Scraps
1998

4EPISTEM.WP6 JANUARY 25, 1998;rev APRIL 11, 1998

FOUR CATEGORIES OF EPISTEMOLOGY

In a metamorphical sense, an epistemology is a set of rules for playing a game, where the name of the game is "find a reality". Changing the rules, changes the game and results in a different reality or ontology. And it is not surprising that different players prefer different rules, different games, and end up with different notions of reality. Just as the color of things depends on the tint of the glasses we wear, the facet of the world we accept as reality depends on the epistemology we adopt to know [explore/create] the world. And since there are many epistemologies and many different facets there will be many realities.

Each reality or facet of the world has its own mode of existence. The meaning of existence in one reality is not the same as the meaning of existence in another reality. [Unfortunately we do not have different words for different modes of existence. We are stuck with the Aristotlian 'exists or doesn't exist']. So called "proofs" or tests of existence also vary with the epistemology employed. For example, "Seeing is believing" is a test for existence in the reality derived from a sensory based epistemology. But since mathematics cannot be seen, mathematics does not exist in the sensory reality. Where then does mathematics exist? And what epistemology leads to the facet or reality in which mathematics does exist? And while we are at it, we might also ask where does Love exist? where does Beauty exist? Is the flower beautiful if there is no one to see it, smell it, touch it? These are all classical epistemological-ontological questions, and the fact that there are several answers supports the view that humans are capable of experiencing more than one reality. In fact we have the capacity to experience at least four distinct realities accessable through four different epistemologies. We can thus perceive at least four facets of the "Whole".

However, there is a caveat: Each epistemology leads to a different ontology or reality. Reciprocally, however, an ontology limits the epistemologies it can admit. Without initially remaining open to multiple epistemologies, the epistemological-ontological interplay results in an ever narrowing set of acceptable epistemologies and accordingly fewer ontologies, continuing until a single facet of the Whole is isolated and substituted for the Whole. This built in inaccessibility of the Whole cannot be circumvented. It can, however, be mitigated by employing as many epistemologies as possible and accepting the fact that the results may defy our customary intellectual constraint of consistency.

Granting our inability to know the Whole, we ask can the Whole know itself. A traditional monotheistic, "God is omniscient", view of the Cosmos would answer yes, but it may well be that the domain of "knowing" remains always a subset of the domain of "being" and consequently no entity, including God or the Cosmos itself, can ever fully know itself.

What then is the deeper meaning of 'to know'? If there is no knowing is there no being? In order to exist a thing must be known? Is knowing complementary to existence or being, as in wave/particle complementarity? Does the proportion,

knowing:information::being:energy

apply? Are knowing/being and epistemology/ontology possibly dialectic pairs? Or must we conclude that we are trapped in a semantic cul-de-sac, lacking the terms to describe an essential ingredient felt to be present but so far ineffable.

Four basic categories of epistemology have been recognized:

1) The Serpent: The Epistemologies of Sensory Inputs.

These are the epistemologies processed by our senses and our intellects. Properly termed, epistemologies of the head. These lead to our usual philosophical constructs, our metaphysical models. Rooted in both experience and speculation (imaginations), they provide ontologies that are a mix of discovery and creativity. For this reason such ontologies are neither fully true nor fully false.

2) The Turtle: The Epistemologies of Number [mandalla on underside]

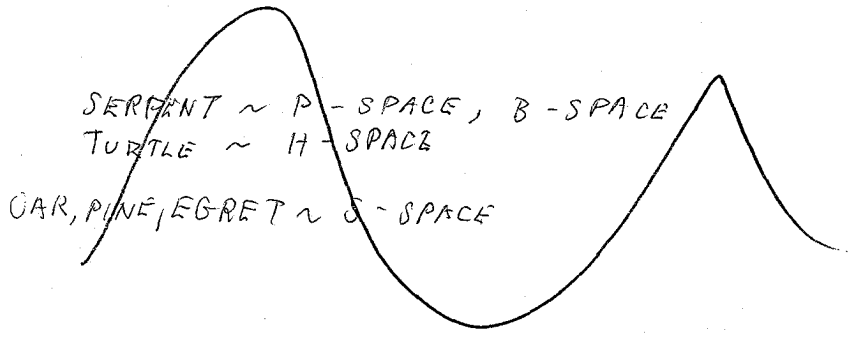
These are the mathematical imperatives rooted in the nature of number. Their expressions provide an isomorphic map of the structure of the physical portion of the world. The limitations of a mathematical epistemology lie both in its symbolisms and in our ability to interpret them.

3) The Pine or Oak: The Epistemologies of Silence

These are the epistemologies of the "heart", the epistemologies of contemplation, meditation, and emptiness. These epistemologies involve a dedication to openness. Their ontologies transcend the grasp of language, the limitations of logic, and the restrictions imposed by intellect. The world they reveal is not of a physical nature, but has an ineffable relation to the world of matter.

4) The Egret: The Epistemologies of Recognition

These are epistemologies, not designed by us, but given to us. Recognition (not empiricism) is the way of knowing what is Beauty, what is Love, what is Good, what is True. Through them we know without believing, we understand without articulating, we participate harmoniously without direction. This because when we achieve union, one identity, then identity disappears; for ONE has no-existence.


SERPENT ~ P - SPACE, B - SPACE
TURTLE ~ H - SPACE
OAR, PINE, EGRET ~ S - SPACE

ALTERNATIVE MODES OF MOVEMENT

In a culture resentful of any restrictions and limitations on freedom, and especially resentful of speed limits, the Einstein velocity limit, $v \leq c$, where c is the velocity of light, has posed a major challenge. This has been met by both scientific (tachyons) and science fiction (warp speed) alternatives. Since we propose to let neither Einstein nor the highway patrol have the last word, additional approaches on how to get there more quickly are outlined here. But first, a review of the most familiar mode, that of Aristotle as refined by Sir Isaac Newton.

I. The Newtonian Mode:

This is the traditional mode of movement from place to place, based on terrestrial experience and projected onto all cosmic motions. It assumes that space everywhere, both empty and occupied by matter, is essentially the same. Motion through this space is given by the equation, distance equals velocity times time. (And as already noted all velocities are bounded by the velocity of light). We term this kind of motion as being "totally horizontal" in the sense that the distances and times are locked to a single value of a scale parameter.

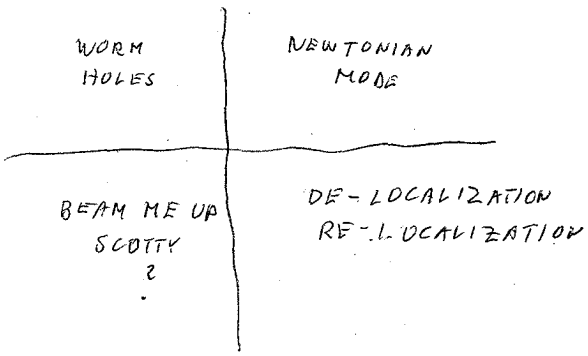
II. The Fractal Mode:

This hypothetical mode is suggested by certain brands of map software that provide the display of maps on various scales ranging from a city block to an entire hemisphere. In the operation of this software, I may be looking at the neighborhood of the Capitol building in Washington D.C. and wish to see where my congressman's home office is located in my own city. To go from Washington to home, I do not have to move in the Newtonian mode across a single scale map of the United States. Instead I zoom out from the city block scale to the continental scale and move horizontally from Washington to home on this low scale map. I then zoom in to my home city and fine tune horizontally on a high scale map.

The essence of fractal mode movement between places is first to move vertically (zoom out) from our ordinary space level to a low scale space level, then move horizontally on this low scale space level to the neighborhood of our destination, then move vertically (zoom in) to the original space level and finally move horizontally to the exact destination. (The process, however, is not restricted to two scale levels; more than two may be involved).

Say we wanted to travel to the neighborhood of the interesting star Eta Carinae which is about 7500 light years distant. If we were to travel in the Newtonian mode, even at maximum velocity, some 7500 years would be involved If we adopt

TRAVEL MODES AND QUADRANTS



In the INTERFACE OF QUADRANTS 1 and 4 arises the requirement that c be the same for all observers regardless of their Newtonian movement.

the fractal mode we would zoom out to the galaxy scale level in which our map would cover the entire milky way system; move horizontally (Newtonially) across the galaxy to near Eta Carinae, zoom partially in, correct horizontally, zoom in again, correct horizontally, etc, until we reach the desired location in the neighborhood of Eta Carinae.

In all of this, first, we do not know how to zoom, to move vertically, nor do we know what vertical velocities are possible. Second, we do not know what a scale change would do to Einstein's bound on horizontal velocities. Third, if fractal mode movement is not possible for physical bodies, is it possible for the movement of information?

An important model using the concept of vertically zooming up and down is based on the idea of a "wormhole", a tunnel from our universe to some other universe. In this model our universe is viewed as being at one space-time level and other universes as having different space-time levels. The concept of zooming or vertical motion translates into passing through a wormhole. Again, for example, say we want to go to Eta Carinae. We would enter a nearby wormhole, leaving our universe and entering some other universe. If this new universe possessed an appropriate lower scale value, then we could briefly move within it horizontally to another suitable wormhole, pass through it back into our own universe, and if we selected our wormholes well, be in the neighborhood of Eta Carinae.

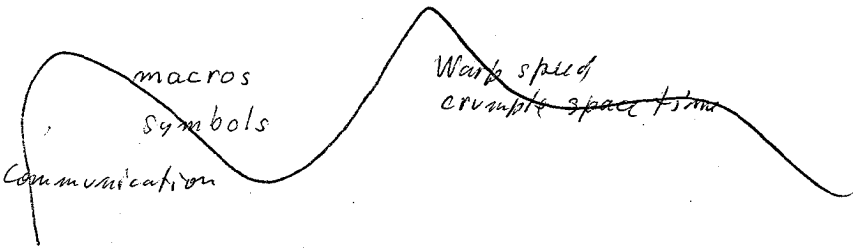
III. The Local/Non-local Mode:

If macro bodies, like micro bodies, can alter between two states (local $\tilde{\sim}$ particle and non-local $\tilde{\sim}$ wave), then another hypothetical mode of movement is suggested. In this mode an object in the local state of being here and now, first diffuses (transforms) into its non-local state becoming everywhere and everywhen. Second, it selects where and when it wants to "un-diffuse" and finally transforms back to its localized state at its selected new position in space and time. This mode allows for time travel as well as space travel.

IV. The Depackaging/Repackaging Mode:

In modern communication practice, for example CDMA, a message is broken into parts. The parts are assigned a code name and are then transmitted by various routes at various times, (along with the transmission of the suitably encoded parts of other messages), and all reassembled in the correct order at their respective destinations. Perhaps the "Beam me up Scotty" mode is a special case of CDMA.

CDMA ~~w~~ PDF files
[send as image]



H//D

GUPGEP98.WP6 February 7, 1998

ASPECTS OF THE DIVERSIFICATION-HOMOGENIZATION DIALECTIC

The ancients, both Chinese and Greek, held that a great portion of the experiencable universe could be explained in terms of a few dialectical principles, such as Yin-Yang or Masculine-Feminine. However, over the years many dyads were lumped together under a single dialectic term such as Yin-Yang, which then became generic, causing the independence and dialectical significance of these dyadic opposites to become obscured. This practice diverted the quest for a set of fundamental dialectics by which the organization and evolution of the phenomenal world could be represented. It is now important to reexamine various dyadic couples to find which qualify as dialectics and among those, which may possibly be used as a fundamental generating set.

In the present approach to this task we shall begin with the expansion-contraction or E-C dialectic. In addition to the conventional meaning of expansion and contraction derived from our experience in physical or positional space, (hereafter referred to as P-space), we shall recognize the E-C dialectic as also operating in form or Hamming space, (hereafter referred to as H-space).[1] In H-space expansion corresponds to the creation of diversity while contraction corresponds to homogenization. Thus the fundamental E-C dialectic may be considered to possess two components, one affecting the density of matter in P-space, the other affecting the degree of diversity H-Space.

This example of the E-C dialectic leads us to consider not only the dialectics themselves, but whether there exist spaces other than P-space in which a given dialectic may operate. The organization of the fundamental generating set will then consist of a two dimensional matrix having as columns the list of dialectics and as rows the spaces in which the dialectics are operative. While P-space is the phenomenological space of our physical experience, it is conceivable that there are basic dialectics underlying the structure of the universe that have no component in P-space. These dialectics being unavailable to our senses or their instrumental extension, belonging to Kant's noumena, could only be detected indirectly by logical inference or pattern completion.

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[1] H-Space stands for Hamming space, named for ~~Richard~~ Robert Hamming who developed the idea for use in code theory. H-space is a multidimensional space in which each dimension represents a parameter that defines form. The more complex the form, the greater the number of hamming dimensions required for its description. Distance in H-space is a measure of difference in form. The more alike two objects, the smaller their separation in H-space. Two or more objects possessing the same coordinates in H-space would thus be identical in form.

MOREVIL.WP6 February 12, 1998

MORE THOUGHTS ON THE NATURE OF EVIL

In an earlier essay three views of the nature of evil were introduced.[1] These included: 1) evil deriving from ignorance and illusion, 2) evil deriving from the pursuit and exercise of power, and 3)evil being an intrinsic component of the universe. The first two presupposed evil as immanent in humanity, the third held evil to be part and parcel of creation itself. The purpose of the present essay is to further develop these and other notions of evil.

Evil, like God, is among those abstractions we have a word for but do not know exactly what the word stands for.

It is important to discriminate wrong doing from Evil. Right doing, though appropriate to God, is not to be equated with God; nor is wrong doing, though appropriate to Evil, to be equated with Evil.

The Source of Evil as outside intervention:

The problem of Evil is very similar to the problem of God. On the basis of our observing certain occurrences that lack a clear causal connection to the ordinary run of things that take place in the world, that is, gratuitous occurrences that appear counter to necessity, we attempt explanations in terms of **outside intervention.** From certain spiritual experiences which are out of the ordinary, we infer the existence of God; and from certain negative experiences, we infer the existence of Evil. This is not to say that after the initiation of a negative event there is no causal sequence. Rather, injections of either positive or negative impulses into the world, once here, follow the laws of causality, but the injections themselves appear to violate those laws. The essence of this approach to Evil is, of course, basically Zarathustrian. However, it not only predicates the existence of an "outside" positive Ahura Mazda and an "outside" negative Ahriman, but states that both may and do intervene at any time, altering what would otherwise be the natural course of events.

Evil is purely subjective:

What is evil is a matter of point of view. A plague decimating the Hittites was a great evil from the Hittite view, a blessing from the Assyrian view. The angel of death passing over Egypt was an occurrence of evil from Pharaoh's viewpoint, but an act of protection and care from the Hebrew viewpoint.

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[1]THREEVIL.WP6, 1997 #10, THREE VIEWS OF EVIL January 25,1997

We note that the same material manifestation may be viewed as tragedy or as evil. For example, a person mutilated in an automobile crash, or the same degree of mutilation resulting from the actions of a psychotic human. In the first case--tragedy, in the second case--evil. In other words it is not the material manifestation per se that is evil, as is the view of the 'evil is subjective' school, it is what underlies the manifestation. A Richter 8.3 earthquake is a great tragedy from a human view, but we do not call it Evil, we call it "an act God". If it is not the material manifestation that is evil, then evil cannot be explained on the basis of sensory inputs from this world. As is the case with beauty, love, peace, etc. which are **recognized,** not seen, heard or tasted, evil is also from some other domain that we experience not by senses but by **recognition.** Finally, if we can find an event that everyone, Hittites and Assyrians, Nazis and Jews, Atheists and Believers,... all agree is evil, then the case for the existence of objective evil would be affirmed.

All of this leads us to say that evil is not indigenous to the natural order but is injected into the natural order from some other level, usually however by human agents. **Intention,** from whatever source, alters the natural order. Perhaps the long range way in which the natural order is altered by suspected evil events may gives us a clue to the agenda of evil. Then if we can identify its agenda, we may surmise its essence. But of course evil may be without an agenda and that just might be the essence of what evil is.

ON DEIFICATION AND LINEAGES

Milarepa, the great Tibetan arya, rejected for himself the anointment of tulkuship. While this, in one sense, is a theological parallel of the political rejection by Cincinnatus of the consulate, or by Washington of a crown, much more is implied. Milarepa has taken the position that anointment cannot be passed on through some heredity process: Not through genetic heredity, as with the divine right of kings nor as with the Jews in their assertion of being the "chosen". Nor is anointment bestowed by some electorial process as with the election of Popes, nor by some selection process as with tulkus who are the supposed reincarnations of some deity such as Avalokiteshvera. Indeed, in a broader sense Milarepa's rejection supports all who were anointed without the blessing of an orthodox lineage. The names of Shakimuni, Jesus, and many prophets, saints, and sages of far flung lands come to mind. It may well be that new and higher wisdom always enters the world from outside hereditary and selected lineages. And is that not the meaning of virgin birth?

A second and very troubling implication, that Milarepa avoided by his rejection, is that anointing the messenger is a diversion that neutralizes the divinity residing in the message. First, the focus turns from that which was pointed out by the finger of the messenger to the finger itself. Second, the focus turns from the pointing finger to what it is newly pointing to: viz. a new lineage that claims ownership of the message and its messenger. In these refocusings what is left of the message and the messenger becomes blurred and confused, ultimately being redefined and corrupted by the new lineage.

But not only does anointment or deification of the messenger tend to vitiate the message, it destroys the role of the messenger as exemplar. In deifying the messenger, a chasm is placed that separates both the divine message and the anointed messenger from those for whom the message was originally intended. The lineage substitutes a false code book and the original meaning of the message is lost. For such messages always contain the code book by which they are to be interpreted.

Religious lineages are like schools in the arts: Impressionism, Surrealism, Symbolism, Modernism. They continue until the variations on their themes are exhausted and some new "anointed one" breaks away and introduces a new theme. Only when Hiroshige's teacher died only then he felt he was free not to have to paint in the tradition he was taught.

Lineages become cults. They define what is orthodox and what is heresy. Lineages become poles rather than trees. They abhor branches. But the great teachers held otherwise. The Buddha Shakimuni's last words were an exhortation not to stop with what had been taught, but to continue to work out your own salvation. Jesus said I am the vine and your are the branches. You can not only do what I did but much more.[1] (And Carl Jung said, Thank God I am not a Jungian).

Above the introduction of a teaching that departs from the lineage was compared to Virgin Birth, and certainly Virgin Birth is a proper metaphor for such innovation. In addition to the birth of Jesus[2] there are many examples of new ideas and concepts that are not contained within any lineage: Kepler's introduction of ellipses not part of lineage astronomy; Napier's introduction of logarithms not part of lineage mathematics; Buckminster Fuller's geodetic domes not part of lineage geometry; Superstring theory not part of lineage physics. The secret: That of Mary: emptiness, and consent. and courage,

There are many forces operating to destroy whatever is born of virgin birth. The old order crucifies the messenger and the new order corrupts the message. But most deadly is our ignorance and inability to understand. We fail to realize that with the new message is also given a new code book, [for code book read consciousness] and our interpretations of the message based on the old code book do not apply. It is ever a wonder that what is incarnated in the manner of virgin birth survives in any part. But it is those parts that do survive that have raised us up and given us the visions that enable us to persist in our search.

