

Steps to the Threshold of the Social

Part 3: Anti-Category theory, Annihilation Mosaics, Magician Constellations, and Mythic Foundations.

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1. Abstract

This paper attempts to explore the meaning of Magician meta-systems. The concept of a mathematical Anti-Category is used as a basis for exploring Annihilation Mosaics which are seen to be the anti-category to which Magician meta-systems (constellations) belong. The question of how Magician meta-systems express causality between discontinuous momentary universes is breached. The orthogonality between Magician constellations and General Systems Theory is defined ontologically. Then some possible mythological foundations for Magician meta-systems are explored.

2. Keywords

General Systems Theory, Autopoietic Systems, Dissipative Systems, Social Systems, Ontology, Algebras, Complex Numbers, Quaternions, Octonions, Acupuncture, Homeopathy, Psychology, Sociology, Social Theory, Computational Theory.

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3. A Search for a Theory of Annihilation

Grenander suggests that homeomorphisms and annihilations are incompatible. If this is so then we posit that there must be an anti-category theory that is the dual of

mathematical category theory that addresses annihilation as a phenomena. We know annihilation is a phenomena of pure reason as Kant showed us with his antinomies and we know that it happens in nature with fundamental particles. But if it violates the basic assumptions of homeomorphic category theory then there must be a kind of mathematics that describes pure annihilation systems. We can understand how annihilation violates homeomorphic views of things and thus most mathematical views when we realize that annihilation contravenes the fundamental assumption of commutativity of arrows that category theory is built upon. Thus like we reverse the arrows in category theory we can interchange the arrows for discontinuities and disregard the commutativity of arrows in order to discover anti-category theory that describes annihilation. In the thesis of the author called The Structure Of Theoretical Systems In Relation To Emergence (1982) this was called the “logic of discontinuity” for it means we must not only break the arrows of mappings but also question our most basic assumptions of logic as well. Such a system at its root does not assume the continuity of things in existence but instead assumes their discontinuity. This does not mean that everything vanishes but instead it means that a very specific set of practices and proto-formal elements replace category theory with which we describe annihilation systems.

Magician systems posited by Goertzel have as their first assumption the possibility of annihilation which says that there is discontinuity in the world, discontinuities across which perhaps we cannot map. If we can map across the discontinuities then we can use category theory if there are different ways to cross the set of discontinuities that are equal. However if different paths across coordinated sets of discontinuities take you to different places or if we lose the ability to map completely then we drop into an anti-category theory where commutativity of arrows is no longer true or where mappings across discontinuities become impossible. Goertzel’s Magicians call for the development of this anti-category theory and the theory of a specific kind of anti-category called an annihilation theory.

It is difficult to call the object of annihilation theory “systems” because the object itself may not have the coherence of a gestalt. Therefore we will adopt the term “constellation” from Adorno or “mosaic” from Benjamin to describe these anti-categories. And we will ask what an annihilation mosaic is composed of. It is clear that it is not an empty set because things that annihilate actually come into existence and then go back out of existence. But their coming into existence does not assume continuity either of form or of process. Instead we are operating at a meta-level of

Being where traces reside beneath forms and signs. This is the realm where our objects have what is called Hyper Being by Merleau-Ponty and DifferA[n]ce by Derrida. Heidegger called it ~~Being~~ (crossed out) and specifically recognized it as the cancellation of the Nothingness of Sartre and his own concept of Process Being which were antinomic opposites that annihilated each other. Thus an annihilation mosaic must have at least the articulation necessary in order to come into Being long enough to cancel itself out. Such a mosaic might be very complex and that complexity might articulate momentarily in a cascade of cancellation. Thus annihilation mosaics are not held away from manifestation but are experienced as a process of self-destruction. Let us note that self-destruction is the opposite of self-maintenance and self-organization so such mosaics are the mirror opposite of autopoietic systems. Self-destruction forms the nihilistic dual of self-organization. We can only understand and locate autopoietic systems because there is a background of self-destruction which provides the necessary contrast to recognize the difference between them. Self-destruction appears as the cancellation of nihilistic opposites -- opposites which are extreme caricatures which are found to be in continual conflict. The continual conflict of nihilistic opposites provides the backdrop against which the perfect autopoietic form stands out appearing in the guise of the perpetual motion machine -- an apparent impossibility -- and ideal harmonic resonance that rarely appears against the dark background of war and anti-production. Against these we posit allopoietic and other-destroyed systems.

