METONTICS:

THE FRONTIERS OF REALITY

PHILOS4.WPD APRIL 26, 2000

METONTICS: THE FOURTH BRANCH OF PHILOSOPHY

THE FOUR BRANCHES OF PHILOSOPHY

Names for three of the four basic aspects of philosophy may be taken from tradition:

ONTOLOGY: The nature of existence. The worlds that exists and their properties, Forces, Forms, Energy, Information, Processes, Change, Evolution

EPISTEMOLOGY: The tools and methods of knowing a world: Perception, Logic, Intuition, Recognition, Representations, Language, Symbols

AXIOLOGY: The Free and the Fixed, Options and Selections, Choices and Criteria, Values, Morals, Ethics, and their sources, Risk and Optimization strategies

The fourth basic aspect has to do with modes of escape from the conclusions and limitations of the other three. Perhaps it could be labeled:

~~METAOLOGY~~: The search for limits and how to transcend them, the search for alternatives and how to detect and create them, the extension of known differences and commonalities, the search for unknown differences and commonalities, looking beyond differences and commonalities, stepping outside all orthodoxies

METONTICS

The purpose of an epistemology is to unveil an ontology. The purpose of axiology is to digest the results of epistemology-ontology and provide feedback for epistemological modifications and corrections. Metaology is to remain detached from the other three, yet incorporate whatever is learned in order to perform its mission of liberation.

REALITY

Ontology subsumes cosmology, physics, and the other branches of science. It seeks to detect the order and structure inherent in the world. Epistemology subsumes the methodology of science and all other modes of knowing. It seeks the ordering and clarification of the isomorphisms between its symbols and their antecedents. Axiology subsumes the ordering and optimization of relations between and within social aggregates. It seeks to create a viable infrastructure for the support and sustainment of its selected paths and goals of human activity and creativity. ~~Metaology~~ METONTICS subsumes the perceptual, intellectual and feeling realms. It seeks the enhancement of being and its powers and searches for powers and faculties beyond those we now possess. It goes beyond and replaces the role that human religions have attempted to fill in the past.

METONTICS

In what way does ~~metaology~~ differ from axiology? Primarily in that axiology is empirical, based on past experience, while metaology places no limits on the sources of its inputs. It grasps for every glimpse of "other worlds" beyond common experience. Its function is to keep all else open ended. While the first three are consumed with actualizing potential, metaology is dedicated to expanding potential. In this way it supplies the fuel on which the others depend for their respective operations of exploration, creation, and direction.

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Metaology is not about the world, knowledge of the world, nor relationships.
Metaology is about the knower.

UNIVTYPE.WP6 October 1, 1997

WHAT IS A UNIVERSE?

The usual concept of a universe is that entity which includes all that exists, with the additional property of possessing an overall interrelatedness among the parts that results in "oneness" of the whole. Apophatically, one could alternately say that outside the universe or besides the universe there is nothing. These same attributes are sometimes also assigned to the concept labeled God. Whether universe or God, it must be added that any entity with such attributes is totally alien to common experience.

But in our times the term universe has taken on different meanings and attributes. The term is one used by cosmologists and astronomers to refer to the totality of physical objects that exist, whether directly observable or inferred by theories. The attributes of totality and oneness have been maintained but restrictions are placed on the nature of the included objects. These are limited to those that possess some degree of physical energy, that is have mass, motion, and/or extension in some form or other. But while the concept of universe has retained its attributes of totality and oneness, the models used to describe the universe have evolved.

The Ancient idea of an earth centered universe consisting of a set of transparent spheres containing the planets or wanderers, culminating in a final sphere that contained the non-changing starry objects, has been modified time and again over the centuries. The center was moved to the sun, the starry sphere was replaced by three dimensional space filled with objects at various distances subsequently recognized as being other suns. More recently the universe became the Milky Way, billions of stars with the sun not even near the center, but orbiting planet like about the distant center with a period of some 200 million years. Then earlier in the present century came two radically major modifications. First that there were many galaxies, like but exterior to our milky way, and at greater distances than hitherto conceived. And second, these galaxies were all moving away from one another. If the ultimate physical denizens of the universe were galaxies, then the universe was expanding. Finally in recent decades it was observed that the universe was of a fractal nature, with the galaxies clustered and with the clusters themselves clustered, with great voids or gaps between the succesive orders of clustering.

Sometimes concept occurs before percept. Something is theoretically predicted then later observed. Such was the order of the arrival of black holes to the assemblage of known

denizens of the universe. But these objects, informationally sealed off from their exteriors, challenge not only the traditional models of the universe but challenge the traditional concept of universe. It is now a completely new ballgame.

A universe traditionally consisted of all that existed, now it seems that a universe consists more properly of all that is informationally accessible. This idea leads to two views: a universe is all that is observable, or a universe is all that is knowable (by whatever means). The existance attribute must be abandoned. Kant long ago made similar distinctions, differentiating phenomena and noumena.

I. The phenomenal: experienced by the senses (or their instrumental extensions)

II. The quasi phenomenal: extrapolated from the phenomenal by rational or mathematical constructs.

III. The noumenal: exists, but is inaccessible to either our senses or our formal extrapolations. [An extrapolation of Gödel's results regarding axiomatic systems.]

[There is a curious dualism between the noumenal and human fantasy. The noumenal exists but is unknowable, fantasy does not exist but is knowable. It here becomes necessary to postulate orders of both knowledge and existence.]