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[1]Breaking with a lineage and taking up a new theme shortens the life of a lineage. If the primary value is merely longevity or survival, instead of fullness and richness, then keep the teaching pole-like. But that is neither the way of the Great Teachers nor of cosmic and bio-evolution.

[2]It is an anomaly that the writers of Matthew and Luke attempted to show that Jesus was of the lineage of David. They felt he had to be authenticated by belonging to a lineage.

Lineages are nothing but "old boys clubs" spread over time

Note that Islam deified the message [the Quran]
and not the messenger [Muhamad]
while the Church deified the messenger [Jesus → Christ]
and suppressed [the Gnostics] and distorted the message [the Gospels]

CODEBOOK.WP6 MARCH 21, 1998

See 1998 #21

ON CODEBOOKS

Experiences, feelings, thoughts, exist in a space of more dimensions than can be linearized in language. The consequence of articulation is truncation. Whatever is put into words is but a downsized portion of its organic whole. Nonetheless, there remains the hope that the part excised to paper may in some way grow again to its fullness in the heart and mind of a reader. The hope that what has been reduced to a set of symbols may yet convey the essences of that symbolized, or still better, inspire some reader to an experience going beyond the initial gropings. Success, however, depends on both the writer and the receiver possessing the same "code book". For without a shared codebook all communication is in vain. Indeed, in the worst case, use of the wrong codebook will give a message that is both meaningful and erroneous. This fact puts at risk not only all communication but all experience (which is basically some form ~~or forms~~ of communication). We may ask, How much understanding of the world has been distorted or lost by our use of the wrong codebooks.

The deeper purpose of education is to equip our children with an essential "cultural codebook", a codebook that is the key to survival in a given culture: The key to living and making a living, the guide to what is important and what is useful inside a particular cultural context. In these times of rapid change it turns out that our cultural codebook needs almost continuous updating. This not only from technological innovations and their economic consequences, but from the evolution of societal values and of language itself. In addition, within the cultural plenum there are many sub-cultures, the legal, the political, the business, the entertainment, ... each having its own codebook, and each immersed in a milieu of rapid change. To survive in a surfboard society such as ours, it is not only necessary to have an up to date cultural codebook, but to have sizeable portions of some of these sub-cultural codebooks.

But there is more regarding codebooks. Perhaps most important of all the codebooks is one which is not available in school, the work place, or in a professional career, but is nonetheless available to everyone. It is the codebook that allows us to receive and interpret the deeper meanings in the messages of experience, undistorted by cultural and temporal filters. This is the codebook that tells us when we receive a message, "Hey. I have known that all along". [According to Shannon's definition such a message contains no information.] This is the "deja vu" codebook. We know we are using it when we become aware of something that is already in us, not recalled but **recognized.** It is as though we are in touch, not with our own personal mind and its memories, but with some "cosmic mind" of which we all are a part and to which we may all gain access when we wish to move beyond the facades and illusions of our self-created concerns.

Not only teachings, but facts themselve have many meaningful interpretations.

A code book $\neq$ a dictionary ~

A code book is that which tells how to interpret the message $\Rightarrow \exists$ a correct interpretation

$\neq$

A dictionary relates various interpretation

innumerable correct interpretations

980323.DRM

Dream in the morning of March 23, 1998:

Had found new space in the basement of an old building. Was delighted to have place for stuff that needed organizing and storing. Lots of deep shelves but all need dusting and cleaned up. Donna shows up and wants some of the space. I work out with her portions for both of us. Then I discover that the space is at least a dozen times larger than I had at first realized. And then further discover a "symmetric" space of about equal size to the original. I give the entire symmetric space to Donna.

I then go off for some reason to meet somebody important. And decide to take a short cut back. But the road is cut with deep ditches and hard to progress. I finally come back and find huge crowds of people gathered at my new space. There seems to be some kind of celebration in the offing. Everywhere people elegantly dressed and enjoying refreshments from various "tea rooms". Then things seem to get organized. A ballet team comes in and in time with their dancing everyone starts shouting "Mother Russia". The scene becomes very emotional and the entire crowd surges to the entrance. I see a large white blue and red Russian flag with an imposed double eagle.

The crowd sings "Mother Russia" and it turns out that Tsar Nicholas and his family are coming in for the celebration. I am in a front row along the line of march and get to see the Tsar and his family and accompanying cortege. A high officer with the most impressive military cap I have ever seen looks at me suspiciously then goes to confer with some others all the while watching me. At this point some one at my side takes my hand and I turn and see a beautiful young lady in court dress fascinatedly watching the procession. The officer returns and sees the two of us holding hands, seems relieved and goes off. I look at the lady, she looks at me, suddenly withdraws her hand and exclaims, "Oh, I am so sorry, I thought you were someone else". I said its quite all right you just saved me from the Oprichnina. She okrana laughs and said, "I didn't want to be alone either and need an escort, would you mind if we stay together?" How wonderful, we need each other here, let's stay together.

After a dream such as this, I wonder who the hell I am. Why has Russia seemed so important to me all my life? I had to find a private tutor and study Russian when I was just 14. I sought an answer in the Birch forest near Moscow in 1958. There I felt I was at home but the answer eluded me. I do not believe in reincarnation, but it seems somehow that, like a hologram, I am a part that contains all of history, all of biography, all of what has been anywhere at any time on earth. But is this not true for all of us? I seem from time to time to get a glimpse of a greater whole. Or is it that I have at times succeeded in gaining access to Our Mother Earth's Great Collective Mind, the Noosphere?

Я не знаю - I don't know

CONFESON.PER MARCH 23, 1998

CONFESSION--A PERSONAL NOTE

From time to time my frustrations build to anger and disgust, mostly directed at myself. This year has been a succession of breakdowns: cars, computers, health. Sojourns in hospitals and doctor and dentist offices. But mostly finding myself on some sort of dead center, not being able to get moving again in spite of the mountain of things needing to be done. Perhaps the dead center is not having the energy to face what has to be done.

The whole thing is beginning to blow up--right in my face. I take dictation almost every morning. It seems that sometime between 3:00am and 6:00am they--whoever they are--can get through to me. I have learned to be open, to receive whatever comes, jot it on a scrap of paper, even if I cannot make sense of it. Later when I try to organize the messages, trying to force them into my traditional matrices of thought, they freeze up. The messages, the ideas just do not fit. And this is what at root overwhelms me. I have no suitable framework for organizing this material. And it continues to pile up on every card, scrap, page, and file. It has long been incommunicable to others, and now it has become inarticulable for me.

I have joined--no, not joined, passed beyond--the lunatic fringe. My personal experiences in this life, which I refuse to ignore or deny, have put me into conflict with the culture in which I was brought up. To be true to myself I must repudiate much of the conventional ontological, cosmological, axiological, and theological teachings of the current western worldview. While I find myself in accord with much of the thinking of many of history's thinkers and teachers; with Hermes, Pythagoras, Plato, Sakyamuni, Mahavira, Lao Tzu, Deutero Isaiah, Jesus, Shantideva, and many others, I am very much at odds with Augustine, assorted Popes and Saints, Descartes, Bacon, and the moderns of their lineage. While I am a firm believer in disciplined learning, I am opposed to all lineages, opposed to all whose claims to validity are based on auto-authentication. And I am turned off by personality cults and celebrations of ego. All of this adds up to painful alienation.

On the other hand, I find great pleasure and satisfaction when I encounter the wisdom of unheralded individuals; those who seem to have been able to reach essences unshepherded by the protocols of some lineage. I feel it is in the diversity of individuals and their variety of approaches that our true wealth and hope lie. But I suppose all that I am saying is that I treasure most those cultural anarchists like me--no, who are different from me.

those cultural anachists

DIFCULTY.PER March 30, 1998

DIFFICULT TIMES

At times I must write from a very personal and subjective view just to get stuff off my chest. This year has been an extremely difficult one for me, both physically and emotionally. Beginning with hospitalization on New Years Eve, going through two varieties of flu that carried on for weeks, an accident hurting my right knee, a tooth infection, and eye and ear problems. I know I have a mitral prolapse condition, macular degeneration, cataracts, and deafness. What else, I don't know. On top of this has been constant rain and clouds with the sun becoming a vague memory. Cabin fever sets in. Then my car and my computer both break down. Real frustration in trying to work around software with firewalls and loops instituted to advance Bill Gates march to monopoly. No one seems to know how to fix it. Maybe all of this is for the purpose of making me pause and reconsider what I am trying to do.

What is it that I am trying to do as I approach my 80th birthday? I think it is to write up and organize ideas of mine that have been on scraps of paper some as long as 40 years. It is an overwhelming task. I can not come up with a schema with which I can organize this material. My objective is to put this stuff in communicable form, but some of it isn't even articulatable. I must come to agree with what one astronomer told me decades ago: "They all think you are crazy". [This after our book on discretization] And reluctantly to accept what another astronomer told me four years ago: "They hate you". I have long accepted my being ostracized from the astronomical community, and alienated from institutionalized science's celebration of egos as its underlying motivation for understanding the world. I have no bitterness in this, but I am lonely and miss having discourse with knowledgeable people who are open to "crazy ideas". Maybe I have come to think, not only am I crazy, but they are too. We all took a wrong turn in the road somewhere back there.

William the Silent, I think it was, who said we must always persist, even when there is no hope we must persist. I agree. My responsibility to my being here and to those who have loved and supported me is to bring my gift to the altar. If it is rejected, as was Cain's, I shall not be angry nor kill those whose gifts are acceptable, but shall assume that without alternatives there is no such thing as selection--natural or other. I believe that God created the world to see a richness of variety evolve. To see what variations on His theme are possible. For us to establish a party line and ridicule and persecute all who do not go along, as we have done throughout history, truncates potentiality and precludes the emergence of the variety that transforms a one line tune into a magnificent symphony.

THIRDPER.PER March 31, 1998

MORE NOTES ON A PERSONAL LEVEL

It seems as though this is the season for self evaluation. Instead of writing essays and editorials, I am writing confessions and introspective explorations. This third personal scrap coming hard on the heels of yesterday's was triggered by receiving in the mail today a solicitation to subscribe to the Skeptical Inquirer, the journal of the Committee for the Scientific Investigation of Claims of the Paranormal. According to their flyer, this group is dedicated to saving the gullible public from the scams of astrologers, Ufologist, psychics, channelers, faith healers and practitioners of alternative medicine. My reaction to their message is that the scientists, psychologists, philosophers, and others involved are attempting to build an intellectual fortress to protect themselves from the assaults of human experiences that lie outside the domain of validation of their scientific epistemology. This is their collective exercise in mutually supported denial.

I have personally known many of the fellows listed on their mast head including Mario Bunge and Carl Sagan, and have great respect for their skills and knowledge in their respective fields. But their approach to those phenomena less frequently encountered violates my basic principle of tentative openness to all experience, whether we can explain[1] it or not. However, I do agree with their assertion that there is a large mass of quackery out there, but it is our job to discriminate between quackery, error, and validity, and not to package all that is inexplicable in a box labeled hoax.

The reason for this confessional scrap is the Skeptical Inquirer flyer's reminding me of why I became alienated from the scientific community in the first place. I have personally had many of the experiences they discredit. I have seen ghosts on several occasions, I have had precognitive dreams, synchronistic events, statistically improbable telepathic communications, (one event witnessed and disbelieved by Carl Sagan) and repeated success with alternative medicine. Since my own truth cannot deny my personal experience, even when it is at odds with what is currently culturally acceptable, I must accept the charge of being "crazy" and of being a hated thorn in the view of certain scientists.

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[1]The Skeptical Inquirer is very explicit here: Explanation means scientific explanation. This confirms that their entire approach is predicated on the allowability of only one particular epistemology.

RELIGLEV.WP6 April 3, 1998

LEVELS: ADMINISTRATIVE VS SPIRITUAL

Most of the great religious traditions have recognized that there are levels of spiritual development. Not all members are in the same place along the path. This has resulted in sub-disciplines dedicated to more profound, (or sometimes called, hidden), teachings. Examples are the Cabalistic teachings in Judaism, the Sufi teachings in Islam, the Vajrayana, Mahayana, and Theravedan levels in Buddhism. But in the matter of levels of development Christianity appears to be an exception. It seeks to contain and restrain all its sheep in the same fold.

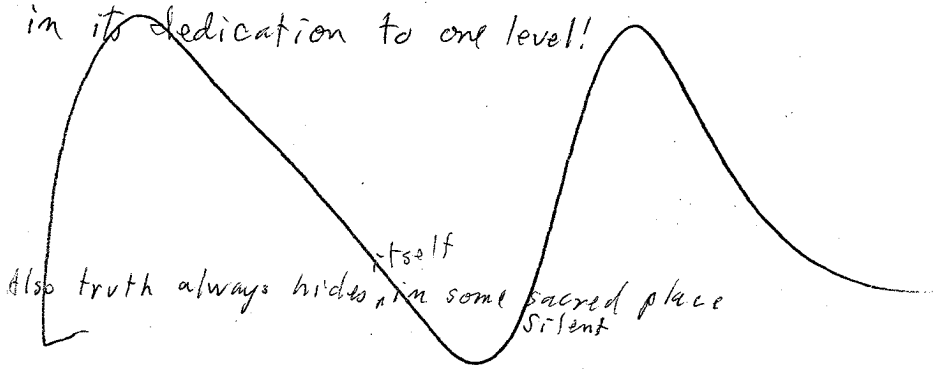
There is a great historical paradox in Christianity. The gospels were interpreted to preach the message of egalitarianism. God sends his rain on the just and the unjust, all stand equal before God. Over centuries this doctrine ultimately led to political democracy, to the social philosophy of "All men are created equal", to "Liberté, Egalité, Fraternité". In the Christian West elitism in most of its forms came to be viewed with suspicion. But paradoxically, contrary to its interpretation of the gospels, in the intellectual climate of Imperial Rome in which Christianity came to birth, the Church organized itself around a hierarchy that was anything but egalitarian. In effect the church interpreted the gospel's egalitarian message in such a way that it was applied to the spiritual level of the people, all were to be sheep in the same fold. While at the same time the Church replaced the levels of spiritual development present in other religions with administrative levels of theological authority. The Church politicized the spiritual.

The Protestant reformation sensed something amiss, and attacked the administrative hierarchy, but failed to recognize the reality of levels of spiritual development. Today the Christian West is still in agreement that there be one level for the sheep, but argues over which shepherd or shepherds (including male vs. female) should be in charge of the various uni-level folds.

Now comes an outsider, the fourteenth Dalai Lama, who hints at a different interpretation of the gospels. God sends his rain on the just and the unjust, that is telling us how we are to dispense our compassion and charity to all, be they deserving or undeserving. Egalitarianism is to be applied to what we give and send, not to the status of the givers or receivers. That sounds like the Jesus we know in our hearts, not the Jesus filtered through the agenda of a theological hierarchy.

But is it really true that there has been no "higher" teaching in Christianity as in other religions? No, not at all. There is a rich heritage of profound wisdom and understanding

Science has followed the church
in its dedication to one level!



within Christianity. Why then is this heritage so little known? The answer to that question is complex. Part of the answer lies in the fact that the higher must be sought, and sought with a commitment that turns not back. It does not send out missionaries, seek to convert or proselyte. Its truth is **recognized,** not requiring establishment per number of adherents, nor affirmation per consensus, nor validation per temporal length of lineage. Such truth does not require nor admit proof, does not even require belief or faith. Discovered through the epistemology of Silence: IT SIMPLY IS!

Of course, there are other reasons why the Higher Christian Heritage is so little known. Primarily, its teaching invalidates the power protocols of the hierarchy. It is a threat to any closed system of theology. It has had to hide, buried in jars in the desert, hidden in caves. When caught, put on trial, condemned as heresy, burned at the stake. [How can there be heresy in that which is a Mystery?] Certainly the prophesy has been fulfilled: The stone that was to be the corner, has been rejected by the builders.

But Christianity's "lost" teachings have been discovered and rediscovered by its saints and martyrs. The teachings may lack apparent temporal continuity, but they come to life time and again in each act of love, forgiveness, and sacrifice, performed anywhere on earth, by whomsoever, regardless of race, religion, gender, or any other persuasion. This indeed is ever a real "Second Coming".

Finally, it is not surprising that as one moves along a spiritual path, one discovers that the higher teachings of all the religions, though using different symbols and languages, seem to converge to a great confluence that is at once Love, Beauty, Truth, and Silence.

A brief history of this computer:

Purchased Aug 22, 1997

In February 1998 this Presario repeatedly began giving the message: "Your program has performed an illegal operation and will be shut down." followed by total crash. Something about page error in WININI.DDL??? After a couple weeks of trying to get support to tell me how to fix it, (they said use scandisk), since the computer had become useless. I reformatted the hard disk and used the Quick Restore Disk to get set up again. This did not work. There were loops and 'firewalls'

I took the computer to a repair shop who claimed the problem was in the hardware, the screen would play Jackson Pollak in all colors and designs. They said it was under warranty and "fixed it" (It still has a Jackson Pollock strip in the monitor). But the fixing of it had no affect on the software problems.

Back to the Quick Restore labyrinth: "You don't have such and such program loaded" put device = x I would do this and it said there were duplicate x's, erase one. This went on for several trials with it changing its mind on which x to put into device =. Concluding that the quick restore disk could not do what was claimed for it, I got in touch with Compaq's support facility. This computer is

(basket) CASE # 5898040218079

I followed instructions to repartition the hard disk and try the quick restore disk again. Same dead end over and over.

Either this computer is a lemon and I want my money back or there is somebody associated with Compaq who knows something and can fix it.

I would like to have a simple old fashion set up with basic DOS and compatable WINDOWS 95 operating systems, allowing access to all ports and drives, so third party software of choice can be loaded; and especially without everybody's internet provider's billboards and programs and without the package engineered at the direction of Bill Gates' lawyers to create a "company store" monopolistic architecture. In brief, is it possible to have a straight forward working operating system without all the conflicting garbage that performs "illegal operations"?

~~COM~~

PRESWIST, WP6 98/04/07

PACKAGING IS HOMOGINIZATION!!!

PERCEPTION-FACT-INTERPRETATION

Fact is the name we give to that which bridges perception and interpretation. A perception is an input, an interpretation is an output, so a fact is a construct that exists only in our heads.

There are protocols governing the establishment of facts. These protocols differ among various professions, being set by consensus within each group. The courts set their rules of evidence on the basis of information that is available; the scientific community defines what is acceptable as scientific fact on the basis of testability and falsification; religious bodies proclaim what they hold as fact on the basis of recognition; and the rest of us have our personal criteria regarding what we will take as fact and what we won't.