We take as our paradigm for the annihilation mosaic the virtual particles that appear beneath the threshold of the conservation laws. They appear momentarily only to destroy themselves by annihilating each other. Empty space is full of such virtual particles. It is not an empty plenum but a seething morass of virtual particles being created and destroyed. Annihilation mosaics appear out of the Void and quickly disappear back into the Void. Like fire works at night they might form very complex momentary patterns before vanishing full of interactions between the virtual particles. One way of computing such interactions is through the use of Goertzel's idea of Magician systems that have complex interaction which determines in part the next manifestation of the system. Here when we say "system" we really mean "meta-system." Since system means a gestalt then a meta-system might be called a proto-gestalt. The proto-gestalt is the place from which multiple gestalts emanate. There does not seem to be a word for a meta-system so we will use the word "constellation" we have borrowed from Adorno to specifically indicate the meta-system and proto-gestalt of a mosaic. If we use the fire works display as a metaphor we might say that a Magician mosaics interact in such a way

to influence their structure when they reappear on the other side of the annihilation discontinuity. As they do so they define the constellation or the meta-system which lies at the source of all the gestalts that do appear. So like fire works displays there is a sequence of different patterns written on the Void that we see in succession after the embers of each display die out. The Magician system can be seen as the inscribers of those patterns which define the proto-gestalt though the continuities that are apparent from display to display in the whole sequence that makes up the total display. These inscribers interact in such a way as to influence what the next set of inscribers or weavers are going to inscribe or weave. In this way we can see that what manifests is not divorced from what does not manifest but there is a subtle influence of each on each. There is no guarantee that what the Magicians decide among themselves by voting will be what appears in the next moment. Wild cards can be added prior to annihilation or when the new set of Magicians appear at the next moment. Wild card Magicians that appear out of nowhere and change the structure of the annihilations in a particular moment are produced directly out of the unconscious or the unmanifest as an exception. They can influence the composition of the next display and change the inscriptions that are made. They emanate from the proto-gestalt -- from the constellation itself which together acts socially as its own filter.

When we look at this model we see that all the arguments concerning continuity with respect to karmic causality that are applied to the Tathagatha Gharba by the Buddhists apply to this Magician meta-system. The Buddhists in describing the Womb of Thusness-coming as a means of understanding the operation of karma in a universe created and destroyed in each moment said that seeds for the next creation of the universe were laid down in the alaya vijyana or store house consciousness in the Tathagata Gharba which is equivalent to our Proto-Gestalt that appears at the level of the meta-system. The action from instant to instant was described in terms of “perfuming” or in terms of subtle influence much like Goertzel’s collusions between Magicians. In our case the Magicians themselves become these seeds and these seeds upon activation inscribe patterns within forms or weave patterns in the fabric of spacetime. They also interact and socially determine who will be existing in the next moment by each of them casting votes in terms of virtual or nominated future Magicians. These annihilate each other to see who survives. In the annihilation process the social filter may throw in a wild card or two to skew the results of the annihilation process. Notice that society must always be seen primarily as the meta-system containing systems of groups or individuals. Those who survive will become seeds for the next moment where spawning will happen

again over and over. Each spawning like a display in a fire works program will see inscription and mutual action and associations and finally annihilation. Whether a Magician group is considered a system or meta-system hinges on whether the whole group is destroyed between each spawning or not. This means they go through a phase of conversion to potentiality between moments of manifestation. In those moments of potentiality they interact with the proto-gestalt and this allows them to inscribe based on their interaction with the sources of things the new pattern which will arise in the next moment. The reason to be interested in Magician Constellations is that they are a good model of Chaotic processes and render them quantum computable. They can do that because they assume discontinuity instead of continuity as do most systems models.