NONEXST2.WP6 MAY 11, 1998

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 = 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 IMPROBABILITY CHANNEL PART I

Since I find it difficult to accept the reality of any highly improbable occurrence, and since I have personally experienced several very improbable events, I have sought a rationale for their treatment. Part II of the "Improbability Channel" [Scraps 2000#78] is a draft attempt to get a handle on this matter. In Part II it says, *When a sufficient number of improbable events occur that fit the same pattern, while each event is improbable, the pattern itself acquires statistical validity.*

The specific pattern I am concerned with here could perhaps be labeled "the resurrection pattern". It is the pattern that is recorded in a Bible story where Mary Magdalene encounters one who had been precious to her and who recently died. In her story she actually saw, heard and spoke with that person who was physically dead. This story has been interpreted and elaborated to fit any number of theological dogmas. I can readily disbelieve many of those interpretations, but I can also readily believe that this story describes a specific occurrence of a recognizable and perhaps not altogether rare manifestation of an archetype. The story being well known allows the useful name: The Resurrection Pattern.

I recount here two personal experiences of this pattern:

When Art and I brought my wife Donna's ashes here a few days after her death. We were unloading the car and were each occupied with different tasks, being some 20 feet apart, when suddenly, independently and simultaneously, we both felt a strong presence. We turned to each other and at the same instant each of us yelled to the other, "Did you feel that? It's Donna!" We knew the reassuring presence was Donna. That event occurred in early June 1998.

The second event occurred in late October, 2000. My close friend, Robin, had been ill for several weeks with terminal cancer and the inevitability of her death was soaking into our psyches. On Sunday evening October 29, Susan called me about 8:00 p.m. telling me that Robin had passed away about an hour earlier. A few minutes later that night I went outside and looked up and saw the new moon. I was struck that the moon was exactly as it appeared in Woodland hills as I left the hospital an hour after Donna died. Did Robin and Donna both chose the same time-of-moon to die?

But the improbable event occurred the next morning. For several weeks I had been going at least twice daily into my meditation room and focusing for Robin's recovery and freedom from pain. It was my ritual to touch a special candle dedicated to her while supporting her in my thoughts. But I must mention here that for several months, as far back as February, the fluorescent light in the meditation room had become defective. When the switch was thrown, the light would come on only partially, at low intensity. On one occasion during all of those months when I was at a deep level of meditation the light suddenly jumped to full brightness and remained high until turned off at the switch. But routinely it only came on and stayed low. I should have repaired the light, but I felt it unnecessary. Bright light is not really needed in a meditation room.

Early on the morning after Robin had died, I got out of bed and went directly to the meditation room and turned on the light switch. The usual low light came on and I could see my way across the room to the altar where Robin's candle stood. I walked across and stood silently for a few seconds before the altar, then reached to touch the candle. At the nanosecond my hand touched the candle the light instantly turned up bright! Overwhelmed, I sat and meditated for some time in the brightly lit room, trying to interpret what had happened. On leaving I turned the light off. About an hour later I went back, entered the room, threw the switch, but the light remained low. And it has not turned bright since.

What did all of this mean? At the instant the light came on, I somehow knew it had to do with Robin and that she or something had devised a physical way to send me a message. This was a last gift coming from a dear friend, reassuring me and telling me that she was alright and in a state of bliss in a place of intense joy and happiness. The same message Donna had sent to Art and me.

It is recorded that when asked whether he believed in a life after death, Jung said "I don't believe, I know" After all I have witnessed of the transitions from this life of those two most remarkable souls, Donna and Robin, I can now join Jung in that special way of knowing.

Certainly there are many ways to interpret these events. Coincidence, random fluctuations in the circuitry, or perhaps certain mental powers that are activated at singular times that can affect physical systems. But the interpretation that resonates with me is that these improbabilities did not originate in the physical world but in an interaction between the physical world and some other realm that has often been called "spiritual".

THE IMPROBABILITY CHANNEL PART II

Human Life Is Driven Forward by its Dim Apprehension
Of Notions Too General for its Existing Language.
–A. N. WHITEHEAD

Of equal, or possibly of even more significance than the probable events we tend to classify as "laws of nature", are various kinds of improbable and unique events. These are usually denied or ignored by an epistemology which restricts itself to the repeated and reproducible. [read the scientific method]. Here we note four kinds of improbable events:

1) Events that are exceedingly rare, but may be re-occurrences of some long term cyclical phenomenon. Eclipses were such phenomena for the ancients.

2) Improbable events that taken collectively follow a recognizable pattern.
If, when a certain number of such improbable events occur, and through their similarity they form a recognizable *pattern,* then, although each event is improbable, the pattern itself may acquire statistical validity

3) Synchronicities
Among events of high improbability are those that C.G. Jung called *synchronicities.* These are improbable happenings that intrude into an ordinary sequence of events in a meaningful manner. There are no visible causal connections, but there are meaningful consequences. Synchronicities interact with probable events in such a way as either to meaningfully redirect them or bring them to an unforeseen but meaningful conclusion. One of the questions that arise here is, what is meant by meaningful? Meaningfulness has to do with subjective expectations regarding fitting a well recognized [hence probable] pattern or archetype. Thus a synchronicity reconciles the improbable with the probable, the acausal with the causal, and infers that there is innovative creation continually joining with what already exists.
A basic feature of a synchronicity is timing. Synchronicities always involve a temporal improbabilities. For a synchronicity consists of a confluence of events, whose occurrence may individually be probable but taken in toto constitute an improbable coincidence. That is, the basic improbability in a synchronicity lies in the improbability of the coming together of the constituent events at the same moment in time. And as Jung defines, a synchronicity in addition always involves meaningfulness, either a meaningful message or an action that meaningfully redirects the course of events. Time, meaning and improbability, a curious triad that has traditionally been called either luck, fortune, or fate.