In general facts are established in two ways:

For a single event to be a candidate for being factual, its description must be the result of **consensus** of perception among all witnessing the event. No consensus, then doubtful factual status. For example, the event of an appearance of the Virgin first witnessed by three children at Fatima in Portugal in 1917, and later witnessed by hundreds acquired doubtful factual status because not all present perceived the Virgin.

In the case of a single observer, such as a researcher in the laboratory, for an event to be candidate for factual it must be a repeating event, or as scientists put it, results must be reproducible. A single observer witnessing a single event can never claim factuality. For example, the Russian astronomer Kozyrev observed a flash in a certain crater on the moon, perhaps an impact, but there being no other observers the event was discredited. However, factuality was partially restored when the record of a similar event observed by five British monks in the summer of the year 1178 turned up in the journals of Gervase of Canterbury.

Coordinating the foregoing requirements, we see that to be considered for factuality, the number of observations or perceptions must be greater than one, regardless of how they are distributed between events and observers. In addition, in the case of a single event there must be consensus among the observers. Put explicitly:
A fact does not exist unless,

THE NUMBER OF OBSERVERS x NUMBER OF EVENTS > 1

A single observer perceiving a single event cannot establish it as fact. Multiple observers can establish a single event as fact provided there is consensus, and a single observer experiencing multiple repeatable events (head aches for example)can claim them as fact. But science is more restrictive. It says a fact does not exist unless,

THE NUMBER OF OBSERVERS >> 1 **AND** THE NUMBER OF EVENTS >> 1

Thus science refuses to grant a single event status as scientific fact regardless of the number of witnesses. Thus the Big Bang, being a single event, cannot be scientific fact, and some maintain that modern cosmology is not even science. These requirements for factuality lead us back to Pythagoras' insight: "Existence of a thing requires that there be at least two of them. One of anything cannot and does not exist!" (This could put monotheists in trouble).

SPACDIAL.WP6 April 10, 1998

cf 98#20 #27

DIALECTICS IN ALTERNATE SPACES

We recognize two kinds of dialectic:

The first type of dialectic consists of a dyad whose two components act simultaneously. The counter action of these opposing components continues until a state of equilibrium is reached.

In the second type of dialectic only one component acts at a time. The alternate action of the components results in growth, evolution, or emergence.

We tentatively postulate four spaces:

P-SPACE, the space of nodal positions; H-SPACE, the space of nodal forms and patterns, (information content of nodes); B-SPACE, the space of nodal interaction, internodal forces, traffic, and messages; S-SPACE, the space of selection, decision, choice.

The attraction/repulsion dialectic takes a different form in each space as in TABLE I.

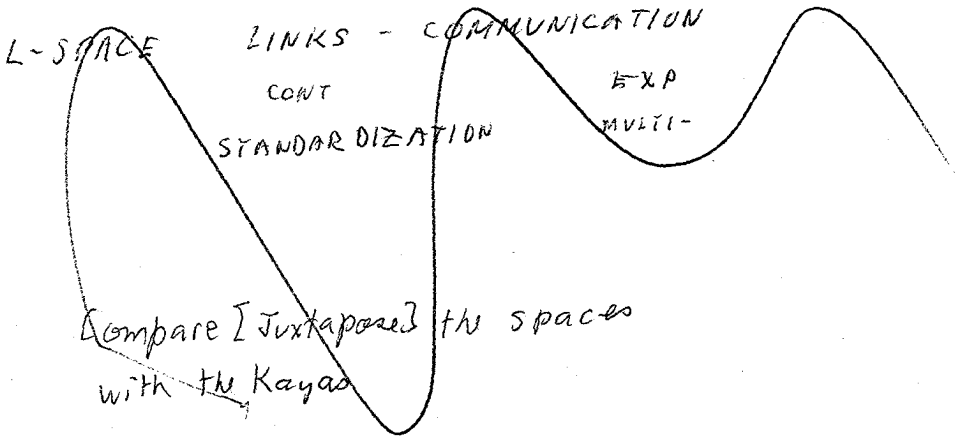
SPACE\DIALECTIC	ATTRACTION/REPULSION	
P-SPACE	CONTRACTION/EXPANSION	Position
H-SPACE	HOMOGENIZATION/DIVERSIFICATION	Pattern
B-SPACE	CONSOLIDATION/FRAGMENTATION	Bonding
S-SPACE	SELECTION/OPTION	Selecting

TABLE I

In addition to **intra** linking within a space, there must be **inter** linking between spaces. The dialectic itself is one form of interspatial link.

P-SPACE:

Position or physical space, the space in which our sensory apparatus operates. This space can be viewed either as a three dimensional geometric space or as four dimensional space-time. Its properties are the basis of Aristotelian two valued logic and the law of the excluded middle. It is characterized by here and not here and now and not now. No two objects can occupy the same coordinates (place) at the same time and no single object can be at different places at the same time. [This is sort of a generalized Pauli exclusion principle]. These interconnections of space and time coordinates indicate that the space and time axes are not orthogonal in the sense of being completely independent,



Compare [Juxtapose] the spaces with the Kayas

contrary to their usual mathematical formulation. There are two kinds of distance in P-SPACE: extension in zones of non-zero density and separation in zones of zero density. Localization in P-SPACE means an object has a unique set of space-time coordinates. Non-localization means that an object occupies an extended space-time volume.

H-SPACE:
Hamming or morphological space, the space of archetypes, blueprints, templates, and recipes. This is a multidimensional space, having as many dimensions as the number of parameters required to describe a form or pattern. Distance between two objects in H-SPACE is a measure of their difference in form. Identical objects will have the same coordinates in H-SPACE. Unlike in P-SPACE, there is no limit to the number of objects that can have the same coordinates. The volume occupied by a set of points in H-SPACE is a measure of their variety. The smaller the volume, the more homogeneous the set. Whereas in P-SPACE a volume represents non-localization of a node or entity, in H-SPACE there is no corresponding interpretation of volume for a single entity. [Unless that entity is Proteus himself].

B-SPACE:
Bonding or control space, the space whose coordinates measure the degree and nature of the interaction between nodes or entities. Distance in B-SPACE is a measure of the degree of bonding between nodes or entities. The smaller the distances the stronger the forces of attraction and the more intimate the bonding. Depending on the number of points and their density, volumes occupied by a set of points in B-SPACE, from smaller to larger, will represent organisms, societies, institutions, or ecologies. Density is a measure of dependence. Increasing density signifies increasing interdependence, decreasing density signifies increasing independence. Also B-SPACE includes the nature of the communication channels between nodes. A channel may be broad band or narrow band, may range from laser or pencil like to omnidirectional or 4π like. Small volumes indicate narrow bands and beams, large volumes the opposite.

S-SPACE
Decision or selection space. Volume in S-SPACE is a measure of the number of options or alternatives that are available. Decision processes reduce the volume. A second feature of S-SPACE is the mode of selection: Random, deterministic (causalistic), teleological (finalistic), or contextual.

THE BI-BREATH CYCLE

It is said when Brahma breathes out worlds come into being; when Brahma breathes in they are destroyed. Breathing as fact and as metaphor is the basic dynamic of the Cosmos, of Life, and of most that lies between. It is a meta-dialectic. The LIV (54th) Chan Patriarch, Li Kiang, speaks of breathing as follows: (from Lieh Tzu).

That which is cyclical, no matter how often repeated, returns to the same condition. The Tao, however, knows that a cycle can be used to join Heaven and Earth. The cycle that will bring Heaven to Earth is two-fold. To bring the compassion of Kwan Yin to all the sentient beings of Earth: On the first breath take in her compassion, then exhale it to all the Earth. On the second breath take in the pain of Earth and exhale it to Heaven, Each pair of breaths will not only take the Compassion of Kwan Yin to Earth and the suffering of Earth to Heaven, where it is quickly disolved, but will wash and cleanse the breather.

Li Kiang's Four Levels of Breathing

1) Ordinary Breathing:
Inhale mundane from Earth; Exhale mundane to Earth

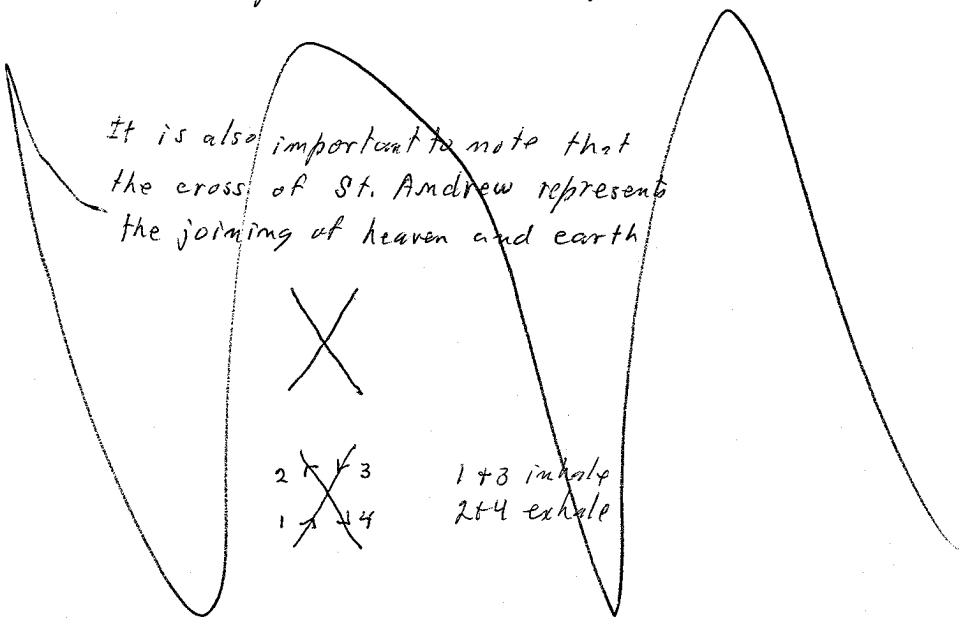
2) Theravadan Breathing: Single Breath Purification
Inhale Kwan Yin from Heaven; Exhale mundane to Heaven

3) Mahayana Breathing: Two Breath Purification
1) Inhale Kwan Yin from Heaven; Exhale Kwan Yin to Earth
2) Inhale mundane from Earth; Exhale mundane to Heaven

4) Bodhisattva Breathing: Single Breath Purification
Inhale mundane from Earth; Exhale Kwan Yin to Earth

Every Breath Is A Prayer

It is also important to note that the cross of St. Andrew represents the joining of heaven and earth



NOTES:

Level 4) One cycle taking and sending is the taking and sending of the Bodhisattva. Since a Bodhisattva already has Kwan Yin in the heart, the Bodhisattva is part of Heaven. So purification of the mundane is accomplished each breath. For those on the Tao yet to become Bodhisattva, Level 3), two breath cycle is necessary. You become Bodhisattva when you move from Level 3) to Level 4).

Our modern experience with engines can help us to understand the breathing teachings of Li Kiang. The cyclical operation of breathing is metaphorically followed by all engines.

Steam engines do a single breathing cycle, but avoid the stasis described by Li Kiang by having in essence two cylinders, actually a single cylinder separated into two chambers by a piston.

Steam Cycle:

I. Hot steam admitted into left chamber, piston moves to right, cool steam forced out of right chamber
II. Hot steam admitted into right chamber, piston moves to left, cool steam forced out of left chamber

Single cylinder operation for an internal combustion engine, with either an otto or diesel cycle, is much like that described by Li.

Internal Combustion Cycle:

I. Intake stroke: piston moves out, fuel drawn in
II. Compression stroke: piston moves in, mixture compressed
III. Ignition stroke: fuel ignited, piston moves out
IV. Exhaust stroke: piston moves in, spent gas forced out

From these examples we see that a breathing process that effects a transfer of energy must do so with two cycles--two breaths, not one. (In the case of steam, the two cycle criteria is met by having two chambers.) The principles behind Li Kiang's example seem to apply to both the transfer of physical energy and the transfer of Ki. However, it is in the power of Heaven alone to transfer with a single cycle.

WESTLANG.WP6 APRIL 12, 1998

Some Observations on the English Language

During the past century English has become the global language. There are several reasons for this: A consequence of the once wide spread British Empire; The growth of world wide trade with English being recognized as the language of business; The built in efficiency of English, its ability to put across the same message with fewer words in a smaller space; The large size of the English vocabulary. With the present global dominance of Western culture, it is fair to say that, English in being the representative language of this culture, English is the most Western Language.

also open wide to imports and neologisms

All of the above seem to be pluses, especially in the view that the development of a single global language is a vector toward better international understanding and world peace. But there is also a minus side. In acquiring efficiency, English has lost accuracy, and worse, has lost the ability to capture profundity. This will immediately be disputed, but let us look at a few developments.

First, English, and many other languages as well, has merged the singular and plural of the second person. "You" now stands for one or for many. "Thou" is long gone. (In certain areas the singular/plural need has been met with you for singular and you all for plural.) Efficiency has been gained, but what was lost? Intimacy has been lost. There are no longer special people whom you save "thou" for. Family, relatives, friends, and strangers have been reduced to the same category. This might have been an improvement if all had become more cherished, but it went the other way. Today, spouse and family have lost their special status and it is easier to treat them as you would anybody else. Only God held out for a while. But now God has also lost the intimacy of "Thou". God and all others have been democratized into a common pool. I--Thou has been replaced with me vs everyone else.

Second is the matter of doing away with case endings. (The word "whom" has disappeared from English in my own lifetime.) The greatest source of gain in efficiency for English has probably been the homogenization of case endings. But there has been a price: loss of accuracy and flexibility. If nominative and objective are merged then it is left to word order alone to convey the meaning of a sentence. And this is a load that word order cannot always carry. Inflection is a "second dimension" to language, allowing a richness of expression not available to one dimensional word order. And a language whose cases have been homogenized limits poetry whose need for flexibility in word order is essential.

penalizes

Finally, we come to the matter of the various moods of verbs. The Table gives us a brief review of the moods, their domains, and their use.

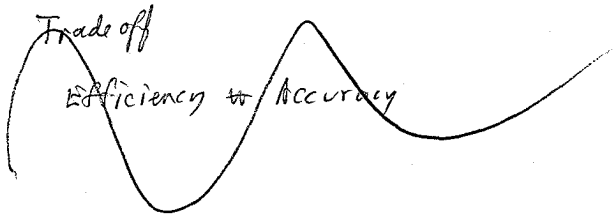
MOOD	REFERENTIAL DOMAIN	USE
INDICATIVE	THE OBJECTIVE AND FACTUAL	DESCRIBE REALITY
SUBJUNCTIVE	THE CONTINGENT AND POTENTIAL	CREATE POTENTIAL
IMPERATIVE	THE INJUNCTIVE AND EXHORTATIVE	CREATE REALITY
INFINITIVE	THE REFLEXIVE, SELF REFERENTIAL	ENTIFY PROCESS
EXCLAMATORY	THE INTERJECTIVE, INTERRUPTIVE	ESCAPE HATCH

The moods of verbs reflect metaphysical pictures of the world. Pictures that entertain not only an objective reality but also possible and preferential realities. These moods have been present in languages for millennia and reflect a linguistic approach to a richer world than we subscribe to today. Evidently language follows worldview and the decline of the subjunctive mood in English parallels our acceptance of the world as consisting of a single materialistic deterministic reality. The disappearance of the subjunctive, that is of the worlds of could be, would be, ought to be, leave us with only an "is world" devoid of choice and eventually of hope.

In summary, since we think in words, our erosion of English will in due time limit the thoughts we can express, muddy accuracy, corral flexibility, and reduce the alternatives that would otherwise be available to us.

Postscript

But there is another result to declaring all cases to be created equal. The distinction of subject and object in language reflects a perception of reality that has been basic to the way humans view themselves and the world since the cave days of "ME TROG, YOU DOG." The nominative-objective discrimination of observer and observed and actor and acted-upon has historically shaped epistemological and ontological thinking to the point that the encounter with quantum phenomena in the twentieth century created metaphysical chaos. The quantum world in which the observer was part of the observed and the observed was part of the observer didn't fit with the structure of the languages with which we think. Whether the current merging of nominative and objective is a result of quantum discoveries, or the changes in English are anticipating the need to be able to think differently about reality, we cannot be sure. But either way both language and reality are changing and showing us how intimately they are interconnected.


Trade off
Efficiency vs Accuracy

CAPMARCH.WP6 APRIL 13, 1998

Capitalism Marches On
One Day in the News
April 13, 1998

Every year it is becoming more clear that the drummer to which Capitalism marches is the same drummer to which the German industrialists and their Brown Shirt stooges marched on their way to the Thousand Year Reich. If, as Mussolini defined it, Fascism is the corporate state, in which the citizens are corporations, not persons, then the march to Capitalism = Fascism is well on its way.

The following are excerpts from articles published in the Santa Rosa Press Democrat on the above date:

BANKAMERICA IN GIANT MERGER

BankAmerica Corp and NationsBank Corp announce a merger that will create the nation's first coast-to-coast bank, with nearly 5,000 branches and 15,000 automated-teller machines in 23 states and Washington D.C. This merger comes only a week after Citicorp and Travelers Group Inc, announced they would merge to create the world's largest financial-services company, Citigroup Inc. Banking industry analysts said the $83 billion Citigroup deal would pressure other companies to merge in order to compete. Previous big regional acquisitions by NationsBank have included last year's acquisition of Florida-based Barnett Banks for $15.5 billion and a $9.75 billion buyout of St. Louis based Boatmen's Bancshares in 1996.

PRIVACY IN THE DIGITAL AGE

You've probably never heard of Acxiom Corp, a giant information service, but chances are Acxiom knows quite a lot about you. Every day Axciom gathers and sorts information about 196 million Americans: Credit card transactions, magazine subscriptions, phone numbers, real estate records, car registrations, fishing licenses... [These operations] are known as "data warehousing" or "datamining" and represent yet another example of how traditional notions of personal privacy have become obsolete. Data warehouses can assemble electronic dossiers that give marketers, insurers, and in some cases law enforcemnt, a stunningly clear look into your needs, lifestyle and spending habits.

SOME EXCERPTS FROM LETTERS TO THE EDITOR:
(Comments in italics are mine)

If our UC's are now meant to be multi-cultural microcosms of California, then we would do no better than to throw the names of all the qualified candidates for admission into a jar and draw. But if it is to educate the best and brightest for the common good, then we are not demanding enough of either the UC college bound students or the state that is charged to educate them --Paul Cavallo

This issue reflects the fact that an increasing portion of the population is denied access to the market place. That opportunities for education are narrowing is but another facet of capitalism's march toward monopoly.

Your March 31 editorial notes that, Weapons Makers love NATO expansion because they can make money on the deal. You also stated "There are important reasons for NATO expansion that have nothing to do with corporate profits" That statement was not followed by any explanation. If the Press Democrat knows of any good reason for NATO expansion, you should let your readers also know. --Richard M. Bentley

Over forty former state department and military top echelon people have protested that this expansion of NATO in no way is in America's interests. Further it strengthens nationalistic and hostile elements in Russia. Here the bottom line of corporations overules diplomatic wisdom.