Thus we have eight subjects with which we need to deal:

- 1) Anti-Category Theory.
- 2) Annihilation Mosaics.
- 3) Meta-systems or Proto-Gestalts called Constellations.
- 4) and a specific kind of Constellation called a Magician system.
- 5) How Karmic Causality works in Magician Constellations
- 6) The computational basis of Magician systems
- 7) The orthogonality of Magician meta-systems to GST.
- 8) Mythological precursors to Magician systems.

These subjects attempt to approach the roots of Magician systems as constellations and mosaics. Prior to this they have been considered as systems which is to say gestalts. Our tendency to see everything as systems tends to obscure certain more subtle phenomena in existence. But step by step we have been led to the trace level of phenomena where we have discovered the stable points which give us our analogies to the dissipative, autopoietic and social systems. Finally we discovered that Magicians could not be reduced to an algebraic formulation but instead made operators out of the emergent properties of each of these systems. Thus it became clear that Magicians were not systems but meta-systems. They were not algebras but meta-algebras in which case they indicated proto-gestalts with their weaving of traces. As meta-algebras we must consider them the “inner product” of complex, quaternion, and octave algebras produced from the combination of their emergent

properties. This led us to ask what annihilation is and Grenander pointed out that annihilation contravened the laws of homeomorphism that Category theory is based on. So we have to return to category theory, that elegant and subtle basis for understanding the relations between the categories of Mathematics, and try to understand its dual anti-category theory which forms the basis of understanding non-categories like annihilation mosaics and eventually allow us to understand Magician constellations (meta-algebras). Along the way we will consider the means by which Karmic Causality works and the computational basis for Magician meta-systems. Finally we would like to ask about the metaphysical and mythological basis of Magician systems.

4. Anti-Category Theory

Category theory is the foundation for understanding many aspects of mathematics and logic. It is extremely elegant in that it allows us to dispense with the specific kinds of objects of a category and represent only the relations between objects as mappings or arrows. But its basic assumption is that mappings can be performed and that between different mappings there is functional level commutativity. In other words different paths you might take via mappings are equal. What is interesting is that the actual arrows themselves must satisfy associative and identity properties and the diagrams commute. What we see here is that it is not the elements that satisfy the associative and commutative properties but the arrows. Thus category theory is a meta-system that can apply to many systems of entities by dealing only with arrows and by applying the identity, associative and commutative properties to the arrows and not the elements. This is very elegant and subsumes all of mathematics and even logic in fact every system that assumes continuity of mappings. But what we notice is that where the commutative and associative properties may not apply to elements they apply to arrows within the categories of mathematics. And it is the value of this way of looking at things that it allows us to construct functors that relate sets of arrows in one category to other sets of arrows in other categories. So we can see the similarities between different branches of mathematics. Also it allows us to realize the power of duality because by reversing arrows we gain the proof of the dual of a theorem. But we also note that it is exactly the associative and the commutative properties that we lose as we move up the ladder of special systems. Thus when we are operating at the highest level with the strongest Magician constellation we actually have to step outside category theory. Magician systems are meta-systems as well but do not preserve either commutative or associative property at the meta-system level. So if we are going to understand

these kinds of meta-systems we will need something other than category theory as the basic mathematical underpinning of this special type of annihilation mosaic called the Magician constellation.