4) Miracles

Another species of improbable event is known as a *miracle.* Over centuries countless so-called *miracles* have been well documented. But since the laws of nature are basically statistical, a miracle is neither a violation of an inductively established law nor a falsification of that law. From the viewpoint of probability theory, a miracle is but an improbable event. However, when a sufficient number of miracles constitute a pattern, as pointed out before, that pattern acquires far greater statistical significance than any of its improbable components. We must agree with Hamlet, "There are more things in heaven and earth, Horatio, Than are dreamt of in your philosophy."

With reference to the first event reported in "The Improbability Channel Part I" [Scraps 2000#77], Jung might hold that its significance derives from the improbability of the "presence" *simultaneously* striking two observers. The event was not confined to one individual. As for the second event, Jung might view its significance as residing in the improbability of the *precise timing* of the light with touching the candle. In both events there is an element of a high improbability in the timing. In fact, considering the rarity of the light's turning bright over a period of months, the probability of this coincidence was infinitesimal. Both of these events readily fit Jung's concept of synchronicity, a highly improbable event that occurs at the intersection of the physical and the non physical, and is the conveyer of meaning.

SYMBIOS.WPD JUNE 16, 2001 JULY 9, 2001

MUTUALITY AND BEING

Knowledge Is for Doing; is for knowledge
Wisdom Is for Being. is for wisdom
–Li Kiang

Even some animals apparently have discretionary time. Today I saw some cows resting during a recess from their mandatory hours of grazing. And what do they do with their discretionary time? Rest, yes, but I was surprised to see many egrets in the midst of the reclining cows. Now egrets do not go near anyone, nor do they let anyone approach them, yet the cows and the egrets were enjoying some sort of symbiosis. I had a feeling that both the birds and the beasts were taking time off from doing their own things and just *being*. And when we can just be, we can become symbiotic with anyone. Or maybe it is the inverse: the clue to 'just *being*' is to establish a symbiotic relation with someone or something that is different: A member of the opposite sex, a pet, a foreigner, or an alien; A flower, a tree, a lake, or a mountain. Is it that we *be* when we contain the other and the other contains us? The egrets were in the midst of the cows and the cows were in the midst of the egrets. Or is it better said, When we identify with the other and the other identifies with us? Or, When we belong to the other and the other belongs to us? In any event *being* involves some form of mutuality with another. Indeed, mutuality is necessary in order for both us and the other to be.

Strange that the idea of mutuality has been so long obscured by our uni-directional activities. Causality, the foundation of our philosophies, is uni-directional in time. Reductionism, the foundation of our physics, is uni-directional in scale, Hierarchy, the foundation of our organizations, is uni-directional in power, Ownership, the foundation of our economics, is uni-directional in belonging. Rights, the foundation of our society, is uni-directional in privilege. Yet the world beyond the activities of mankind seems constructed on bi- or multi-directional linkages and influences. Why have we projected our own uni-directional proclivities onto the cosmos at large, and expect to understand the workings of the world in terms of our own biases? Perhaps it is from the same arrogance that created our uni-directional chauvinism in the first place. Why must we overrule the perceptions the world sends to us, with the uni-directional interpretations that we project onto the world? When will we come into a symbiotic relation with the earth instead of uni-directionally trying to subdue it? Egrets and cows have acquired a wisdom we have yet to achieve.

ALTERN02.WPD OCTOBER 25, 2002

ABANDONING OUR COCOON

Today is the feast day of Saints Crispin and Crispian who, legend tells us, were humble immigrant shoe makers martyred in Soissons. Curiously, their fame rests not on their piety and saintly service, but that their feast day was immortalized by war and battle, by Henry V and his victory on this day at Agincourt. [1415] Human history is the history of kings and battles, of the conflicts of egos in pursuit of power. We find meaning in the dramatization of our conflicts and project conflict and struggle onto the world to be its very meaning and essential process. But some part of humanity knows better, else there would be no record whatsoever of the likes of Crispin and Crispian and those who could perceive the world differently.

But the projection of conflict and power is not our only projection on the world. We project our logic and way of thinking onto how the world must be. We elevate our rationality to be above all faculties possessed by any other member of the animal, vegetable, or mineral kingdoms. While effective when bent for our purposes, does human rationality really perceive the world correctly? Any faculty developed by a species, while both serving its needs and shaping its evolution, may not necessarily promote that species' overall survivability nor its utility by the whole. Each is a variation on a theme, but do any lead to an understanding of the theme itself? Humans do assume that their prized faculty of reason will allow them to comprehend the theme. But, on the contrary, an alternative assumption may be the key to ultimate grasping of the theme.

Is it possible to look at the set of various faculties developed [or evolved] by the different organisms and detect some ingredient present in each beyond what serves their local and temporal needs? This would be to examine behaviors manifested by phenotypes as being as fundamental as the structures inherent in the genotypes. [I feel a revised Lamarkian view may have some merit.] Form and function are interrelated but many forms permit a wide spectrum of functions. And certain functions can be carried out by quite diverse forms. Accordingly, let us look at the set of functions as well as the forms.