We were amazed to read that Library Director Roger Pearson urged the board to deny the request to move the Sonomaa County Library's cramped Forestville branch to El Molino High school. He warned that there could be hidden costs, including increased use of the library, more work for the librarian, and pressure to improve the 4,500 book collection. --George and Elaine Davis

Now libraries join health care, social security and some other resources once available to the ordinary citizen as being out of line with the bottom line. The bean counters now make all the final decisions.

NUMBEAST.WP6 APRIL 17, 1998

THE NUMBER OF THE BEAST

Here is Wisdom. Let him that hath understanding count the number of the beast; for it is the number of a man; and his number is Six hundred threescore and six. Rev 13:18 (KJV)
This calls for wisdom. If anyone has insight, let him calculate the number of the beast, for it is man's number. His number is 666. Rev 13:18 (NIV)

For many people the number 666 contains an important secret regarding human destiny. While the mystique surrounding this number goes back more than two millennia, when it appeared in apocalyptic prophecies, today it is still felt by some to hold the key to ominous events yet to come. There have been many interpretations given to the Beast and its symbol. The number has been assigned not only to history's most unsavory characters from Attila to Hitler, but to institutions and peoples ranging from the Papacy to the Communist Kremlin. It has been quite useful to those who would project evil onto their adversaries.

But from a purely arithmetic point of view, is there anything special about the number 666? It can be factored into 2x3x3x37, and the sum of the factors is 45. Nothing particularly special about any of this. But we must remember that the number system used when 666 was endowed with special attributes was the Roman system which used I for one, V for five, X for ten, L for fifty, C for one hundred, D for five hundred and M for one thousand. If we ask what is the largest number that can be made with the first two symbols, it is VI = 6; with the first three, it is XVI = 16; with the first four, it is LXVI = 66, with the first five, it is CLXVI = 166; and with the first **six;** it is DCLXVI = 666.

Now that is mysterious! Six symbols with a value of 666 and also being the largest value these six can have! Would not that have grabbed somebody's imagination and led to all kinds of other associations with such a number? In the age when Pythagoras' views of number were still current, (and his views held numbers to have many properties besides quantity, which is our view today), it is very probable that this number intrigued the numerologists and 666 took on a life of its own.

Another topic: The Years of the Beast. The first year of the Beast was 666 A.D.; the second year of the Beast was 1332 A.D.; the third year of the Beast is 1998 A.D. What happened in 666? The Celtic Church was dismantled and plague swept Saxon England. What happened in 1332? The Bubonic Plague began in India. and spread to Europe - killing over half the population

And we ~~have~~ been blaming all of it on El ~~Niño~~

PYPLAPAN.WP6 APRIL 19, 1998

1998 #14
1998 #27

AN ALTERNATE ONTOLOGICAL VIEW
THE PYTHAGORAS-PLATO-PAULI MODEL

1) Along with Pythagoras, we postulate that there must be at least two of anything in order for that thing to exist.

2) Along with Plato, since by 1) there must be at least two spaces, we postulate that in addition to the every day physical and position space, P-SPACE, in which our senses are imbedded, there is a second space whose dimensions and coordinates determine the form and pattern of things. This second space we shall call H-SPACE.

3) Along with Pauli, we postulate a General Exclusion Principle that maintains no two entities in the universe can have the same coordinates in all spaces. This means that there must be at least one space in which any two entities must have different coordinates. The inference of this principle is that every entity in the universe is unique.

There is a basic contradiction between Pythagoras' 'more than one to exist' and Pauli's general exclusion principle which says every thing in the universe is unique. This can only be resolved if we assume that Pythagoras requires a like pair in every SPACE. Pythagorean non-existence would state that unless there are two or more identical entities, E(1), in a SPACE S, E(1) does not exist in SPACE S. Pauli requires that if there are two or more identical entities in space S, then these entities must differ in some other space.

4) Along with Noether, we postulate a General Conservation Principle that preserves basic symmetries and equilibra within and between all SPACES.

The operation of the General Exclusion Principle is ubiquitously displayed in P-SPACE by the fact that two objects cannot occupy the same place at the same time, that is, cannot have the same space-time coordinates. This fact allows more than one entity to have the same coordinates in H-SPACE. Were it not for this, there could not be a multiplicity of entities with the same form.[1]

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[1]If the converse were true, P-SPACE and H-SPACE properties being interchanged, then no two objects could have the same form at the same time, but many objects of different form could simultaneously occupy the same place in P-SPACE.

There is nothing in the foregoing three postulates that forbids the existence of more than two spaces. Another space that seems needed in order to fully explain the phenomenal universe is a space whose coordinates indicate the strength of the bonds or forces acting between entities. We shall here designate this SPACE as B-SPACE.

Consider an example: Competition between organisms increases with the degree of similarity between the organisms. The more alike they are the more competitive, that is, the higher the density in H-SPACE the greater the repelling force in B-SPACE. Contraction in H-SPACE leads to expansion or fragmentation in B-SPACE.

These examples show that there are relations between the internal happenings and conditions in one SPACE and what happens or is possible in another SPACE.

$$E^{R}_{n_1 \ldots n_k}(i \ldots t)$$

CODEBK02.WP6 APRIL 20, 1998

See 1998#6

MORE ON CODE BOOKS

In English, and I suppose in almost all human languages, ofttimes a single word stands for many things. This obstructs our making important discriminations and leads to misunderstandings in communicating. For example, take these three words:

Consciousness LOVE
Suffering DEPRESSION
Thought

What does each mean? Ask and you will get many answers. Each is a bundle of multiple meanings that dictionary definitions fail to display. But more seriously, the packaging of diverse meanings in a single word creates associations that shackle our thoughts to particular patterns. Language enables and entraps a perception of reality.

Each language packages concepts and meanings differently. While the packages are pretty much the same for most common things, such as water, window, wine, a fact that makes translation possible, when it comes to concepts less tied to sensory inputs, the packaging varies, making translation error prone. Thus a dictionary, which is a "level I code book" works only for shared packages. Eastern metaphysical writings cannot be translated into a western language using a level I code book. Only if the experiences are shared can the words for a proper "joint packaging" be found. Or a level II code book is required. Likewise, the language of modern physics cannot be translated into vernaculars since it is based on experiences with particle phenomena that most of us have never had. A level II code book is required.

Question: Is all thought carried on with words? Perhaps it would be better to ask, Is all thought carried on with symbols? This generalization because we are also able to think in terms of mathematical symbols, in some cases without any supplementary words. We also have "feelings", which seem to exist without words, many times it being impossible to articulate them. Feelings vs. thoughts? Maybe it would be proper to say that the class of feelings contains the class of thoughts as a subclass; the thought subclass consisting of those feelings having finer discriminations and consequently being representable by specific symbols. But we have seen that even the thought class at time requires a level II code book, what level code book is required to communicate feeling? And here feeling includes spiritual and mystical experience, frequently spoken of as ineffable, meaning without a code book.

Heart ⊃ intellect

Sometimes we are not even aware that there is communication taking place, that there is a message. We might say it takes a "level 0 code book" just to know that there is a message, regardless of whether a meaning can be extracted or not.

OK so we are aware there is a message. What is it saying? If the sender has experiences, feelings, thoughts, packaged the way we package them, then evolving a "level I code book" or dictionary should be possible. Certain messages can then be exchanged. But there may be parts of the message we either do not understand or misinterpret. Either we have not had the experiences or have packaged them differently. What do we do? Usually downgrade the message to make it fit our level I experiences and understanding.

This is a very real problem, not just speculation on how to communicate with aliens from star system 61 Cygni. It involves the messages given to us by history's great teachers, by bodhisattvas, saints, and mystics. We have taken their messages and translated them with our level I code books, distorting and omitting in order to make them fit our with our experience and understanding. However, these messages come with their own code book, the only code book that will reveal the true meaning of the message. **The code book is part of the message, it is contained in the message.** Now that is a challenge for us!

PACKAGE1.WP6 APRIL 21, 1998

ON PACKAGING

Bill Gates explains Microsoft's bundling of its various softwares with its Window's 95 operating system as follows:

> "When Ford sells a car a dealer isn't allowed to take out the engine and put a different one in. The basic right to define a product and test it and allow it to get to the consumer unadulterated is clearly the law of the country. There is no law of castrated products. Our license is for the whole product."

A more accurate way to describe Microsoft's marketing practice would be:

> When Ford sells a car, you cannot buy it without also buying a two wheel boat trailer, an eight foot power boat, and a five year membership in the Ford's Auto Support club. Or when I go to the supermarket to get a quart of milk, it is only available packaged with Crunchy's breakfast cereal and Otto's cream of onion soup.

Monopoly takes many forms and gives the monopolist many advantages. One of the important advantages is packaging. If there were competitive operating systems, then Bill Gates could not do his package deal. But there are more subtle questions involved. Should Ford sell its car without an engine, without wheels, and the buyer can select these as options. It comes down to the question of what is the proper package for a car or an operating system or anything else. This is not so much a question for the courts and lawyers as for system engineers and consumers. It should be possible to come up with some common sense rules for what constitutes proper packaging.

In nature we observe many "packages", ranging from quarks, nuclei, atoms, molecules, cells, organisms, ... planets, star systems, galaxies, clusters ...and on. These packages appear to be the result of different forces and their interactions. Strong forces creating the nucleus package, electric forces creating atomic and molecular packages, gravity creating various astronomical packages. Derivative from these forces, packages are the result of "sufficient coherent functioning". Both living organisms and social structures are examples. The rule that we can infer from these organic and societal examples is: **A proper package should consist of the minimum parts necessary to perform a prescribed set of functions.** Who prescribes the set of functions? The consumer. Who designs to minimize the parts? The engineer. Keep the damn money monopolists out of the act, even if we have to use courts and lawyers to do it.

packaging is now being called "bundling"

SINGPNTS.WP6 APRIL 24, 1998

SINGULAR POINTS: PART I

The nineteenth century physicist Clark Maxwell felt that one possible way to reconcile the determinstic world of the physicist with the ordinary world of human experience where free will and choice prevailed, was to postulate singular points in time during which deterministic chains were open and options were possible. Events causally followed events except during the open moments when selection among options became possible. Selections could be made randomly, teleologically, or by some contextual force.

Maxwell's approach has parallels in many traditions:

- The avatars of Vishnu: the world runs it course, but from time to time an avatar of Vishnu, such as Krishna, appears to make corrections.
- Dynasties of gods: Uranus reigns, then rebellion and the Titans take over, after a period again revolt and the Olympians seize power, their time ends and mankind comes to the fore.
- Paleontological extinctions and radiants: Since earth formed there appear to have been five major extinctions in which some catastrophic event temporarily or permanently altered the environment causing dominant species to become extinct and be replaced with a radiant of new organisms.
- Axial periods: Human history replicates paleontological history. From time to time there are "axial" periods when old patterns of thought and ways of viewing the world are replaced by a radiant of innovative concepts. For example, the period around 500-600 B.C.E. when Confucius, Lao Tzu, Mahavira, Buddha, Zoraster, 2nd Isaiah, Thales and Pythagoras were all alive at the same time. And perhaps the present century, when Freud, Jung, Einstein, Schrodinger, Gödel Dirac, Turing, von Neumann, Watson, Krick, ... were all alive at the same time. Wittgenstein
- Custodians of learning: Mystery religions in Egypt and Greece, The Academies of Pythagoras, Plato, Aristotle (from 500 B.C.E to 529 C.E.), The monastic orders (Benedictine from 529 C.E.) to the 15th Century. The universities from the 15th century to the present. Next the think tanks?

In an abstract way each period of development is representable by a sigmoidal function, an S-growth curve, in which there is a slow beginning, a period of great fruition, and a final diminishing period as the idea or institution's energy is depleted. When the curve reaches its upper asymptote, a singular point in time is reached. The torch is passed to a new curve. During the passage of the torch determinism is broken and choice, selection, innovation become possible. The envelope of all the S-curves displays the real picture of evolution.

When did Pythagoras establish his academy

Destruction of the Library at Alexandria

Closing of the Academies by Justinian 529

Closing the Monasteries by Henry VIII

Founding of Universities

Padova

Paris

Oxford

PART II Spiritual Path St. John of the Cross

Cyclical → S-curve bardos

Death + reincarnation

risk

Dark Interval of Risk + Choice

Changing of the Guide

Are radiants diversity or disparity?

SOMENOTH.WP6 APRIL 22, 1998

Also 97#89
97#85
98#32

SOMETHING OUT OF NOTHING

Omnibus ex nihil ducendis sufficit unum[1]
---Leibniz

A classical philosophical and theological question centers around the creation of something out of nothing. How could God create something from nothing? And where did God come from? From non-existence into existence or did God exist eternally? In a more modern idiom, where did all the matter and energy in the Big Bang come from? And what was going on before the Big Bang? These puzzling questions are basically tied to our concepts of existence and nothingness. We could perform a thought experiment: remove one thing at a time from all that exists. When everything has been removed from existence to non-existence, then what is left we define as "nothing". [cf. the Guru* who demonstrated this process with the Maharaja's chariot.] The question morphs to: What is the relation of nothingness to non-existence? or Does nothingness exist?

It is curious that in discussing nothingness and non-existence, we are entering a domain that has been largely avoided by Western thinkers. We have studied the rules and relations that govern things that exist, and tossed aside as meaningless questions about nothingness and non-existence. But from time to time even in the West philosophers as well as mystics have ventured apophatically into this realm.

A recent scientist and philosopher who thought about this subject was Arthur Eddington. He concluded: "Uniform sameness is philosophically equivalent to non-existence". Eddington's equation reads, "sameness = non-existence", but this does imply that "nothing = non-existence". So for Eddington the problem becomes not the creation of something out of nothing, but the creation of something out of sameness. Eddington's approach puts ontology not only into a new ball park, but into an "inverted ball park". He maps existence onto non-sameness and non-existence onto sameness. In other words there is an existence-sameness symmetry. Following Eddington, ontological questions will now have to do with the nature of sameness rather than with the nature of existence.

So what can we say about sameness? At first thought we would say that uniform sameness means no pattern whatsoever. No pattern? That is precisely what white noise is. Or how about a continuously repeating pattern like an unmodulated wave? Such may have a sinusoidal pattern, but in repeating over and over it becomes uniform sameness. Both white noise and continuous waves are candidates for Eddington type non-existence.

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[1]For making everything from nothing one [method] suffices.

* Nagarjuna

The guru was Nagarjuna

Now Leibniz says we need only one approach to generate something out of nothing, and under the Eddington sameness = non-existence equation we already have two sub-approaches. However, in both the white noise and the uniform wave case, a single operation suffices to destroy sameness. This operation is **modulation.** In the first case, consistent with the central limit theorem, white noise modulated with white noise generates a gaussian or bell shaped distribution. Repeated iterations of this operation result in gaussians with decreasing dispersions. After a few iterations the result begins to look like a Dirac δ function. Hence repeated auto modulations of white noise lead to a very definite here and now pattern. The sameness has become non-sameness and non-existence has become existence.[2]

In ancient times there was another westerner who philosophised on non-existence. This was Pythagoras.

Two kinds of Nothingness represented by 0 and 1,

0 ~ Nagarjuna

1 ~ Eddington

Two (or more) kinds of ex-nihilo

$-x \leftarrow 0 \rightarrow x$

$\frac{1}{x} \leftarrow 1 \rightarrow x$

$x^{-a} \leftarrow 1 \rightarrow x^{a}$

[2]The generation of various entities through the modulation of a continuous carrier wave having the planck frequency of 10^{43} hertz will be discussed in Part II.

PURSERCH.WP6 APRIL 11, 1998 rev APRIL 26, 1998

PROFANE PURSUITS AND SACRED SEARCHES

written by someone with no understanding! Projecting pursuits onto the Lamb

...Worthy is the Lamb that was slain to receive power, and riches, and wisdom, and strength, and honor, and glory, and praise. Rev 5:12

Human motivation falls into two broad classes that we may name 'pursuits' and 'searches: A pursuit is for something definite, visualized beforehand. It is an operation that is capable of closure, you know when you have caught, reached, or acquired what you have pursued. A pursuit is for something that is public, something that the material world contains or can offer. A search, on the other hand, is for something indefinite that you seek without really knowing what it is. You only begin to recognize it as you come closer to it. It never assumes concreteness for you are always sure that there is more there than you have found or could ever find. A search is for something that is private, something that the world does not have to offer. And searching is an operation that is forever open.

The pursuit/search dichotomy having the attributes of definiteness-closure/indefiniteness-openness adjusts inevitably with a material-temporal/spiritual-eternal dichotomy; pursuits being for the material, temporal, public and profane; and searches being for the spiritual, eternal, private and sacred.

THE FOUR PROFANE PURSUITS:
For Pleasure [Satisfaction Happiness]
For Power [Control Strength Might]
For Possessions [Wealth Riches]
For [Position Esteem Honor Glory] Praise

The fallacy of Pursuits: Making them open e.g. never enough wealth

Celebrity

These are recognized as being derived from our basic biological instincts for survival through seeking security and control. They are biologically based but culturally molded.

Frustrated

Perhaps most basic is the built in bio-vector to seek pleasure and avoid pain. This vector when societally conditioned leads to non-biological activities that become associated with pleasure and when these become the dominant, pursuit takes the philosophical form of hedonism. Although Happiness is associated with satisfaction and pleasure its inclusion in the profane pursuits is improper. For its pursuit is illusory.

Power originates in the control of resources which in turn provide security and enhance survival. The control of resources is found to be strengthened through the control of other people. When this pursuit becomes dominant it takes the form of political

See 1998 #47

Check Toffler clipping

Both Power and the pursuit of power corrupt

Science has turned from man's search for truth
to man's pursuit of power.
Malcolm Muggeridge

Macht geht vor Recht = Might makes Right

The 4 Profane Pursuits
Pleasure
Power
Possessions (Esteem)
Praise

The Beatitudes and the Pursuits and Searches
The Temptations and the Pursuits

Buddhism's 8 Worldly Winds
Pleasure/Pain
Gain/Loss
Praise/Blame
Fame/Shame
Wealth/poverty
power/powerlessness

control exercised through military and other coercive tools. And in more advance societies takes the form of control of energy and information.

The drive for possessions also originates in the security acquired through the control of resources. Instead of taking the path of control over others it takes the path of excessive and redundant accumulation. Possession or ownership is a societal convention instituted to reduce raw and violent contest for what exists. Like power it creates a degree of stability in an otherwise anarchic matrix. Accumulation graduates from the possession of the resources of survival to what is culturally designated as wealth, servants, clothes, vehicles, travel,...

Position is renown, celebrity, fame, esteem. Its origins are in the security of belonging to a group, ~~and~~ but having a central and special position within the group provides additional security. Position has to be constantly acknowledged by accolades of honors, praise, acclaim all inflating the ever hungry ego.
all giving a form of energy

THE FOUR SACRED SEARCHES:

For Understanding Knowledge Wisdom, obtain the code books
For Meaning Direction Guidance, place in context
For Possibility Potentiality Alternatives
For Completion Union Oneness, non-localization

Understanding is the capturing of personal and collective experience in one or more of our symbolic currencies, such as language, music, or mathematics. It is a search taken by both science and religion.

