Personal Self Disciplining. In 1927 I gave up forever the general economic dictum of society, i.e. that every individual who wants to survive must earn a living. I substituted, therefore, the finding made in concept one, i.e., an individual's antientropic responsibility in universe. I sought for the tasks that needed to be done that no one else was doing or attempting to do, which if done would physically and economically advantage society and eliminate pain.

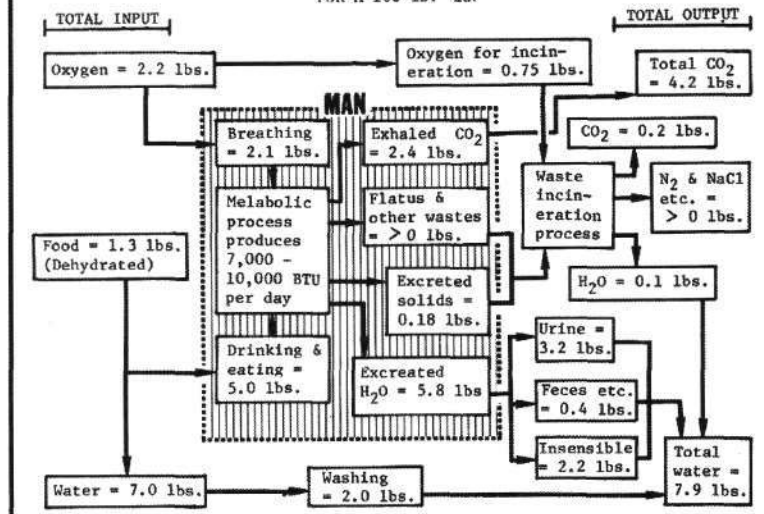
As a consequence, it was necessary for me to discipline my faculties to develop technical and scientific capabilities to invent the physical innovations and their service industry logistics.

Mv Recommendations for a Curriculum of Design Science

CLOSED ECOLOGICAL SYSTEM



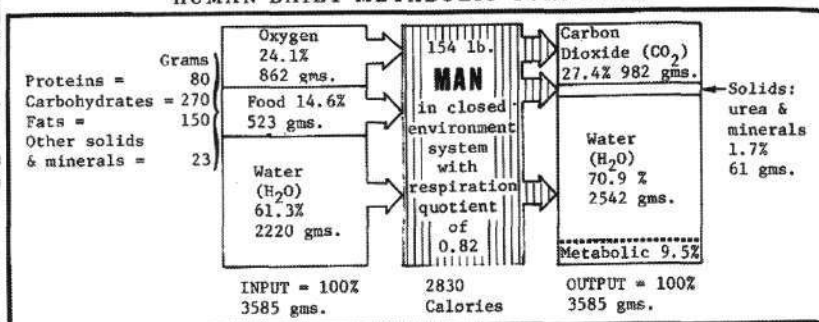
METABOLIC REQUIREMENTS & RESULTANT WASTES IN POUNDS FOR A 160 LB. MAN



Sources: (1) E. S. Mills, R. L. Butters, Douglas Missile & Space Systems Development Interplanetary Mission Life Support System, 1965. (2) NASA: ASD Report TR 61-363.

WDS Document 6

HUMAN DAILY METABOLIC TURNOVER



Source: Apogee, Douglas Missile & Space Publication No. 4, 1961, p. 8.

The *World Design Science* Decade documents contain some that is in the other books and much that isn't. The 6 volume set costs \$10.50 postpaid to students (formal and informal); \$30.00 postpaid to others. This is a very good deal.

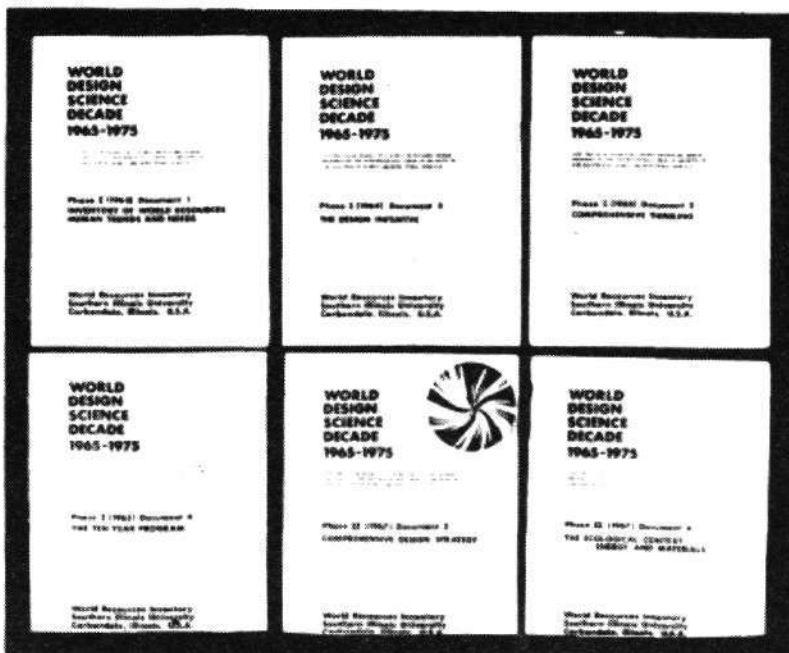
We find that original question asking is a consequence of interferences, whether in the computer or the human brain. We find then that original questions are second derivative events in the computer life.

[WDS Document 2]

Order from World Resources Inventory Office, Box 99, Carbondale, Illinois 62901 or WRS CATALOG, Size: 35 x 20 inches.

The will of history reads "for everybody or for nobody," and since we balk at "for nobody" it has to be "for everybody". And that's the way it is going, lickety-split and the world around.

[WDS Document 3]



1. Synergetics
2. General Systems Theory
3. Theory of Games (Von Neuman)
4. Chemistry and Physics
5. Topology, Projective Geometry
6. Cybernetics
7. Communications
8. Meteorology
9. Geology
10. Biology
11. Sciences of Energy
12. Political Geography
13. Ergonomics
14. Production Engineering

[WDS Document 5]