Another way to put this is to inquire into the trans-metabolic [meta-metabolic?] activities of other species. Just as humans search for the *theme* in their sciences and religions, shouldn't we allow that other species also question and seek beyond food, sex, and survival. We should not arrogantly reject this possibility. There may be some members of each species, like scientists, sages, and saints among humans, who indeed participate in such a search. Let us go forth and meet them and join them. I strongly suspect this to be the case, because we recognize sacred places, groves, stones, and most mysteriously, sacred times, all of which seem also to be recognized by the non-human.

PERHEL.WPD October 11, 2003

KRONOS and KAIROS

The year is a great cycle, with the patterns of movement of the sun repeated over and over, giving us the seasons, times of light and darkness, times of heat and cold, and times filled with more subtle effects. Primitive and pagan peoples celebrated the year for its visible and invisible happenings, the extremes of the solstices, the balance of the equinoxes, and the numinous times of the presence of the spirit of the earth.

January 4th On or about this date the earth moves closest to the sun, the point in its orbit called perihelion. Also on this date the motion of the sun in the sky changes from being dominantly eastward to northward. It is the annual tropos when the sun truly begins its northward journey. And at the latitude of Alexandria and roughly throughout the world's temperate zone, this is the date of latest sunrise, the day of the darkest morning. It is not surprising then that in many cultures, peoples sensed a day of basic cosmic significance and supplied historical or mythic reasons to celebrate it. The point in all of this is that most of our special days are indeed special, but what we project or attach to them and what we tell ourselves is the reason for our celebration can be quite unrelated and arbitrary. What here emerges is an awareness of two different ways of looking at time. One, time as linear, historical, and ongoing–Chronos; the other, time as cyclical, recurring, and renewing–Kairos.

The ancient Hebrews were credited with departing from the level of celebration of the raw cyclical year to a level of substituting for the sun-earth-moon events a set of historical happenings-Passover, Purim, Rosh a shanah, ...Christians followed this practice, Easter, Christmas, Epiphany,... using a different set of historical or mythic events. And this practice prevails today in the West. Our national festivals mark anniversaries, birthdays or historical events.
But in this mode of celebration we have lost touch with the underlying cosmic cycles, with the real basis for Kairos-the proper time to celebrate the different aspects of life- and that may have little to do with history. In celebrating Christmas, for example, as an historic event, we obscure its greater power as a cyclic event, something that happened not once but happens every year in the depths of December and has a reality more profound than either the historic or the mythic.

In our embrace of Chronos, we have lost Kairos. We have substituted remembrance for recognition, and as a consequence have substituted mortality for eternity.

epiphany

INTRODUCTION

Tonight we have come together to celebrate a special day. But we may rightly ask , 'Why is this a special day?' Or for that matter what makes any day special? Are not all days the same, each 24 hours long. Of course sometimes night prevails, sometimes daylight, but a day is still just a day. Yet in all cultures, both past and present, certain days are set aside as being special. These days usually mark some anniversary, the commemoration of some historical (or supposed historical) event, such as the signing of the Declaration of Independence on the fourth of July.

Frequently, however, the original meaning of the commemoration is lost and even the date is shifted. We have in recent memory the example of November 11th. In 1918 an armistice ending the "War to end all wars", was signed. The symbolic time and date of the 11th hour of the 11th day of the 11th month was selected to impress future generations with the fact that time is short for terminating the terrible role of war in social history. But all of this was soon altered and the original meaning forgotten. After new wars, the day became 'Veterans Day', and though for a while still celebrated on November 11th, soon the day was shifted to the nearest Monday or Friday to accommodate the emerging overriding value of 'the long week end'.

So why is today, January 6th, a special day? What does it commemorate? In ancient Egypt, this date was set aside for the Festival of Osiris. It marked the rebirth of this god who had been cut into pieces, but was brought together again into renewed life. As with November 11th in our time, this date was taken over and given new meanings by later peoples. In Christian tradition, it marked the Baptism of Jesus, which is to say the day of his spiritual birth (as contrasted with the Nativity or day of physical birth). More recently in the Christian West, this day was selected to mark the visit of the Three Kings to the Christchild bringing their gifts and coming to worship. But going back before the Kings, before the baptism, before Osiris, was there anything that made this day special, causing it to attract the various festivals? When we look at the natural order itself, before cultures or civilizations, the answer was yes, this was a special day.

On or about this date the earth moves to its closest distance from the sun, the point in the orbit called perihelion. Also on this date the motion of the sun in the sky changes from being dominantly eastward to dominantly northward. It is a tropos when the sun truly begins its northward journey. And at the latitude of Alexandria and roughly throughout the world's temperate zone, this is the date of latest sunrise, the day of the darkest morning. It is not surprising then that in many cultures, peoples sensed a day of basic cosmic significance and found historical or mythic reasons to celebrate it. The point in all of this is that most special days are really special, but what we project or attach to them and what we tell ourselves is the reason for our celebration can be quite arbitrary and even distorting. But what emerges here is an awareness of two different ways of looking at time. One as **historical**, time as linear and ongoing, the other as **cyclical**, time as recurring and repeating.

The year is a great cycle, with the patterns of movement of the sun repeated over and over, giving us the seasons, times of light and darkness, times of heat and cold, and times filled with more subtle effects. Primitive and pagan peoples celebrated the year for what it was, for the visible happenings of the extremes of the solstices, the balance of the equinoxes, the numinous times of the spirit and the manifest times of the earth. The ancient Hebrews were credited with departing from this level of celebration of the raw cyclical year to the level of substituting for the sun-earth-moon events a set of historical happenings--Passover, Purim, Rosh na-shanah, ... Christians followed this practice, Easter, Christmas, Epiphany,... using their own historical or mythic events. And this practice prevails in the West. Our national festivals, except perhaps Thanksgiving, mark anniversaries, birthdays or historical events.