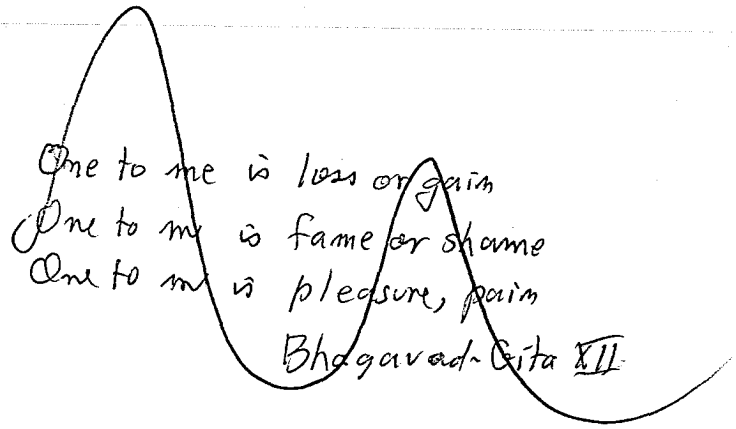
Meaning is the extension of the search for self/other or I/Thou beyond all societal and cultural boundaries. It is to find our true place and location in every aspect of the world that we encounter, and hopefully to discover our location in the largest of contexts.

Possibility is the vector of our participation in the world through creativity. It is the development of our precious gift of imagination in art, philosophy and science. Not what is but what can be.

Completion is the recognition of and affinity for the Other of which we are a part. It is the search for union with the Other. It is the vector of the spiritual path. It is what in our imperfect glimpses we know as Love. For full completion we must become completely non-localized in space, time and form.

Perfection is not a search
for it precludes completeness

It must abandon apart
(e.g. free market)


One to me is loss or gain
One to me is fame or shame
One to me is pleasure, pain
Bhagavad-Gita XII

RE-ENTIFICATION

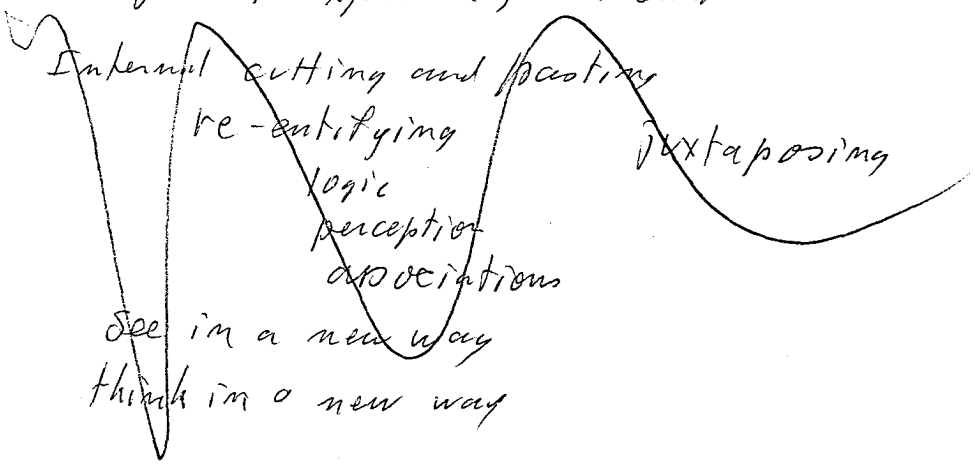
Creation ab initio is the province of the gods. Human creativity is restricted to re-combining and re-permuting what the gods have created. The basic operation available to humans is cutting and pasting, discriminating and clumping. Hence we are modifiers, not creators. The gods have written the theme, our task is making the variations on their theme.

This task begins with perceived wholes and parts. We modify by cutting apart wholes, from trees to DNA, and pasting the parts together in a new way. Human creativity is expressed in the myriad novel ways that this can be done beginning with any existing wholes or entities. However useful some restructurings may be, a special few cuttings and pastings come up with something whose new whole is greater than the sum of the parts. Genius in art or science is in juxtaposing and pasting together those parts that make a whole which is greater than the sum of the parts. Newton pasted a falling apple to a falling moon result: gravity. Einstein pasted mechanics to geometry result: general relativity. Unfortunately, there is no recipe for success.

If we give the label **invention** to the kind of modification that consists of cutting and pasting perceived wholes, we must allow a second kind of modification which we label **discovery**. This second kind of modification occurs when we are able to modify our cut paste perceptions themselves; to see what the gods have created in a new way; to see the same world as put together with parts and wholes different from those usually perceived. This is not achieved by cutting and pasting but by epistemologies of silence and meditation. Here we see that the gods did not compose only one theme, but other themes equally and more beautiful. And here we can find new opportunities to write our variations on their themes.

External cutting and pasting things

genoms, experience, minerals --



THE PA-NO-PL-PY ONTOLOGICAL POSTULATES

In selecting basic principles of a very general nature from which the properties of phenomena can be derived, certain propositions taken from the works of Pythagoras, Plato, Noether, and Pauli, suggest themselves as possible candidates. The following four postulates are here taken as fundamental:

- 1) One does not exist. One of anything has no existence. Only when there are two or more instances of a thing does that thing acquire the attribute of existence.
  ---Pythagoras

- 2) In addition to the realm of physical material existence there is a second realm which contains the archetypes, templates, patterns, and programs that shape physical entities and processes.
  ---Plato

- 3) There is a general conservation principle governing all existence which emerges out of symmetry. For every entity that exists there is a balancing counter entity preserving symmetry.
  ---Noether

- 4) There is a general exclusion principle that requires that no two entities can be identical in every respect. This principle implies that every entity that exists is unique.
  ---Pauli

The first question is, do these postulates form a consistent set? Postulate 1) and postulate 4) appear to be contrdictory. Pythagoras requires that there be at least two examples of a thing before it can exist. Pauli requires that no two things be identical. This can be resolved by employing postulate 2), which holds that everything exists in at least two realms, the physical and the archetypal. Existence in two realms would supply the more-than-one requirement of Pythagoras but would also be in accord with Pauli in that the entity in physical space is not identical to that same entity in Plato's information space. This also could be said as follows: Pythagoras would say that unless there be both phenotype and genotype there is no existence. Pauli would say that phenotype and genotype are not identical.

A second way in which postulates 1) and 4) can be reconciled is to allow multiplicity of a thing in physical space endowing it with Pythagorean existence, but since things cannot occupy the same position in physical space, their space-time coordinates would differ, meaning they are not identical in every respect.

BEXISTS.WP6 MAY 2, 1998

BELIEVERS AND KNOWERS

I have never cared for the use of the terms "believer" and "non-believer". I believe they must have been coined by a non-believer. And as illustrated here in the first two sentences the word *believe* has multiple meanings in English and is a precarious word to use if the goal is philosophical understanding. The story is told that when asked whether he believed in God, Carl Jung replied, "I don't believe, I know". And that is why I believe that "believer" is a misnomer. Some of those called *believers* are really *knowers*. So perhaps a more important and useful dichotomy would be that of "knower" and "non-knower" What then is a knower? A knower is one who through some direct personal experience has had a glimpse of another reality, and in addition has the courage to trust and stand by that experience against the forces of cultural skepticism.

At the heart of the difficulty is the matter of continuity. What we commonly call reality, the reality conveyed to us by our senses through our data processing filters, is continuous in time. Experiences of non-sensory realities lack continuity. They come in "glimpses" that occur only at certain moments in time. We tend to measure the "validity" of a reality in terms of its continuity and consistency. For example, most dreams, having neither continuity nor consistency, are labeled unreal. But there are experiences, while lacking continuity, that have a high level of consistency. These form the class of experiences which knowers hold to be valid realities. But a very large sub-class of such experiences is common to almost all knowers, just as the sensory reality is common to almost all humans. It is in the interpretation of these non-sensory realities that knowers divide among themselves. The experiences are common to all, the interpretations are arbitrary constructs. Many answers have been given to what lies behind the experiences, ...by Zarathustra, Moses, Buddha, Jesus, Mohammed,... The same is true of the sensory reality. The movements of the planets are observed as the same by all observers. Interpretations of what lies behind the movements vary, ...Ptolemy, Copernicus, Newton, Einstein...

But what is most important is the effect of the experience of a "glimpse". What a glimpse tells is that something exists! There is a momentary view of a distant mountain range of overwhelming beauty. Knowing that such a place exists, there is a undeniable urge to reach it and climb its peaks. It is the knowledge of "it exists" that differentiates a knower from the rest of us. It is the never turning back commitment of the knower to the search that inspires us and makes us ask, perhaps we, not they, are the crazy ones. What are we missing out on?

SOMATROP.WP6 MAY 3, 1998

INTRINSIC WORTH AND NET WORTH

We hardly ever see a new development in science and technology that doesn't come packaged with side effects. Quite frequently these side effects are undesirable, sometimes even dangerous. So it comes as a bit of a surprise when a spin-off from a scientific innovation has positive uses. I ran across a new drug the other day that has important implications for economics, not only in the profits the drug may reap, but that it can also make a contribution to basic economic theory.

A synthetic hormone called *somotropin* when given to teenagers has been found to be effective in increasing their adult height. (Science News April 25, 1998 p271). Those given somotropin measured 2.4 to 3.0 inches taller than those not given the hormone. The drawback is that somotropin is expensive. It figures out on the average that the cost is $46,000 per inch.

Eureka! At long last we now have a formula for evaluating the intrinsic worth of a human being. If we calculate a human to be worth $46,000 per inch of height, then a five foot person would be worth

5 x 12 x 46,000 = $2,760,000

while a six foot person would be worth

6 x 12 x 46,000 = $3,312,000

But we must now distinguish between net worth and intrinsic worth. The **net worth** of an individual is measured by the value of his possessions and portfolio, (after taxes and when properly depreciated). The **intrinsic worth** of an individual is measured by his height in inches times $46,000. This fulfills the economists' dream of reducing the value of everything to dollars. Capitalism's use of the bottom line as the measure of everything can now be implemented in many novel ways.

Next let us apply what is known in physics as equipartition of energy, and certainly economically speaking, money is energy. Money (i.e. energy) must become equally distributed into the different states available, in this case into the states of net worth and intrinsic worth. We derive the equation:

NET WORTH = INTRINSIC WORTH

Of course in practice, for all but a negligible few, the net worth never increases in value sufficiently to equal the intrinsic worth. So in the real world the equation reads:

NET WORTH $\leq$ INTRINSIC WORTH

That is to say your net worth should never exceed your height x $46,000. You may reasonably accumulate up to that amount. Of course this favors the taller rather than the avaricious and aggressive, but there will always be inequalities.

One wonders how Bill Gates fits into this formula. At the present Bill is reportedly worth $50 billion[1]. To balance the equation Bill would have to be 1,086,965.5 inches tall. This is the equivalent of 905,797 ft or 171.55 miles. Now we know how tall Bill is, and most of the rest of us are under six feet.

Another thing we can do is to calculate what the present value of the human race is. If we assume there are six billion people on the planet and that their average height is such that the average person is worth $3,000,000 then the total value of humanity comes out to be:

3,000,000 x 6,000,000,000 = $18,000,000,000,000,000

which in the vernacular is eighteen million billion dollars! That is eighteen thousand trillion or six thousand times the gross annual product.

We should pause here for a moment and look at the balance sheet. Are the profits we make in the manufacture and use of arms and munitions of mass destruction sufficient to balance the reduction in intrinsic assets they cause? I am afraid the bottom line says no. But we now have an understandable reason for avoiding nuclear war and even lesser forms of violence[2]. We do not have to import those vague and moralistic arguments about human values. We now have something concrete: the bottom line.

FAA ups value of human life

The value of human life just went up.

For years, the U.S. Department of Transportation has used a standard figure for the cost of the loss of human life — $2.7 million per person. In a periodic update to adjust for inflation, the DOT has increased the figure to $3 million.

The figure is one factor used by the Federal Aviation Administration when it makes safety rules. The FAA is required to do a cost-benefit analysis for every significant rule. Officials add up the costs of the safety fix and then add up the "benefits" — which include future accidents prevented. The benefit figure includes the number of lives predicted to be lost in these accidents multiplied by the official value of human life.

.....

91-1702

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[1]This amount was reported in May 1998, The amount in September 1998 appears to be around $58 billion.

[2]Among other implications of intrinsic worth, say you kill someone in a robbery. The bottom line requires that your take be greater than or equal to the victim's height x $46,000, otherwise it is a crime.

DIAPERI1.WP6 MAY 5, 1998

ON MESSAGING

A recent arcticle in Science News [Hiding secret data in plain view SN May 2, 1998 p286] tells how embedding a message within another message allows confidential communication without encryption.

> "The sender breaks the confidential digital message into packets and tags each packet with a short string of digits known as a message authentication code. The message packets can then be inter mingled with fake packets bearing bogus authentication codes to create a plausible missive. Because the sender and receiver share a secret method for authenticating the origin and contents of each packet, the receiver can readily distinguish between the legitimate information (wheat) and the gibberish (chaff). The individual packets are not encrypted."

This of course is essentially the CDMA [Code Division Multiple Access] mode of communication that is now being employed by increasing numbers of wireless, telephone and data transmission companies.

While these embedding methods claim to be innovative developments in communication technology, they are in fact but updated versions of modes of messaging that go back to ancient times. The Holy Scriptures are said to contain many messages of this sort. Not only Gematria type messages, in which each letter of the alphabet has numerial associations, but messages extracted by reading, for example, every seventh letter or word. And then there are the parables, which may be read on many levels, each level containing a different message. And there is the enneagram which illustrates the embedding of one sequence within another: The "peri" sequence around the circumference of the circle, according to the progression of time, and the "dia" sequence following chords connecting nine points on the circumference giving an alternate causal or developmental sequence. And there are the "Camelots", moments of similar quality embedded in history at widely separate times.

We note here the following four modes of messaging:

- The direct mode, all wheat no chaff
- The CDMA mode, embedding packets of one message within another. This would include examples like the enneagram and Camelots.
- The parable mode, an open message that can be understood on several levels.
- The Gematria or encryption mode, which would include a plethora of different schemes.

What each of these modes have in common is that they all require code books. In the direct mode the code book is public available to all. The CDMA and Gematria modes require that the sender and receiver each have possession of the same private code book. The parable mode requires that the receiver must develop or derive for himself the code books that decipher the different levels of the message.

cf. modes of ~~messaging~~ 1978 #50
and modes of moving 1978 #2

PUZLPC01.WP6 MAY 6, 1998
[PART I PUZLPC00.WP6 1997#91]

PIECES OF THE PUZZLE PART II

RE GÖDEL

Some (unwarranted?) generalizations of Gödel's Theorem:

- No axiomatic system is capable of completeness.
- No system is capable of explaining itself.
- No program can generate a number more complex than itself.*
- No file can be both perfect and complete
- The logical cannot exhaust the rational
- The rational cannot exhaust the valid
- The valid cannot exhaust the True
- The intellect cannot encompass the whole

[*--Chaitin see Peterson p197]

BUILDING BLOCKS

- SPACES
- QUADRANTS
- DIMENSIONS
- LEVELS

- Symmetry
- Orthogonality

- Dialectics
- Imperatives

- Realities
- Cultures

- NODES
- LINKS
- TRAFFIC
- CARGO

THE FOUR LEVELS OF MIND

- Personal Sensory based
- Collective Cultural
- Noosphere Planetary
- Cosmic Brahman

And SUNYATA

SPACES

- P-SPACE Particle or Position SPACE

- W-SPACE Wave SPACE (or Quadrant)
- H-SPACE Hamming or Form SPACE
- B-SPACE Force or Bonding SPACE
- S-SPACE Selection or Option SPACE

FOUR FEATURES OF QUANTUM MECHANICS

- Complementarity Wave-Particle duality
- Heisenberg uncertainty principle $E \times T > \hbar$
- Non-localism Coherence after separation
- Oscillation of monads between existence and non-existence

MORE QUESTIONS

- Is Creator <--> Creation a Noether symmetry?
- Is reality a function of scale?
- In what SPACE does a mental conception exist?
- In what SPACE does mathematics exist?
- Do I think or does it think in me?

MISCELLANEOUS

- The rational cannot be measured.
- MAP:TERRITORY::PERCEPTION:REALITY
- A belief is neither true nor false. cf Schrödinger's cat.
- Recognition is possible because we are holograms. or said in another way: God created us in His Image.
- Archetypes are generalizations
- Consciousness is awareness of awareness.

NONEXIST2.WP6 MAY 11, 1998

also 98#24
97#89
97#85

ON NOTHING AND NON-EXISTENCE

Over millennia human experience and language developed a large set of relations between things that exist, symbols and words for them, and logical sytems for organizing them. But the concepts of no-thing, non-existence, saw no need for symbols. Indeed it is paradoxixal to have a symbol for something that does not exist. What is meant by existence in this context is that which is perceivalbe by the senses, originally directly perceivable. However, awareness of existence moved beyond direct perception. It was enlarged through instrumental adjuncts to the senses, telescopes, microscopes, etc. through inferences from patterns of behavior and patterns of organization, and most abstractly through mathematical modeling. The word existence was maintained for the inputs from all these sources, but that may have been a huge epistemological mistake.

Kant made a distinction between the world whose existence is knowable through any available means: the phenomenal world, and that which is not available to us by any means of knowing but nevertheless exists: the noumenal world. A very important distinction but increasingly insufficient. With only one word for existence we are not able to construct valid ontologies by rational means.

An alternative available to us is an apophatic approach. To investigate along with the various species or levels of existence the levels or species of non-existence. One of the earliest to use this approach in the West was Pythagoras. Pythagoras concluded that **ONE** does not exist. If there is but one of anything that thing does not exist. If there is but one color, then color does not exist. If but one tone, sound does not exist, If but one universe, the universe does not exist, If but one God, God does not exist. If any parameter has but one value that parameter does not exist. Pythagoras recognized the need for a symbol for non-existence and found that the number ONE had that attribute.

Some twenty five centuries later the physicist Arthur S. Eddington wrote the second sentence to Pythagoras' thesis. Eddington maintained that "Uniform sameness is philosophically equivalent to non-existence". This is an extension of apophasis into the realm of perception. It can be argued that Eddington should have said, "Uniform sameness results in non-awareness". But is not uniform sameness the same as Pythagoras' ONE? If so then non-awareness is the human equivalent to non-existence. This brings again into focus the question of the relation between consciousness and existence, between epistemology and ontology.

In Pythagoras' day there was no symbol zero, "0". Had there been perhaps he would not have settled on ONE as a symbol for non-existence. The origin of zero is not certain. It apparently came from India and was passed by the Arabs to Europe around the seventh century. It was also independently invented by the Mayans or other peoples of meso-America, possibly about the same time as in India. The paradox of having a symbol that stood for nothing was finally penetrated. But is the nothing of zero the same as Pythagoras-Eddington's non-existence of ONE? Are nothing and non-existence the same?