However, in the historical mode of celebration we have lost touch with the underlying cycles, with the real basis for Kairos--the proper time to celebrate certain aspects of life-- which authenticates history and not the reverse. For example, in celebrating Christmas as an historic event we lose its true power, its power as a cyclic event. Something symbolized by Christmas has a reality beyond the historic and mythic and it occurs in the depths of December not just once but every year. In our age we have embraced Chronos and rejected Kairos. We have substituted remembrance for recognition, and in doing so have chosen mortality over immortality.

THINKTYPES.WPD March 10, 2006

FOUR SPECIES OF THINKING

SCIENCE APPROACH:

Focus on confirmed facts [confirmed meaning repeating or reproducible by experiment]
Focus on the "IS", what is out there, objective, value free.
[But now being modified by recognizing observers' participation]
True/False, Aristotelean view being replaced by a probabilistic view,
[But allowing Popper falsification]
Skeptical and uncertain, open to modification and correction, never final; If can, then do.
View of others: General unconcern, but toss them a few apples now and then.

LAW APPROACH:

Focus on selected facts [what advances winning the case]
Selection of inputs; control both what is admitted as evidence and who can be a witness.
[Use of ad hominems to discredit witnesses and to disallow inputs]
Interchange sets with subsets and exclude contexts to advance chosen views
Wording of law overruling intent of law, i.e. symbols replace substance.
Homogenize circumstances to subject them to the law.
Stasis oriented, certainty is established by precedence
View of others: They are to be both protected and controlled.

POLITICAL APPROACH:

Focus on images and illusions [What appeals to and entertains the public]
Project infallibility and pseudo certainty using PR, spin, and Orwellisms
Believe in yourself and your agendas, insulate policies from facts and contexts
Power of office allows you to create reality. i.e. "Might makes Right"
[but we have fought wars against "Macht geht vor Recht"]
View of others: The public are sheep to be led and homogenized into lockstep.

FAITH APPROACH:

Focus on the belief system, on its description of the world.
Focus on direction, ignore current position
Have absolute certainty in the correctness of the vision. Wish can subdue reality.
Diversity is dangerous.
["We are the ones, the chosen few, The rest of you are damned,
There is plenty of room in Hell for you, We don't want Heaven crammed.]
View of others: They are unwashed and must either be converted or eliminated.

All of the above justify the use of various cognitive filters, sieves, and nets to select what dots are on their table of discourse. And all of the above restrict inputs because of inherent limited information processing capacity

FUTRTHNK.WPD October 19, 2006 rev February 25, 2007

FUTURE THINK

Version 2

1. Four value and probabilistic logics
   Plus logic as a function of time

2. Synthesis replacing Eristics
   Contexts disabling Disputes, Search replacing Fight

3. The Middle Way: Convergence | Divergence balance, Diversity treasured not just tolerated
   Plures ex uno | E pluribus unum, Ecology replacing Sovereignty

4. Alternative multi-parameter infrastructures and schemata
   Both contiguous-continuous and discontiguous-discontinuous

5. Consistent and Coherent sub-domains and zones. "Everything is a special case"
   Beyond monolatry, no one picture, no universals

6. Priority of the diachronic over the synchronic
   Control of "width of now"

7. Availability of both isomorphic and auric semiotics
   Need for both precise and vague representations, both equations and poetry

8. Connectivity by Abstraction rather than Generalization
   Multi-level connectivity vs single level connectivity

9. Engage Two level problems on both levels: Prevention of disease and cure of disease.
   Poverty and the poor, Terrorism and terrorists, Set and elements

10. The recognition of quasi-life and pseudo-life.
    Institutions and Organizations as quasi-life forms, Storms as pseudo-life forms

11. The species of randomness and complexity; Gauss vs. Poisson.

12. A special matroshka: Eratosthenes, Aristarchus, Bruno, Digges, Wright, Kant, Borges

13. Metaphors: Cosmology and Architecture.

14. The ultimate dialectics: departure and return; syntheses and fragmentation;

15. The Divine Dialectic: the creation and recreation of man and God.

ONTOLOGY FROM TECHNOLOGY

The current revolution in the communications/computing industry through its essential technological parameters is making manifest some basic ontological properties of the world. Analog/digital, FDMA (Frequency Division Multiple Access, TDMA (Time Division), SDMA (Space Division), CDMA (Code Division), etc. all involve the dimensions by which we experience reality. This new technical parameterization affords an opportunity to explore, at least metaphorically, the ontological nature of the physical world.

For example, we observe the world to be fractally structured, with modules of energy-matter being separated by gaps, voids, and silences. From technological analogies, we may reason that gaps are the result of wave interference. Two conclusions may be drawn: 1) That the ultimate structure of the universe is wave-like. Underlying atoms, nucleons, quarks,.. are primary energy waves of multitudinous frequencies and wave lengths. and 2) In an infinite space all waves may coexist with noise like cancellations and reinforcements, but in a finite domain only integral waves may exist, all others cancel each other out. The presence of gaps between integral values therefore infers that the universe is finite. While this might be erroneous, if nature uses the same structures universally that we observe in our technologies, and employs economy in the number of forms, then the likelihood of such reasoning being correct is large.