Three possibilities occur:

- Non-existence ≡ Nothingness
- Nothing is but one form of non-existence
- The class of non-existing is a sub-class of the class of nothings.

The usual idea of null-set, or empty set is not implied here.

Of course $0 \neq 1$ contradicting the first premise.
Since $1 > 0$ the second premise is still in the running.
but it looks dim for the third premise. But this is predicated on the quantitative attributes of zero and ONE not on their Pythagorean attributes.

So tentatively we conclude:

"Nothing is but one form of Non-Existence"

and along with Pythagoras:

The whole does not exist only diverse parts exist.

The opposite of the conclusion of Nagarjuna

composites
All combinations are temporal
- Sakamuni

Symmetric to every species of existence
there is a corresponding species of non-existence

ONPRIME2.WP6 MAY 14, 1998

PRIME NUMBERS --CONTINUED

In scrap 1997#78 (ONPRIMES.WP6) the diagram shows that primes are distributed along eight of twenty four radial lines. Which says that the set of primes {P} has to be less than one third of the set of all natural numbers, {N}.

$$\{P\} < \{N\}/3$$

After 1,2,and 3, there are definitely no primes in sixteen of the twenty four axes.

Is it possible to find further apophatic rules regarding primes? [By apophatic is meant we focus on non-primes rather than primes] To look into this matter we must go into sex, (sexigessimal that is).

In base ten (except for the primes two and five), primes always end in one of the four numbers 1,3,7,or 9. More restrictive endings are found when we convert to other number bases. When we convert to base six, we find that primes always end in either one or five. So in base six if a number does not end in one or five it is definitely not a prime[1].

But what about the numbers that do end in one or five? We know that many of them are not primes. For example the number 355 base six (which is = 143 decimal) is not prime but does end in five. If we take the sum of the digits (= 13 in the example) of numbers ending in five, we find that no prime ever has the sum 5 or 10. Apophatically we may say that numbers ending in five whose digits sum to 5 or 10 are not primes. Again in the case of numbers ending in one, if the sum of the digits is ~~one~~ ten (10) or five the number is definitely not prime[2].

While this rule apophatically increases the number of non-primes it goes only a short distance. More subtle patterns in the distribution of primes or non-primes remain to be detected.

(A preliminary observation: The actual digits of the primes in decimal and base four show remarkable duplications).

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[1]In base four, if a number does not end in either one or three it is definitely not a prime.

[2]A similar result appears to hold for base four. Numbers ending in one or three whose sum is three or six are not primes.

CERTAIN1.WP6 MAY 16, 1998

WHAT IS CERTAINTY?

Ever since the concept of probability began to play an important role in physics, the foundations for models of the universe based on causality, determinism and predictability have gradually crumbled. The clockwork world of Newton and Laplace has given way to the casino world of Schrödinger and Heisenberg. What quantum mechanics introduced, chaos theory and complexity have continued. The titles of recent books such as "The Search for Certainty" (1990) and "The End of Certainty" (1997), mark the passing of a paradigm.[1] Einstein's "God does not play dice" was uttered from the decks of the Titanic of classical physics.

Centuries have passed since the Greeks abandoned the idea of a world ruled by the capriciousness of the gods and introduced the paradigm of a world based on lawfulness and immutable order. This paradigm has served for centuries, incubating and becoming the cornerstone of Western science. Its success in accounting for a large portion of human experience led to its dominate position in the temple of human idols. But there were gaps in the causal chains of determinism. These were at first denied, then ignored and minimized, and finally admitted to be paradoxes.

Among the first of scientists to take on these gaps was the 19th century physicist James Clerk Maxwell. (1831-1879) He proposed that causal chains from time to time include "a singular link", which allows the introduction of something not contained in the foregoing links. These singularities were times where determinism temporarily broke down to be replaced by randomness. In the years since Maxwell, research has shown that many causal chains contained far more singular links than had been believed. And now it has been shown that some chains contain nothing but singular links.

The concepts of 1) **causality,** determinism, or necessity; 2) **probability,** randomness, or chance; and 3) **finality,** purpose, or entelechy; have all been projected onto how the world works.[2] And all have played a role in attempts to bridge the workings of the world and our understanding of those workings. In the causalistic or clockwork model of the world the great test of our understanding has been based on **predictability.**

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[1]The Search for Certainty, John Casti, Morrow, 1990
The End of Certainty, Ilya Prigogine, Free Press 1997

[2]In Eastern and Western religious traditions the roles of thought, belief, and Divine Will in how the world works have been assigned a major part. These components to date have been largely ignored in Western philosophic and scientific approaches.

The caduceus between reality & knowledge
ontology & epistemology
The great Dialectic

Premises { 2) Logic is based on Nature
" { 1) Nature is based on Logic

both

2) → Knowledge of logic is derived from nature
1) → Our knowledge is projected back on nature
again caduceus — twin serpents

Original Mental & Physical Healing

The removal of simultaneity in special relativity dismembers the concept of causality

Contingency

Design
Chance
Auto-Organization ~ Causal [new form of determinism]
These guys won't give up "No Dice"

Certainty is Meaningless
re future
re present
re past

due to fractal knowledge and perhaps to the nature of existence itself — it may not only be fluid in time but in being

Certainty has to do with the strength of the bridge between knowledge & reality
Plan & God

Chaos: Now we can have determinism without predictability

FRACTDIM.WP6
[91/06/10;96/01/13;96/04/04;97/09/26;98/08/21;98/09/29]

FRACTAL DIMENSION

The modern concept of what we call a *fractal* probably began with the discovery by Galileo of the moons of Jupiter. Through subsequent centuries seeing the same form on two different scales — Copernicus' planets revolving about the sun and Galileos moons revolving about Jupiter — intrigued the imaginations of philosophers, scientists, and mathematicians. Emmanuel Swedenborg (1734) noted, " Nature is always the same and identical with hereself", while Jonathan Swift (1733) captured the idea in verse,

So, Naturalists observe, a Flea
Hath smaller Fleas that on him prey,
And these have smaller Fleas to bite 'em,
And so proceed ad infinitum.

Lewis Fry Richardson (1922) repeated this motif ,

Big whorls have little whorls,
Which feed on their velocity;
And little whorls have lesser whorls,
And so on to viscosity.

The concept of fractal also emerged in attempts to explain why the sky is dark, the so-called Cheseau-Olbers Paradox. Speculators in this area included Immanuel Kant (1755), Johann Lambert (1761), John Herschel (1848), Edward Fournier d'Albe (1907) and Carl Charlier (1922). Mathematicians pursued like concepts through their interest in self-similar sets, Georg Cantor (1915), and "monster" curves, Felix Hausdorf (1914). But the ultimate sealing of the fractal concept both by generalizing it and naming it was the work of the mathematician, Benoit B. Mandelbrot (1977). And today fractals are everywhere.

It has been a matter of much amazement on the part of philosophers from the Greeks to Einstein that the structures of pure thought we call mathematics appear to have an isomorphic relation to the physical world. That mathematical constructs can be successfully used to explain and predict physical phenomena is itself a phenomenon that up to the present has eluded explanation. However, there are hiati in the successful representations of the world by mathematics. In particular several difficulties arise when treating the infinitely large and the infinitesimally small. While the geometry of Euclid, for example, has been most useful in the solution of myriads of problems, its sizeless points, diameterless lines, and thickless planes frequently lead to singularities and non-sensical physical conclusions. When mathematical thinking turned to the paradoxes implicit in the infinitely large and small, it opened new regions to the successful mathematical representation of the physical world.

The sizeless points of Euclid vs. the finite atoms of nature are but one example of the general dichotomy of continuum vs discretum. There is the continuousness of geometry vs. the discreteness of arithmetic; the continuous real numbers vs the discrete natural numbers; in technology, the analogue vs. the digital; in space, extension vs. separation; and in time, duration vs. interval. There appear to be two distinct worlds, or is it perhaps only two world descriptions, that need to be reconciled — the classical world of continuity and the quantized world of Max Planck.

There have been many mathematical approaches to the resulting paradoxes. Some, which should be mentioned, are Cantor's studies of transfinite sets, Hausdorf and Besicovitch's dimension, Lesbegue's theory of measure, and Mandelbrot's fractal dimension. Also related to this area are the finite difference calculus and some of the work of Buckminster Fuller. All are concerned with bridging the gap between the sizeless elements of abstract thought and the finite elements of physical experience.

The development of the concept of fractal, pioneered by Mandelbrot, has led to new isomorphisms between the formulae of mathematics and the laws and patterns of nature. Complex patterns in nature, such as shore lines and mountain ridge contours, always considered too complicated to be mathematically treated, have suddenly been made accessible through relatively simple expressions. At the present time not only are unexpected new isomorphisms being generated, but reexamination of classical models in such areas as geology and astronomy has led, through the fractal approach, to new and deeper insights.

SPACES OF FRACTIONAL DIMENSION

In enquiring into what ways the sizeless species of thought may be rendered useful representations of the finite elements of physical experience, one device is the concept of fractal or fractional dimension. The idea of fractal dimension requires abandoment of the view of homogeneity of space. Traditionally, conceptual spaces from Euclid to Riemann have been uniform or homogeneous spaces. However, to conform to physical space our conceptual spaces must be allowed to contain *gaps* or regions of "under density" and *fills* or regions of "over density". Only those spaces devoid of gaps and fills, having uniform density, turn out to have the integral dimensions, one, two, three,... of the spaces of mathematical thought. Thus to render our concepts of space more compatible with physical space, the concept of variable density, gaps and fills, turns out to be useful.

One approach to spaces with fractional or fractal dimension can be formulated as follows:
First consider spaces consisting only of two values of density, elements possessing extension and gaps possessing separation.
Let **E** represent an *element* possessing extension. An element can be a line segment, square, cube, etc. and let **u** be a unit of length, area, volume, etc.
The *extension* of **E** is measured in units **u.** (for example E = 5u, 8u,...eu, etc)

Let **G** represent a gap or *no-element*, whose *separation* is also measured in units **u.** (G=5u, 8u,...gu, etc). Next construct a module out of elements (E's) and gaps (G's). Let **M** represent a *module* composed of R elements and gaps together. Let A be the number of elements in **M**. The extension of **M** will be A **E** = A**eu**, and the separation contained within **M** will be (R-A)**G** = (R-A)g**u**, giving the size of **M** = A**E** + (R-A)**G**. If elements and no-elements are of the same size, **E=G** then the size of **M** will be = R**E**.
With A = the number of elements in **M** and R the total of elements and gaps, fractal dimension d is defined by $A = R^d$, or d = log(A)/log(R).
If we note that extension is manifested as appearance and separation as emptiness, then this so-called Hausdorf fractal dimension is the ratio of the logarithms of the number of appearance segments in a module to the number of appearance plus emptiness segments in the module. Or d is the ratio of the logarithms of the manifested to the total manifested and unmanifested.

In order that fractal dimension be consistent with classical notions of dimension, the fractal dimension must reduce to ordinary dimension when all segments are manifest, no gaps. That is whenever a line, area, or volume is filled in completely, the dimension should be an integer.

Examples:

I The Cantor Set

Take as the element a line segment of length 3 units = ___.
E = ___
Let R = 3, then **M** = 3 **E** = _____ = 9 units
Remove the central **E**, ___ ___ leaving A = 2
The fractal dimension of the Cantor set is then,
d = log(2)/log(3) = 0.631
The Cantor set continues this operation with the resulting
d = log(manifest)/log(total) = 0.631

II A straight line

Take u, **E**, and **M** as before
R again = 3 **M** = 3 **E** = _____ = 9 units
If the line is left solid, A then is = 3 and
the fractal dimension d = log(3)/log(3) = 1, which is the proper dimension for a line.

GUP1.wpd **August 25, 1998**

The Second Law of Thermodynamics operates in two modes:

Mode I:
The Homogenization Mode.

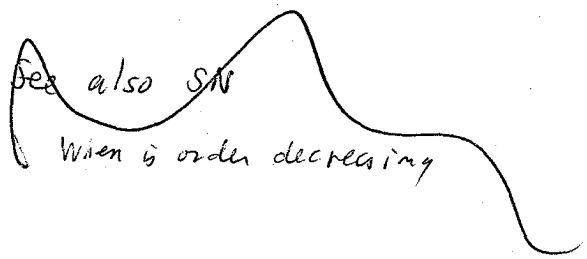
Homogenization forces are those that tend to bring the range of values of a parameter to a single value. Gravity attempts to bring the positions of masses to a single point. The second law of thermodynamics attempts to bring temperature throughout the system to one value. Further, when a parameter contains only one value, then it ceases to be a parameter. Thus if homogenization succeeds in reducing all values to the same value it then effects the elimination of a parameter. If all parameters are eliminated, that is total sameness prevails, then extinctions results. Ultimate homogenization is the equivalent of non-existence, a principle recognized by both Pythagoras in saying that ONE does not exist, and by Eddington in saying that uniform sameness is the philosophical equivalent of non-existence..

Mode II:
The Fragmentation Mode:

Fragmentation forces are those that lead to decay and the destruction of complexity and order. The second law of thermodynamics holds that entropy or disorder must in the large always increase. Fragmentation (expansion in B-SPACE), scattering (expansion in P-SPACE), diversification (expansion in H-SPACE) all represent an increase in disorder. Diversification effects an increase in disorder through the increase in difficulty of communication as elements become more diverse, thus inhibiting the emergence of complexity.

It seems paradoxical that the destruction of order is achieved both through homogenization and through diversification. It is counter intuitive to think of uniformity as disorder. However, the second law in stating increase of entropy is simultaneously stating decrease of information. and the amount of information implicit in a uniform ordering may be less that in a more diverse ordering. On the other hand as diversification appears to involve more information, what is the second law up to? In this case the second law is operating in an inhibitory mode by reducing the likelihood of the building of complexity which would be a definite increase in information.

The ultimate definition of homogenization is the destruction of uniqueness. Thus both the increase of order and the increase of disorder can result in loss of uniqueness. We may think of there being Yin homogenization, scattering to one condition and Yang homogenization, focusing or gathering to one condition. Gravity is a Yang homogenization, decay is a Yin homogenization.


See also SN
When is order decreasing

MANISSUE.WPD September 12, 1998

THE ISSUE OF THE ISSUE

What manipulators of opinion have well known since the days of meister spin doktor Paul Josef Goebbels is **seize the issue**. In Washington today we are not seeing, like in a banana republic, two groups of guerillas shooting it out to grab power. Rather what we are seeing is two groups struggling to take or hold power by controlling what the issue is to be. In a media democracy power lies in the **selection** and **definition** of issues. Spin doctors know that if the issue is properly selected whichever side wins can be relegated to secondary importance. Real winning is success in directing or diverting the public's attention to the issue of your choice. The real prize is to have your issue dominate the headlines, evening news, and talk shows. Why? Because the public's attention and energy are not attracted to a point of view but to the drama of a contest and conflict. Keeping the public divided over secondary or pseudo issues, letting them argue over which are the good guys and the bad guys, paves the road for hidden agendas.

In the current case we are being told by some that the issue is privacy, by others that it is sexual morality, by others it is truthfulness vs. perjury, by still others it is abuse of power, etc, etc. The outcome, whether Clinton stays or goes, will be determined by which issue becomes the dominant one. On privacy, he stays. On sexual morality, he stays. On truthfulness, he is likely to go. On abuse of power, likely to stay. But are any of these the vital issues. These are all Clinton centered issues. If we change the focus from the man to the country, the issues change. What does his staying or going have to do with the efficacy of government, considering both domestic and foreign effectiveness? What does his staying or leaving have to do with the electoral process, shall we overturn elections by the special prosecutor process? How will his staying or leaving affect our present divisiveness? Which will heal our wounds, which will enable us to really get on with business? And what message do we send to the future if he stays or if he goes? How is his staying or leaving going to affect the office of President? Is the future going to read his example as the fighter holding fast, persisting against stacked up odds, or as the ego centered adolescent that could never make any personal sacrifices? And for each of us, which outcome will make us more cynical, more tolerant of sleaze, more acceptable of anything goes?

But the present case is out of control. The spin doctors have lost their hold. The public is not divided over an issue but are divided on what the issue is to be. At this point either the spin doctors will package the issues so as to reduce them to a single issue, or we shall encounter a "cross dialectic", which results in the fragmentation of traditional entities.

Packaging is the art of creating artificial associations, M goes with G and B goes with R. Whether such associations possess any logic or not, the public buys them because packaging simplifies choice. Packaging is the foundation of the advertizing industry as well as the primary tool in the spin doctor's tool box. But there is also inverse packaging, the creation of artificial issues, A is to be considered as adverse to B etc.

As for cross dialectic: Assuming the two traditional entities are the Democrats and Republicans, either the issues will be packaged into a Democrat vs. Republican issue or the parties will fragment resulting in new alliances and entities. Historically, the cross dialectic effected the end of Papal exclusiveness and the inauguration of the reformation. It was also the cause of the dissolution of the Soviet Union. Unless a packaging solution is found, we can anticipate a major modification in the government of the United States.

Returning to the personal level, we can accept Clinton's repentance, forgive him, love him, and hope for metanoia. But we must also remember that this is a country as was once said, of the people, by the people, and for the people, not of, by, and for any one man.

GEOLOGICAL TIME

Formation of earth as a planet until written history

An aeon (or eon) is the largest unit of geological time.
It is made up of several eras.
An era is made up of several periods
A period is made up of several epochs
An epoch is made up of several ages

NOTE: Time is designated in Ma, millions of years before the present.

EON	ERA	PERIOD	EPOCH	TIME
PRISCOAN	HADEAN			4550 TO 3800
ARCHEAN	ISUAN			3800 TO 3500
	SWAZIAN			3500 TO 2800
	RANDIAN			2800 TO 2500
PROTEROZOIC	HURONIAN			2500 TO 2200
	ANIMIKEAN			2200 TO 1650
	RIPHEAN			1650 TO 800
	SINIAN			800 TO 570
PHANEROZOIC	PALEOZOIC	CAMBRIAN		570 TO 510
		ORDOVICIAN		510 TO 439
		SILURIAN		439 TO 409
		DEVONIAN		409 TO 363
		CARBONIFEROUS	MISSISSIPPIAN	363 TO 323
			PENNSYLVANIAN	323 TO 290
		PERMIAN		290 TO 245
	MESOZOIC	TRIASSIC		245 TO 208
		JURASSIC		208 TO 146
		CRETACEOUS		146 TO 65
	CENOZOIC	TERTIARY	PALEOCENE	65 TO 56.5
			EOCENE	56.5 TO 35.4
			OLIGOCENE	35.4 TO 23.3
			MIOCENE	23.3 TO 5.2
			PLIOCENE	5.2 TO 1.64
		QUATERNARY	PLEISTOCENE	1.64 TO 0.01
			HOLOCENE	0.01 TO 0

The TERTIARY period is alternately broken down into the PALEOGENE AND NEOGENE periods. with the Paleocene, Eocene, and Oligocene epochs assigned to the PALEOGENE and the Miocene and Pliocene epochs assigned to the NEOGENE.