Many of the technological parameters are paired, possessing various types of symmetries. Time and frequency are reciprocals, $T * f = 1$, but we experience time as continuous and frequencies as discrete. Time is in a continuum, it is like the real numbers, it is measured. Frequency is in a discretum, it is like the integers, it is counted. Ourselves, we experience temporally the waves of frequency less than one hertz, and experience as frequency the waves of frequency greater than one hertz. But the world is experiencable at many different frequencies. We perceive different realities when our theta and alpha waves change frequency. The differences greatly exceed changes of the order of viewing the landscape through different colored lenses. But the world can also be viewed in multiplexed time. Events are imbedded in a discretum--Camelot, the once and future king. But multiplexed events lack the reality for us that the continuous conveys.

We select our physical reality with our senses. The notions of time and frequency come to us primarily aurally.

(Although there is also an inertial sensing of time and frequency in every body cell) Our notions of space come to us primarily visually, and since we are dominately visual and aural creatures, space and time have become the important infrastructures in our organization of experience. (Other animals may have infra-
structures in smell and taste as elaborate as our space and time, or even in some sense area we hardly possess. I am always impressed by the way flocks of birds and schools of fish can maneuver in coordination).

What about space? Again we encounter gaps and voids. There seems to be the need to measure both extension and separation. Are these measurable with the same meter stick? The reciprocal of distance is sometimes expressed as curvature. D * K = 1. This is not so intuitive for us as the idea of wavelength.

Fundamentally we encounter matter and gaps, sound and silence, stuff and no-stuff. Within the stuff is continuity, between the stuffs is discreteness. Thus there is both an analog and a digital aspect to the world, leading to its fractal like structure. Certain kinds of gaps lead to levels and hierarchies, others to cells and cellular aggregates. Then there is the important wave-particle dyad. Waves are everywhere and everywhen, particles are here and now. The problem for the ontologist is to organize all of the dyads and symmetries.

Dyads

continuous and discrete, (analog and digital)
wave and particle, (global and local)
time and frequency
extension and separation
space and curvature
channeled and open (4_) (wired and wireless)
signal and noise
mobile and static
node and link

INTRODUCTION TO MEASURE AND FRACTAL DIMENSION

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 be isomorphic 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 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.

There have been many approaches to these 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 classical geometric thought and the finite elements of physical experience.

The development of the concept of fractal, pioneered by Mandelbrot, has led to new isomorphies between the formulae of mathematics and the laws and patterns of nature. Complex patterns in nature, such as shore lines and mountain 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 isomorphies 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.

THE CANTOR SET

What are the ways in which the sizeless species of thought can be rendered useful to the representation of the finite elements of physical experience? Let us begin with the example known as Cantor's Set. Take a line segment of length L, divide it into three parts and remove the middle section. Iterate this process each time removing the middle section of the remaining line segments.

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.

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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 elements in a module to the number of appearance plus emptiness elements in the module. Or d is the ratio of the logarithms of the manifested to the total manifested and unmanifested.

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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

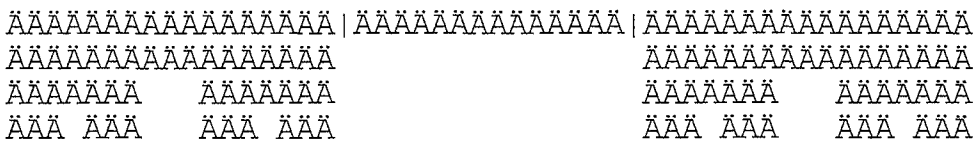
Take as the element a line segment of length 3 units = ___.

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.

4MODEMOV.WP6 JANUARY 30, 1998

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 _ 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 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 ~ particle and non-local ~ 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.

SOME BASIC PROBLEM AREAS I

I. The Species of Containment:

SCALAR CONTAINMENT
- Open Containment
  - Euclidean Containment: One parameter containment
  - Matroshka Containment: Iterated one parameter containment
- Closed Containment
  - One Parameter Mutual Containment: ==> Equality
  - Cross Parameter Mutual Containment:
  - Self Containment [Self Reference]
  - Looped Matroshka Containment: "Strange Loops"
  - Bi-Cross Parameter Mutual Containment

NOTES:

*Scalar containment is taken to mean static or time free containment.

*Open containment infers open below and open above, no self imposed bounds

*Euclidean containment is conventional geometric or algebraic containment, A>B

*Matroshka refers to nested Russian dolls. e.g. modular heirarchies, fractal organization

*Closed containment infers self bounding

*Mathematical equality is meaningful only if a single parameter is involved. If a generalized Pauli Exclusion Principle is valid, [no two entities take on identical values for all parameters], then total equality infers non-existence. In between, equality in more that one parameter leaves the mathematical domain of quantity and enters the domain of quality.

*Examples of cross parameter mutual containment would be: genotype containing phenotype and phenotype containing genotype. Holograms, in which the whole contains the parts and each part contains the whole.

*The Pope declaring himself infallible is a self contained or self referential proposition. While such a proposition may have validity within the system, its validity cannot be supported outside the system without additional linkages.

*The Jeffersonian notion of sovereignty is a closed loop. The executive at the top, below, the levels of national ministers, ...local ministers... down to the people, whose sovereignty loops back over the executive. Time is involved in this loop, and is strictly not scalar. A scalar example is implied in Blake's Augeries of Innocence,

"To see a World in a Grain of Sand and a Heaven in a Wild Flower,
Hold Infinity in the palm of your hand and Eternity in an hour".

*This is very difficult. Could it be what would be meant if Blake's line were rendered,

Hold Eternity in the palm of your hand and Infinity in an hour ?

MANIFEST.WPD July 3, 2003

THE ENTIFICATION MANIFESTO

"Entitation is vastly more important than quantitation. Let us look at the universe in terms of some new kinds of entities, some new kinds of units; or, what really comes to the same thing, in some new way of combining units, because combining units gives a new unit at the superordinate level " –Ralph Gerard November 1968

Four Perspectives

Entity, the particle view
Resonance, the wave view
Pattern, the dimensional view
Fractal, the level view

Every entity has a presence and an absence, a manifest aspect and an unmanifest aspect.

Manifest: [sensory], material, nodes, Nuclei
P-SPACE, position in space and time
H-SPACE form, shape, scale
Unmanifest: [feeling] vibratory, links, Cells
B-SPACE bonds, forces, resonance

Four Species of Entities

Things: inanimate, rocks, artifacts
Aggregates of multiplicity: crystals, flocks, schools, sponges
Aggregates of diversity: ecologies, societies
Organisms: lives of their own, reproduce, mortality, subvert the 2nd Law

Multiplicities contend, diversities converge, i.e. Flocks fight, ecologies emerge
Each of the four species may be multi-level, i.e. a fractal
At what level does intention, will, purpose enter?
Which species may be "holographic"?
Function vs Pattern
Are wholes always loops?
Standardization vs Specialization
Are storms, fires, wars organisms?
{[cf. "The Empty Quadrant", Entity and Architecture]}

Units

Planck system based on the fundamental constants: **c, G,** and _
Physical Dimensions:

Length: extension and separation
Time: duration and interval
Mass: energy and information

MATH01.WPD ... December 14, 1999

SOME NOTES RE MATHEMATICS

There are two ur-sources of mathematics: counting and measuring. Counting led to arithmetic, measuring to geometry, and from the marriage of arithmetic and geometry the rest of mathematics was born. Counting was literally digital, it gave rise to the natural numbers or integers. Against the discreteness of the integers, measurement introduced the continuous, leading to the real numbers–every point corresponding to a numerical value. Thus,

DISCRETE	CONTINUOUS
Arithmetic	Geometry
Integers	Real numbers
Digital	Analog
Multiplicity	Diversity

...and then came along the offspring, algebra, topology, analysis, ...

The continuous, geometry, was interested in patterns and dimensions, while the digital was interested in quantity and magnitude. It was Descartes, with his analytic geometry, who arranged the invasion of shape and pattern with number and scale. But now, Mandelbroit, with his fractals, is arranging the counter invasion of magnitude and scale with dimension and pattern, resulting in discrete patterns and regression.

We can note:

Scale : Dimension :: Value : Attribute

For example, the universe is a fractal in that it exhibits the same patterns on different scales. Thus exhibiting a certain type of symmetry, or even economy. It is the gaps, the nothingness, that give existence to the discrete. The content of non-sameness that gives existence to patterns. Thus the discrete and continuous represent two species of existence, and their marriage creates the world.

In the quadrad: Pattern, Dimension; Scale, Aggregate, both the discrete and continuous appear twice.

Notes 99/09/21, Little America, Flagstaff, AZ

THE PRINCIPLE OF PLENITUDE

In 1936 Arthur O. Lovejoy, Professor of philosophy at Johns Hopkins University, was invited to deliver the William James lectures at Harvard University. These lectures were subsequently published in a book entitled *"The Great Chain of Being"*. The central concerns developed in the lectures and the book were derived from Plato's thoughts concerning the World of Ideas and the World of Becoming. Plato considered two questions: Why is there any World of Becoming in addition to the eternal World of Ideas? and What principle determines the number of kinds of beings that make up the sensible and material world? Lovejoy points out that no one asks this sort of question today. In the last century T. H. Green noted that "...every form of the question why the world as a whole should be what it is .....is unanswerable. " But much has happened since 1936 and the structure of the Observable World is seen to derive from the critical values of certain fundamental physical constants.

Plato believed in the world as a **continuum**, there were no gaps. But beginning early in the 20th century it was discovered that what exists is limited to certain discrete eigenvalues. This was first recognized in the energy levels of atomic structure and later was extended and generalized to a **discretum** that manifests a universe of a fractal nature. Plato's continuum was completely filled, no gaps, no missing links. Every idea that existed in the world of eternal essences had a temporal counterpart, otherwise there could be no intelligibility between the two worlds. The 'fullness' of the realization of conceptual possibility in the world of actuality inferred an isomorphic relation between the two worlds. This idea of effecting a fullness in the world was called "The Principle of Plenitude" by Lovejoy. This principle not only required that " the range of conceivable diversity is exhaustively exemplified, but also that no genuine potentiality can remain unfilled. The extent and abundance of creation must be as great as the possibility of existence and commensurate with the productive capacity of an inexhaustible Source ", and "Further, the intellectual world was declared to be deficient without the sensible." These are all significant notions that have affected the course of western philosophy. Also implicit in Plato's thought is the importance of diversity for the proper functioning of the world.

What diversity is to the plenum, self replication and numerical abundance is to each element of the plenum. We thus arrive at two formulations of the Principle of Plenitude, one for eco-plenum and one for each component part.