Following the Cambrian radiant or explosion in life forms (530 Ma), there have been recorded five major extinctions in earth's history. These are: 1) the end-Ordovician (440Ma), 2) the late-Devonian (365Ma), 3) the end-Permian (245Ma), the end-Triassic (210Ma), and the end-Cretaceous (65Ma).

GERAGES1.WPD

MORE ON DIALECTICS

Type 1. Dialectic The Hegelian Dialectic

Simultaneous operation of opposing forces or principles resulting in creation or innovation at the interface. The Hegelian dialectic is an example. Thesis, antithesis resulting in a synthesis.

Type 2. Dialectic The Antiphonal Dialectic

The operation of opposing forces or principles acting alternately rather than simultaneously. All engines are examples of this form of dialectic. It is symbolized by the caduceus. [cf Wheeler's form of the game of 20 questions]

diachronic in sequence

and the double helix

Type 3. Dialectic The Skew Dialectic

synchronic

The operation of opposing forces or principles acting simultaneously but on two different levels or in two different SPACES, resulting in increase in one SPACE and simultaneously decrease in another SPACE.

Type 4. Dialectic The Inverse Dialectic

The effect of reversal of the direction of operation of a Type 1 dialectic resulting in the creation or emergence of opposing forces or principles out of a null. An example is the emergence of matter and anti-matter from the null Planck particle.

A universe is a set of fixed boundaries within which certain rules obtain, but open to what may occur within the bounds and through the operation of the rules. All four types of dialectics operate in a universe. The sequence in which they operate on Brahman or the Sunyata determines the properties and contents of a universe. Furthermore, universes may be imbedded within one another in the manner of Russian matrushka dolls, that is in an hierarchical manner; or may be organized into strange loops, uroborus universes; or in a holographic manner.

Two force dialectics are analogous to Kepler's laws regarding the dynamics of two bodies. Trialectics, the involvement of three forces or principles, would result in complexities, chaos, and non predictability, as in three and multi-body problems in dynamics.

When is a dyad (or a pair) a dialectic?

FOURDIAL.WPD
98/09/18

NUMAPROX.WPD

SOME APPROXIMATIONS

values:

$\sqrt{2}$ = 1.41421356237309504880168872420 97

π = 3.14159265358979323846264338327 95

e = 2.71828182845904523536028747135266

Φ = 1.61803398874989484820458683436564 = the golden section

γ = 0.5772156649 = Euler's constant

δ = 4.6692016091029 = Feigenbaum's constant

$\log \delta$ = 0.66924262651820317917383358337 5188

$\delta - \log \delta$ = 3.99995898258469682082616641662481 $\doteq$ 4.0000

$e\Phi/\pi$ = 1.40001358369048485629861350299979 $\doteq$ 7/5

$5e/7\pi$ = 0.61803998530876077658412484974 7207 $\doteq \varphi = \Phi - 1 = 1/\Phi$

$199^{1/11}$ = 1.61803027449371786505215835713453 $\doteq \Phi$

$\pi/4$ = 0.78539816339744830961566084581 9876 $\doteq 1/\sqrt{\Phi}$
$1/\sqrt{\Phi}$ = 0.78615137775742328606955858584 2959 $\doteq \pi/4$

5π = 15.70796326794896619231321691639 75 $\doteq 6\Phi^2$
$6\Phi^2$ = 15.70820393249936908922752100619 38 $\doteq 5\pi$

$\sqrt[3]{31}$ = 3.14138065239139300449307589646275 $\doteq \pi$

Bottom Line Capitalism vs Marxist Leninist Communism

THE 19TH CENTURY

Although capitalism had its birth in the writings of Adam Smith in the 18th Century, only in the 19th century through interpretations of Darwinism by such philosophers as Herbert Spencer, did capitalism take on its Jurassic form: of "survival of the fittest". Although the roots of socialism go back to the Christians of the first two centuries, and even further back to tribal and family arrangements of pre history, a reformulation of a political as well as an economic nature took place in socialism following the revolutions of 1848 in the writings of Karl Marx and Friedrich Engels. Communism entered the politico-economic arena as the opponent of capitalism.

THE 20TH CENTURY

The conflict between capitalism and communism became the essential "religious" conflict of the 20th Century,. the cold war becoming the current version of the 17th century's 30 Year War. While capitalism had received a great boost from "Survival of the Fittest", its major triumph came when it was perceived as a better choice than Leninist Communism.. This not only because American productivity out produced Russia, but because Leninism incorporated an extreme totalitarianism which diluted and contradicted socialism. The planet was manipulated to believe it had only a choice between two unacceptable social orders. However, the triumph of BLC over MLC was illusory as far as the welfare of peoples was concerned. Both systems put the acquisition of power in the hands of the few over the needs of the many. One through power per Party and control by terrorism. The other through power per wealth and control by manipulation, that is, one by bayonets, the other by spin. But truth and human rights were sacrificed under both systems while each made claims of superiority.

THE 21ST CENTURY

Marxist Leninism is dead, and well it should be, for it was much more a form of fascism than of socialism. But socialism itself is not dead and the excesses of bottom line capitalism will effect its resurrection. In recent years capitalism has moved beyond the idolatry of the bottom line to a philosophy of "winner take all". This is serving to bring greater wealth into fewer and fewer hands with the ultimate result of the strangulation of the economy. It has been said that a 'special interest' is an interest that does not understand its own best interest. Capitalism, a compound of special interests, needs no revolution to overthrow it. It has the built in specifications to do the job effectively all by itself. Only the time table is unknown.

BLC vs M/C. WPO 98/09/26

POLITOFF.WPD August 20, 1998, September 30, 1998

ON POLITICAL OFFICE

THOSE WHO WISH TO HOLD POLITICAL OFFICE SHOULD AUTOMATICALLY BE DISQUALIFIED. --- CONFUCIUS

Confucius is noting that those whose ambition for power and renown through the acquisition and possession of political office are most likely to lack the wisdom required to make socially constructive decisions. Further, those with the means or skill for acquiring power usually lack the skills required for administering power. Either way, only rarely in history has a wise leader emerged. Humanity, in its social organizations, seems to have selected tests for qualifying one to be a decision maker that have little to do with decision making capabilities.

The test for acquiring a position of power, which usually is synonymous with the position of decision maker, has run the gamut of brute physical strength, skill with some weapon, military skills, skill with words (oratory, rhetoric ranging from demagoguery to inspiration), skill with manipulating persons, skill with receiving and carrying projections, skill with manipulating information, skill with getting votes, skill with interpreting polls, skill with acquiring money, or finally being the heir of one with such skills or just being in close proximity to one of the above.

Sometimes having outstanding appearance, intellect or character has led to the position of decision maker, but more often such become authorities or celebrities rather than rulers. While those with such outstanding attributes may possess considerable influence, they rarely acquire direct decision making power.

At the outset it should be recognized that there are two distinct classes of decisions: Decisions regarding conflicts of interest, and decisions regarding allotment of resources. The first of these is based primarily on judgement, the second primarily on perception. Decisions of judgement are based on precedent and are past oriented; perceptual decisions on the other hand are based on anticipated situations and are future oriented.

The first category, that dealing with conflict of interest, has long been recognized as a function of political authority. Indeed most political entities have set up procedures, courts and laws to handle this type of decision making. Further, most cultures have a professional class specially trained in this type of decision making. The second category, dealing with the optimum allocation of resources for anticipated needs, has usually been delegated to parliamentary bodies whose members lack training in this type of decision making. In fact professionals skilled in the first type of decisions constitute the majority of those making decisions of the second type, there being no professional class trained in future oriented decision making. In both cases

the skills required for power administration have very little to do with the skills of power acquisition.

What then, if not the skills of power acquisition, are the skills required for successful decision making?

First, what qualities and criteria are involved in making good judgements?

- An understanding of values, especially a feel for justice.
- A grasp of the context in which the judgement takes place.
- An ability to identify the side effects that the judgement will have.
- A knowledge of history and precedents for the judgement.
- An understanding of all the parameters involved in the judgement.
- Flexibility and adaptability of the general to the specific.

Second, What is involved in clear perception and needed for decisions concerning the future?

- An understanding of values, especially a feel for the whole.
- A grasp of the context and prognosis of its probable paths of change and evolution.
- An ability to identify side effects of the decision.
- A knowledge of history and the nature of change.
- An understanding of all the parameters involved and the spectrum of choice.
- An understanding of the nature of risk.

While there is considerable overlap in the required background for the two types of decisions, there are some important differences. Foremost is identifying with the present and future well being of the whole (type 2), as against seeking balance [or special privilege] within the whole (type 1). Second is thinking in terms of probabilities (type 2) instead of in terms of black and white, guilty or not guilty, (type 1). Third is thinking in terms of both preferences and possibilities (type 2) instead of in terms of fixed rules and inherited traditions (type 1). Finally, replacement of the adversarial world view (type 1) with an open ended holistic world view (type 2)

PYTHCHEM.WPD October 13, 1998; October 20, 1998; June 5, 2000

ON AVOGADRO'S NUMBER

In the nineteenth century chemists found all gases under standard conditions of pressure and temperature, when taken in amount equal to their molecular weight in grams, would contain the same number of molecules. For example, under standard conditions of pressure and temperature, 2.015 grams of Hydrogen (whose molecular weight is 2.015) would contain the same number of molecules as 4.003 grams of Helium (whose molecular weight is 4.003), would contain the same number of molecules as 39.948 grams of Argon (whose molecular weight is 39.948), etc. This fact led to the concept of "mole" or gram molecular weight, defined as the amount of a substance whose weight is equal to the molecular weight of the substance measured in grams. And the number of molecules in a mole, Avogadro's Number, named after the Italian chemist Avogadro, was found to be: $N_A = 6.022\ 136\ 7 \times 10^{23}$ particles per gram molecular weight. [N_A has the dimensionality 1/M and the $\log_{10}$ value of 23.779 751]

This value of N_A is based on the chemists' 1960 definition that $^{12}C = 12$, or that the $\log_{10}$ mass of a proton, m_p = -23.779 751 grams. Physicists, however, based on $^{16}O = 16$, use the $\log_{10}$ value of -23.776602 grams for the mass of the proton, leading to a value of $N_P = 5.978\ 629 \times 10^{23}$ particles per gram molecular weight. The ratio of these two values is 1.007277 (whose $\log_{10}$ value is 0.003149).

$$\frac{N_A}{N_P} = \frac{1.007277}{1.000000}$$

That is, the $^{12}C = 12$ value for atomic weights is 1.007277 times as great as the $^{16}O = 16$ values. For the physics value the number of particles (atoms, molecules, protons,...) per gram molecular weight becomes $\log_{10}(N_P) = 23.776602$.

It is useful from time to time, however, to remind ourselves that the gram is an anthropocentric measure of mass, devised by humans to facilitate such operations as business transactions and medical prescriptions. While the gram has been of great use in science its use may obfuscate some of the basic relationships that exist in the natural order. It would accordingly seem better to adopt a unit of mass that is implicit to nature and redefine Avogadro's number in such units. One such system of "natural units" is the Planck system based on the fundamental constants G, c, and $\hbar$. [Newton's gravitational constant, the velocity of light, and Planck's constant.] The Planck unit of mass is given by, $m_o = \sqrt{(\hbar c/G)}$, whose $\log_{10}$ value is - 4.662 199 grams. Converting the *physics* Avogadro number N_P to Planck mass units we obtain: $N_P = N_P \times m_o = 1.301377 \times 10^{19}$ [with a $\log_{10}$ value of 19.114 403] particles per "planck molecular weight". That is, the mass ($m_o \times W$) of a substance will contain N_P particles, where W is the atomic weight of the substance.

Note 1: Dimensionally the Planck number, N_P, is a mass times a reciprocal mass and is a pure number.
Note 2: The planck molecular weight, 19.114 403 is equal to $(S/\alpha\mu)^{1/2}$
Note 3: If the ^{12}C-12 value is used for conversion to planck units,
$N_{AP} = N_A \times m_o = 1.310844 \times 10^{19}$ [whose $\log_{10}$ value is 19.117 551]
19.117 551 - 19.114 403 also leads to the ratio of 1.007 277

LIBFRE2.WPD October 24, 1998

LIBERTY VS. FREEDOM

In confusing liberty with freedom great mischief is done. While the component of rights is preserved, the component of responsibilities is lost. As Edmund Burke said:

> Men are qualified for civil liberty in exact proportion to their disposition to put moral chains upon their own appetites. Society cannot exist unless a controlling power upon willfulness and appetite be placed somewhere, and the less of it there is within, the more there must be without. It is ordained in the eternal constitution of things that men of intemperate minds cannot be free. Their passions forge their fetters.

It must be understood that liberty has to do with the external restraints and freedom with the internal restraints. Burke speaks of a trade-off between the restraints of liberty and those of freedom, but paradoxically inner restraints enhance rather than inhibit freedom. This is a paradox that is almost universally misunderstood. But the allowing of liberty through the self imposition of inner restraints is quite secondary to the winning of freedom from the tyrannies of desire and aversion that emerges from the adoption of those same inner restraints. The mastery of self is thus a win-win proposition It wins liberty for the social order, freedom for the individual. When humans can achieve perfect freedom, then and only then can there be true liberty. Only those who are perfectly free have the right to seek anarchy as the ideal form of government. Those who are slaves to greed and avarice have no right to seek deregulation of those public restraints that reduce everyone's liberty. We claim deregulation will lead to freedom. Wrong! It is freedom that will lead to deregulation. **Deregulation can be had only when there is complete freedom.** It is seen that the paradoxical nature of this slogan arises out of our illicit equating of freedom with liberty.

A drug addict when released from prison will gain liberty. The real question is, will he gain freedom?

THE LEVELS OF FREEDOM

1) Liberty Removal of the restraints imposed by kings, customs, and tradition.
2) Freedom of the spirit Release of the imagination
3) Freedom from the ego from desire and aversion
4) Freedom from the rational from conditioned ways of thinking
5) Freedom from the archetypes, from the natural order, from Brahman

SYMBDOM..WPD October 30, 1998

SYMBOLIC DOMAINS

Humans attempt to understand their experiences by representing them symbolically. These symbols are the inhabitants of a mental world designed to behave in the same way that the worlds of experience behave. The most immediate world of our experience is the cultural world in which we interact with other humans, and the most immediate of our symbolic domains is that of language, a symbol set of words designed to perform coherently with our cultural operations and views. When we attempt to extend this cultural symbolic set in attempts to understand other worlds of our experience we find words are inadequate. We have found that a symbolic set we call mathematics is most useful for representing our trans-cultural experiences with the physical world, the world of nature. We have found useful representations of our experiences with spiritual and psychological worlds in sets of deities and sets of symbolic activities called rituals. For each world of experience we develop a domain of symbols, but for cultural purposes tie these domains together with language. To truly explore non-cultural worlds such as nature or spirit, we must thoroughly transcend dependence on those symbols fabricated for operating in our cultural world. Although mystics have long understood this, scientists have discovered it only in the present century, when the understanding of experiences in the physical world cannot be grasped by words but can be represented by equations.

Mathematics appears to be a symbolic domain isomorphic to the physical world. Language is a symbolic domain being continually updated in order to be isomorphic to our changing cultural world. The representations of the worlds of spiritual experience, however, have not been so successful. First of all, this may be because there are many worlds of spirit, not just one as we have so far found to be the case for nature. But be that as it may, religion repeatedly returns to cultural symbols for understanding. Not only has it not developed an adequate symbolic domain to sustain understanding of worlds of the spirit, but has instead substituted cultural scriptures for the spirit worlds whose exploration is its task to explore. For these reasons we can conclude that religion is not dedicated to its task of understanding the spirit, but has opted for being a cultural facade which in effect obstructs this task. The religions of the aborigines, the shamans, the pagans, were far more advanced in their approach to the spirit than the institutionalized religions of our times. This is not to say that within the heritages of our religions there are no useful symbols, for there are many. This is especially true of the complex structures of interacting deity symbols in those religions of Vedic lineage, especially Hinduism and Buddhism. In the West the rich spiritual and psychological symbols represented by the gods and goddesses of the Mediterranean, of Egypt, Greece, Rome have been discarded in favor of a symbol for a single, (though important), spiritual fact: The unity of all things. [The desiccation created by this choice could not sustain itself. It had to be augmented with threefold aspects, with Satan, with the Virgin, with countless angels and saints. Monotheism is a lock on the gate to spiritual worlds.]

When we consider the success of mathematics as a symbolic domain representing the physical world, we naturally inquire, can mathematics serve as a model for the design of other symbolic domains? This does not mean that mathematics itself should be taken as the symbolic domain, but that there are certain aspects contained in the organization of mathematics that could prove useful in the design of other domains. Certainly the concepts of elements, types of elements, operations, and types of operations seem to be applicable to other domain of symbols. These concepts appear in language in the form of nouns, their modifiers, verbs and their modifiers. Where can we start in the design of a symbolic domain for the worlds of the psyche and spirit?

One of the most advanced symbolic domains, having many parallels to mathematics, for representing psychological and spiritual ontologies is that of Mahayana and Vajrayana Buddhism. The various buddhas, tathagatas, bodhisattvas, along with skandas, kayas, cittis, etc. provide a rich vocabulary and grammar for representing spiritual experiences. What is lacking that is found in mathematics is some form of overall organization. It is suggested that the structures contained in Vajrayana and Tantra be put in juxtaposition with not only the spiritual symbols of other heritages, but with the structures of mathematics and investigate whatever parallels that might appear.

SHAPINDX.WPD November 16, 1998

SHAPE INDICES

In flat space shape and size are independent permitting the creation of dimensionless indices that reference shape only. Two examples are given here. In two dimensions scale attributes of figures can be eliminated by taking the ratio P^2/A where P represents the perimeter of the figure and A its area. For three dimensional figures the dimensionless ratio S^3/V^2 removes scale factors, where S represents the surface area, and V the volume of the figure.

TWO DIMENSIONAL CASE

POLYGONS

Number of sides	Perimeter	Area	P^2/A	Value
∞	2π r	πr^2	4π	12.566371
6	6 e	$e^2 3\sqrt{(3)}/2$	$24/\sqrt{(3)}$	13.856407
5	5 e	e^2 1.720477		14.530854
4	4 e	e^2	16	16
3	3 e	$e^2\sqrt{(3)}/4$	$36/\sqrt{(3)}$	20.784610

The polygon shape parameters, all independent of size, have the value of 20.433 for an equilateral triangle and decrease toward $4\pi = 12.566371$ as the number of sides increases.

THREE DIMENSIONAL CASE

In the table E stands for the length of an edge; for pyramids a is an apothem and β is the base-face dihedral angle. Φ is the golden ratio 1.6180339...; $\varphi = 1/\Phi = 0.6180339...$

POLYHEDRA

FIGURE	SURFACE	VOLUME	S^3/V^2	VALUE
SPHERE	$4\pi R^2$	$4\pi/3 R^3$	$36 \cdot \pi$	113.09734
ICOSAHEDRON	$5\sqrt{(3)} E^2$	$5 \Phi^2/6 E^3$	$36 \cdot 5 \cdot 3^{3/2}/\Phi^4$	136.458
DODECAHEDRON	$3\sqrt{[5(5+2\sqrt{5})]} E^2$	$(15+7\sqrt{5})/4 E^3$		149.858
OCTAHEDRON	$2\sqrt{(3)} E^2$	$\sqrt{(2)}/3 E^3$	$36 \cdot 3^{3/2}$	187.061
CUBE	$6 E^2$	E^3	$36 \cdot 6$	216.000
TETRAHEDRON	$\sqrt{(3)} E^2$	$\sqrt{(2)}/12 E^3$	$36 \cdot 2 \cdot 3^{3/2}$	374.123

value / .86

3.14159

3.79125

4.16514

5.19615

6

10.39231

Note the ratio of triangle to circle = 1.65398 is one half the ratio of tetrahedron to sphere.

square to circle $^2/_3$

Hex to circle

4x to circle = Tet to Sphere $\cdot \frac{6\sqrt{3}}{\pi}$

cube to sphere

Octahedron to sphere

using circle and spheres as unit

ratios proportions = hyperratios hyperproportions purification

SHAPE INDICES OF SELECTED PYRAMIDS

b = ? apothem - base angle

K = $(S^3/V^2)/36$, $\Phi = (1+\sqrt{5})/2 = 1.618034...$, the golden section.

113,09734 in spherical "units"

DEFINITION	b	S^3/V^2	K	S^3/V^2
$b = \arccos(\sqrt{3}/2)$	30^O		30.0111	1080.3998
$b = \sin \varphi$	38.1727		18.9768	683.1665
Dahshur Bent upper	43.3667		15.0262	540.9424
$\arccos(1/\sqrt{2})$ ①	45.0	$36(1+\sqrt{2})^3$	14.0711	506.5596
$b = \arcsin(\pi/4)$ ②	51.7575		11.1140	400.1031
"400" ②	51.7654		11.1111	400
$b = \arccos(\varphi)$ ②	51.8273	$36\ \Phi^5$	11.0902	399.2472
$b = \arctan(4/\pi)$ ②	51.8540		11.0811	398.9193
Dahshur Bent lower	54.4622		10.2725	369.8089
$b = \arccos(1/\sqrt{3})$ ③	54.7356	$18(1+\sqrt{3})^3$	10.1962	367.0632
b = 1 radian	57.2958		9.5522	343.8787
$b = \arccos(1/2)$	60.0		9	324
$b = \arccos(1/\sqrt{5})$	63.4349		8.4721	304.9956
$b = \arccos(1/3)$ ④	70.5288		8	288
Inverse $\arccos(1/\sqrt{5})$	76.3453		8.4721	304.9956
$b = \arccos(1/5)$	78.4630		9	324
Inverse $\arccos(1/\sqrt{3})$	81.1006		10.1962	367.0632
Inverse $\arccos(\varphi)$	82.3090		11.0902	399.2472
Inverse $\arccos(1/\sqrt{2})$	84.6157		14.0711	506.5596

$\frac{400}{288} = \frac{25}{18}$

2.546479 = X

$\frac{X^2}{\sqrt{5}} = 2.9$ to 5 places

① This pyramid results from dividing a cube into six congruent pyramids.

② These pyramids have been considered the best approximations to the Great Pyramid of Cheops.

③ This pyramid is half of an octahedron.

④ This is the minimum value of S^3/V^2 acquired by any square based pyramid.

Does S include the base? yes

SEARCHING FOR WHAT?

Our lives find their meaning in our searching for we know not what, but which we know we shall recognize when at last it is found.

Is it meaningful to search without knowing for what one is searching? Traditionally, there are four kinds of searches. One to retrieve a definite item, usually something that has been lost or mis-filed. Second, to retrieve an item only generically or incompletely defined. Third, to try to find something that has been but briefly glimpsed, believed to exist but almost totally unknown. And lastly the search for that which may not exist but which may be created by the search itself.

Search for the definite refers to something not immediately present but whose description is stored in personal or cultural memory. The second and third searches are a mix of a part that may be in memory and a whole that substitutes image for memory. The fourth has no component in memory, but is nonetheless recognized when it is found. What is the Holy Grail? A definite chalice or a symbol that may take many forms? What is enlightenment? What is happiness? What is salvation? Are these definite and definable or something only glimpsed to which we might wish to return? And how do you know it if you find it? Would you recognize it? While in most cases the only clue for the object of our search is a brief glimpse, we seem to know that we possess something called *recognition* that both affirms our search and confirms what is found. Recognition goes beyond hunch or intuition and is independent of what is stored in memory. Recognition is a trans-rational guide that enables us to both discover and to find meaning in what we discover.

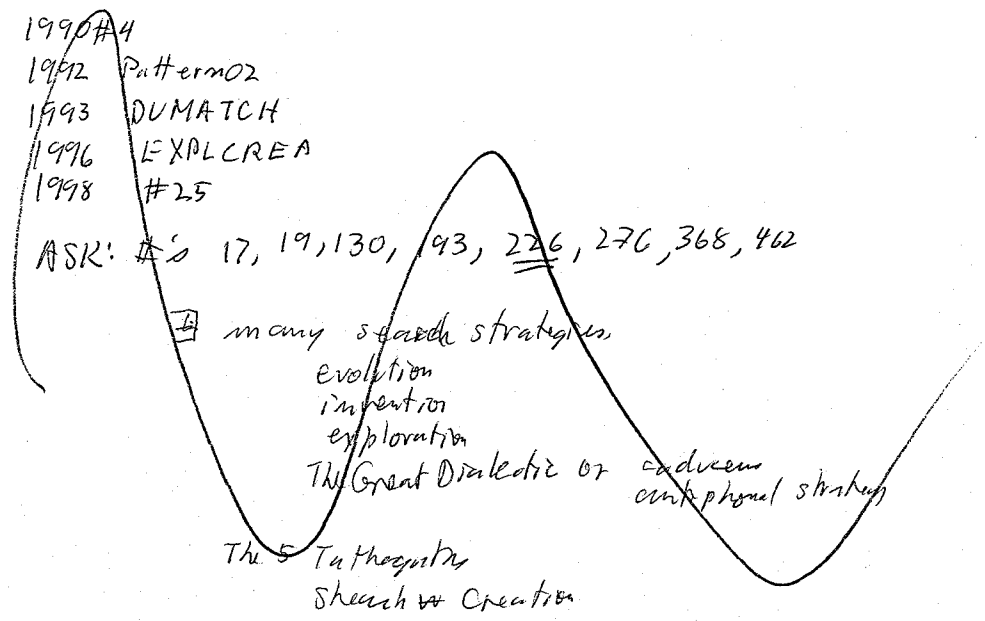
While most of us are searching for the definite:--security, wealth, position, power, pleasure, success; the few are searching for the indefinite: --understanding, meaning, oneness, enlightenment. And in between the definite and indefinite there are those searching for: justice, peace, love, and happiness. But in addition to these three groups, there are a very few who are searching for something beyond all of this yet including all of this. These "meta-searchers" are searching for a different **vantage point**, for a new and different way of viewing the world. And they quickly learn that to do this they must free themselves from their present vantage point, THE vantage point that has been used by all for millennia. They must go from THE, assuming it to be but one special case, a view of but one facet of reality, to ALL, searching for as many alternative vantage points as possible. They must launch out into unknown spaces and dimensions, and levels crafting new vehicles of perception and conception, gaining access to thoughts never before encountered by humankind.

But we are all meta-searchers. We are grasped by something that pulls us toward itself. We avoid it, we ignore it, but ultimately we turn to it. This is so not only in our individual lives, but is so collectively, culturally. And is not life itself engaged in a meta-search through the process we call evolution. It is a search of type four, searching by creating. And we might surmise that even Brahma as creator of the world is also conducting a meta-search.

See Also

1990 #4
1992 Pattern02
1993 DUMATCH
1996 EXPLCREA
1998 #25

ASK: #'s 17, 19, 130, 193, 226, 276, 368, 462



Paul Tillich felt that religion derived from "a state of being grasped by an ultimate concern". Certainly human meaning is centered around concerns. What are our concerns? There are many. Justice, Peace, Understanding, Freedom, Wholeness,,,,. But something tells us that none of these are the ultimate concern which is ever pulling us. Hence the search. The search is forever open, yet must be supported by specific concerns to which we subscribe ~~to~~ along the way. It is finding or building a step on which to stand in order to find or build the next step. This meta-search is the antiphonal dialectic of doing and being, of exploring and creating, of injunction and liberation, and symbolically of bread and wine.

But is this search at all possible? Does our biological hardware permit this? Is our ingrained software sufficiently alterable? Is it all only an illusion whose use is just another episode for Star Trek? We here must ask, why do we humans again and again seek to challenge the gods? Do we wish to join Prometheus chained to the rock with our livers devoured by vultures? What is it in us that tells us we are more than we have ever become, that drives us to find this unrealized essence that we carry. If we end along side Prometheus, so be it, but we long ago made a commitment to such a search and there is no turning back. We have dallied with digressions for too long. It is the time to boldly face our destiny. We are Searchers. We are the part of the cosmos that the cosmos has set aside to explore, to know, and to create itself.[1]

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[1]This of course is the core of Judaism.. But the chosen are no longer the Children of Abraham.. The chosen are those who self choose to take on the commitment to such a search, whatever their race, sex, or origin.

INVOICES

Only a few decades past I remember I paid bills but once a month. Shortly after the first week of each month the bills would begin to arrive and request for their payment by the about the fifth of the following month. Business operated strictly on a monthly cycle, and both business and our lives marched to the same drummer. It was straight forward and simple to get into synchrony with the due dates of the invoices. One day each month could be set aside and regularity prevented overlooking any payment. All was in order, but that was then and this is now.

Some highly paid fiscal consultants looked over this efficient system and saw that with a few simple changes extra revenue could be squeezed from the structure. Instead of a monthly cycle, by cutting to a 25 day cycle the company would receive funds five days earlier and make more interest on the funds. This reduction in the length of the payment cycle immediately caught on and banks, utilities, merchandisers, all jumped on the wagon. But everyone had a different idea as to what the new cycle should be -- 25 days, 24 days,....15, days, etc. So began both increased profits and chaos. However making matters even more confused, different companies launched the new policy at different times. The result was that the orderly monthly cycle became more complicated than the Ptolmaic system of cycles within cycles and epicycles on epicycles. Bills arrived at all times of the month and were due at all times of the month. But the resulting confusion was not negative. The same highly paid fiscal consultants saw that the average customer could not keep track of when bills were due and frequently paid later than the allowed 25 to 15 day interval. Their solution was to institute late charges. If the check was not received by the due date a late charge of up to the equivalent of 84% annual interest was assessed. To follow this up the highly paid fiscal consultants came up with the idea of late mailing of the invoice reducing the number of days between the customers' receiving the bill and the due date. Profits from late charges increased. Most recently the highly paid fiscal consultants came up with the idea of locating the bill collection centers at remote places served by no major airlines, which would mean delay in reception of the payments and even more late charges. We suspect that by now the companies' additional profits from this chaos has almost been enough to pay off the highly paid fiscal consultants for their services.

I am addicted to conspiracy theories. I believe that everything is to be explained by a conspiracy. Even the Big Bang was the result of some cosmic conspiracy. It is my belief that those who wanted to destroy the capitalist system saw that the best way to do it was to replace its integrity and efficiency with unscrupulous devices to increase the bottom line. Who are these highly paid fiscal consultants? I'll tell you who they are. They are commies disguised in business suits who have infiltrated the business world and gained the confidence of top management. They are bent on the destruction of the capitalist system and know that through the operations they have suggested and implemented the system will self-destruct. There will be no need for pitchfork wielding customers manning barricades on Wall Street. The red flag will be raised by the highly paid fiscal consultants themselves.

December 10, 1998

noisfood.wpd December 14, 1998

NOISE–>FOOD

Several years ago I bought an Apple computer and found that it was supplied with a good random number generator. I wrote a program in which I modulated white noise with white noise and was totally surprised to discover that the result was a gaussian. Further, every time I iterated the modulation the variance decreased, the gaussian became sharper. After a few iterations the curve approached a dirac function. This process could very properly be labeled "localization".

At the time I had never heard of central limit theorems, a class of theorems that state: Given a sequence $\{X_1, X_2, \ldots X_n\}$ of independent random variables, then the function,

$$\left(\sum_{i=1}^{n} X_i - m_n \right) \div \sigma_n$$

where m is the mean and σ^2 the variance, approaches a gaussian or normal distribution, as n becomes large. In other words the superposition of large numbers of random distributions (such as noise) leads to a gaussian. My experiment on the Apple proved to be a case of central limit theorems. (Powerful to discover theorems using injunctions, read algorithms, instead of logic.) [But what of iterations decreasing the variance?]

All of this takes on additional interest when we examine the process of collapse of a wave function. The Schrödinger time evolution of the wave function of a particle goes from that of a localized gaussian to one with ever increasing variance and non-localization.[1] This is the inverse of the localization that happens under the iterated central limit theorem process. One could say that decay results from no longer being fed by some source of randomness or noise. Ghirardi-Rimini-Weber point out that a particle's state may be altered by receiving a "hit" [modulation] from a sharp gaussian function. This in effect would restore localization as in accord with the central limit theorem process. Afterwards the particle resumes the path of Schrödinger spreading. The GRW idea is that a particle is "fed by gaussian food", or it seems more fundamental to say since gaussians themselves are built from white noise, that the ultimate food supporting all matter is white noise energy. Can we then conclude that the cause of decay and non-localization is some form of starvation, lack of access to white noise? Such would constitute a very generalized notion of the Second Law of Thermodynamics!

It is most interesting to compare the central limit process with the actions of the Five Tathagatas. The Vairacona-Akshobya process is the original self-modulation of white noise, creating a gaussian non-localized particle. Ratna Sambhava, Amitaba, and Amoga Siddhi represent subsequent iterations resulting in the increasing localization of energy and the creation of what we call material reality.

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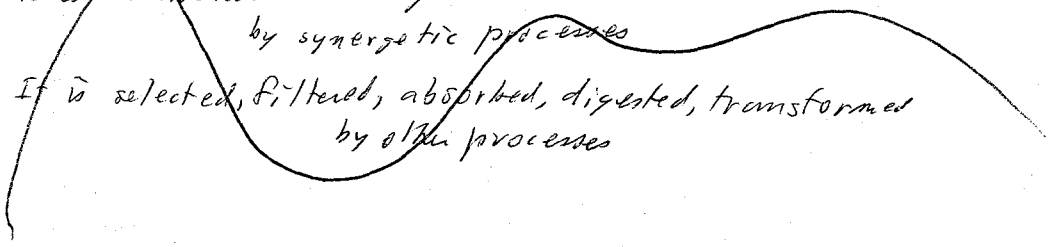
[1]See, for example, Penrose, "Shadows of the Mind" p 332

The original energy is in the form white noise.

→ particles → molecules → organisms →

by synergetic processes



It is selected, filtered, absorbed, digested, transformed

by other processes

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COSQUAD4.WPD December 30, 1998

THE COSMOLOGICAL QUADRANTS— PART IV

The four quadrants are both local and non-local. They apply to all positions and scales from fundamental particles to the universe. Wherever the total energy is locally greater than the gravitational energy, expansion results. Wherever the gravitational energy locally dominates, contraction results. The resulting behavior in any domain is the result of the averaged net energy over that domain. The universe, for example, will expand or contract according as to whether,

$$\frac{GM^2}{R} < Mc^2 \quad \text{or} \quad \frac{GM^2}{R} > Mc^2$$

For a constant mass, it follows that if R is increasing (expansion) that GM^2/R will decrease and expansion will indefinitely continue. For expansion to cease, mass must be created at a greater rate than R increases and for a length of time sufficient for M/R to become greater then c^2/G. Only in domains where mass is rapidly coming into existence will there be contraction and hence the formation of material bodies. Without the operation of forces other than gravity, all existing objects would persist only when $M/R = c^2/G$. Otherwise they would either expand indefinitely or become black holes.

A second first-quadrant condition is that the product time x energy be greater than ħ. This condition in the case of gravitational energy or contraction is,

$$\frac{tGM^2}{R} > \hbar$$

If R is increasing then either the time period **t** or the mass must increase to preserve the inequality. A second way to view this is to note that a time related to density (rather than motion) must also slow with expansion. Density time or τ time is given by,

$$\tau = \sqrt{\frac{4\pi R^3}{GM}} \quad \text{or} \quad \tau \propto \rho^{-\frac{1}{2}}$$

A constant mass with R increasing effects a decrease in density which in turn demands that τ increase. This means that the tick of the clock slows down. In an expanding universe the rate at which physical processes operate will be slowing unless there is a large rate of increase in mass. This effect could well explain why the age of stars in high density regions appears to be older than the age of the universe. That is, local clocks could run at different rates at different epochs. Another aspect involving two kinds of time is that with the uniform rate "proper" time, **t**, preferred by cosmologists, inflation or an increase in dR/dt, would take the form of a constant $dR/d\tau$, where τ is decreasing in rate because of expansion.

In accord with the concept that the four quadrants are non-local, applying to all domains whatever their size, the expansion rates and times may be congruent. We may thus calculate these rates and times for first quadrant entities such as expansion from a Planck particle (corresponding to the big bang) to a baryon (corresponding to the present) and expect the same times to be reflected in other domains including the universe itself. Indeed the expansion time calculated for planck particle to baryon is 9.057 billion years[1] . This corresponds to a Hubble age of 13.59 billion years and a value of the Hubble parameter of 71.96 kilometers/ second per megaparsec. [Freedman et al based on observations of Cepheids find a time from the big bang of 8.53 billion years and a Hubble time of 13.40 billion years derived from a value of the Hubble parameter of 73 kilometers per second per megaparsec , with an uncertainty of 15%.][2]

Another question confronting present day cosmology is the apparent or real value of curvature being close to zero. That is, why is space-time flat? What physical (or mathematical) principle sustains the universe holding to flatness? At this stage we can only note that in flat spaces alone are shape and size independent. In other spaces with positive or negative curvatures change the size and the shape changes. Is there some trade-off relation between information and and energy content?

implied here

IN NON-FLAT TOPOLOGY
i.e. if size ↑
curvature changes
⇒ Matter is created or destroyed

Mostly Flat - except when creation occurs

Other scraps in this series include:
Part I 1997 #55, Part II 1997 #58, Part III 1997 #60

[1] See items 1995 No. 82 and 1996 No. 27

[2] Spectra, Publication of the Carnegie Institution of Washington, June 1996