1) The Principle of Plenitude states that all things possible in nature are actualized and that in the process of actualization new potentialities are created. Alternate formulations are "nature fills every niche", "can do implies will do". The actual ever increases to replace the potential. However not all that is actualized must persist. Much that is actualized may disappear through instability or incompatibility or through serving to effect further actualizations. The Principle of Plenitude seems to be responsible for form and variety to be continually increasing.

2) The Principle of Plenitude also seems to govern the increase in size, number and capability of individuals and species. Each structure tends to impose its own organization on the cosmos. It is the drive to growth as well as governor of evolution. (Growth and evolution are two processes by which the potential becomes actual.) In growth for any species the principle takes on two aspects, the increase in number and the manipulation of the context (environment) to enhance itself and delimit and inhibit competitors. Thus the principle operating on the species level may run counter to its operation on the plenary level.

In summary, Plato's continuum has today become a discretum, the gaps are part of the structure not just missing links. Further, instead of a limitless inexhaustible world we live in a finite limited world. Instead of every possibility being realized only a portion are actualized. It appears that there is not infinite variety, but variety is limited and restricted. Plato's belief that the two worlds are defective without each other has been replaced with a mono-only-one-world exists. The present view is that the important dichotomy is species/ecology rather than potential/actual.

PARADOX1.WPD

May 21, 2004

AN US/THEM PARADOX

There are many modular hierarchies with which we identify ourselves and find meaning. Population modules: me, my family, my clan, ...; Place modules: home, neighborhood, region,...; Political modules: party, country, allies, ...; Belief modules: cult, sect, religion,...; Genetic modules: race, species, genus, ...; and many others. There is even an hierarchy among the types of modules, but assignments of the order in that meta-hierarchy vary by individual choice. It has been noted that the extent of spiritual growth of individuals can be measured by the extent of each domain of modules by which they identify themselves. The child starts with me; the sage ends with an all inclusive domain of domains in which all living beings are themselves but a sub module. We become what we include in our domains of identity.

However, in becoming what we include, we also define and limit ourselves by what we exclude. This leads us to an "Us/Them" view of the world and in the process closes us off from the vast richness of our excluded "Them". But we do not see it this way. Rather we choose to define a "them", not as all that is excluded by us, but as another delimited set with differently ordered modules. The reciprocity of this operation by "them" leads us to our present us/them worldview of two conflicting "us's" and "thems", each cut off from their vast excluded "Thems". We see here how important it is to distinguish between "them" and "Them". Our "Them" contains "them" and their "Them" contains "us". And both "us's" are so limited that it is absurd for an "us" to seek to destroy or convert its "them".

On the other hand, there is one positive aspect to the present us/them world view. Namely, the existence of an "us" inspires the "me's" to move up modular ladders. While armies clash in darkness, the comradery, loyalty, and sacrifice within each army, move individuals to higher modules. Many moving to a module above any existing "us". It is a paradox that conflicts to preserve existing "us's" become paths to transcendence of those "us's". As has been said, Any "us" that seeks to preserve its life shall lose it, while those "me's" willing to sacrifice find greater Life.

What I have clumsily tried to articulate, the poet has made clear:

Hark the roar grows, the thunders reawaken
We ask one thing, Lord, only one thing now:
Hearts as high as theirs who went to death unshaken,
Courage like theirs to make and keep their vow.

Then to our children there shall be no handing
Of gates so vain, of passions so abhorred
But Peace...the Peace which passeth understanding
Not in our time, but in their's O Lord

PRONOUS.WPD October 30, 2004
May 13, 2005

Revised

PRONOUNS AND SETS

Over millennia of human experience most languages have come to use the same six interrogative pronouns –who, what, how, where, when, and why. The questions implied by these pronouns lead to the most common links which we perceive to connect the events of our experience. These six pronouns are not only basic to how we organize our experience, but also direct and limit the way we perceive the world and think about it. They govern how we assign facts, people and events to different sets and categories; they govern how we project order onto the world and create order in our lives.

Each pronoun refers to parameters that occur repeatedly in our experience. For example, **where** seeks the values of parameters defining location in space;. **when,** the values for the parameter time; **what** attempts to locate a specific event in a common class or set of events; **who,** a specific agent in a class or set of human agents; **how**, in a class of tools or processes. Finally, **Why** is a "catch-all" pronoun, not relating to any given set but rather inaugurates a search for a set whose intersects with some common sets might reveal links to other events. That is to say, find links which would give the event meaning, locate it with respect to its contexts.

We might ask ***why*** have our languages settled on these six interrogations? While they have been modified and supplemented with other words, such as, where is —, when will —, how much is—, etc, why are there not more single word interrogative pronouns referencing additional specific sets and categories? Does the cut off at five imply some boundary to what is commonly experienced or is it a consequence of some limit to human information processing capacity? Or did the catch-all **why** pronoun make additional pronouns unnecessary? With the rapid increase in the diversity of human experience in the past two centuries, are the traditional pronouns still sufficient? Today, many of the most important errors in our thinking arise from our inability to discriminate between elements, sub-sets, and sets and between their multiple intersects. Perhaps we now need new pronouns or verbal devices for correctly locating events in the hierarchy of the **intersects** of the who, what, how, where, and when sets. And perhaps pronouns or devices for realizing entirely new categories and sets

In summary, interrogative pronouns are tools our language uses to assign events to sets or categories. These sets or categories are the entities we use to construct reality. Although they simplify and truncate our experience, they do allow

us to create order and find meaning.. But has the time now arrived when we must add new basic interrogations in order to keep pace with the world we are recreating?