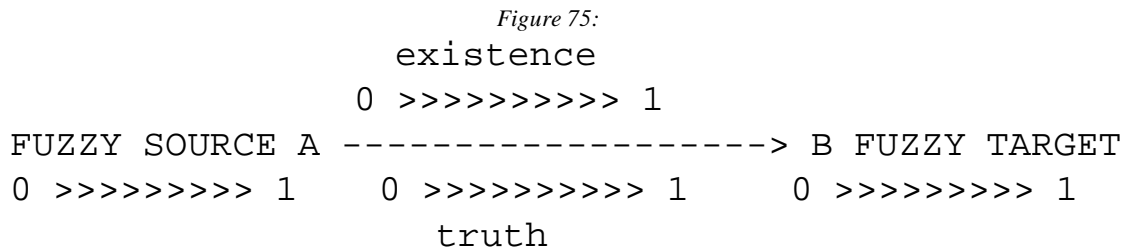
Now to produce the dual all we actually need to do is deny the axioms of category theory and we have anti-category theory. So first of all we deny the associativeness of arrows and then we deny identity of arrows and finally we deny the commutativeness of composed diagrams of arrows. The question is whether we have anything left when we have done that. In order to answer that question we will have to note that by producing an anti-category theory that exists at the meta-system level we are actually pushing to the meta-meta-system level. In a previous paper we have called meta-meta-systems “domains” within the ontological emergent hierarchy. This is a realm one step away from a world and that exists between meta-systems and worlds as a logical emergent layer. We can say that within a domain there exists a category theory meta-system and an anti-category meta-system. These cancel each other by destroying each others assumptions. To us as people obsessed with continuity the anti-category within the domain seems to embody every thing negative. However, we must consider that negative phenomena like anomalies do exist within domains so that an anti-category theory may actually have some validity at least to explain anomalies and other singularities that do not fit into systems or even systems of systems. These anomalies may appear within systems of systems of systems. Anomalies that cannot be reduced by systems or meta-systems are fairly recalcitrant. They exist in the world but cannot be explained by any system or meta-system within the world. We know that such objects exist and in fact they are usually the object of intense investigation which attempts to reduce them. Sometimes it takes a paradigm shift to be able to account for them. Sometimes it takes what Foucault calls an episteme change, that is a change in the fundamental categories of knowledge. Sometimes it takes a different interpretation of Being as Heidegger calls the similar epochal shifts at the ontological level. In any case such anomalies are normally the source of genuinely emergent events within the worldview. Thus we do not want to discard them because they are very important to a worldview such as ours that is obsessed with new things.

So we can see that anti-category theory will be about emergent things at the domain ontological level. These are the things we have not mapped yet or do not fit our current mappings. On our maps we say dragons and monsters lurk here or we allow them to fade into the paper revealing our ignorance or we just make up the outline

of some dark continent. Sometimes speculation is the ideal way to conjure new landscapes into existence such as the ones we are exploring here. The anomalies are the things we are struggling to understand as opposed to the things that are already understood. In previous work of the author (Dissertation: The Structure of Theoretical Systems in Relation to Emergence 1982 LSE) it has been shown that the genuinely emergent phenomena have to move through the four meta-levels of Being in order to manifest within the clearing of Being that is the world. As they do so they may change the worldview to make recalcitrant anomalies and theoretical singularities comprehensible within a new worldview. It is the possibility of anti-category theory that preserves this possibility of the entry of the emergent event into the world as it allows for anomalies not subsumed by any system or meta-system. So we can see that anti-category theory is not unimportant to our worldview in spite of the fact it exists in the shadow of mathematical category theory.

But what can we say of anti-category theory? If we deny the commutative and associative laws as well as the identity laws then is there anything left except a morass of Chaos? Well, Chaos has become a very important phenomena in modern physics and mathematics. And we see Magician systems are specifically designed to render chaos not only modelable but also computable. Thus we have indeed entered the realm of chaos when we began to think of anti-category theory. But physicists and mathematicians have found that chaos is not “mere disorder” and in fact it has found mathematical constants that it obeys. So Chaos is not totally incomprehensible. It is a mixture of order and disorder which sometimes gives very beautiful qualitative patterns as we see in the Mandelbrot set and other chaotic pattern generators. Therefore, we must consider as the ancients did that Chaos is the primordial soup from which the forms emerge and it is a positive phenomena not something non-existent or negative. In ancient China it was called Hun-Tun. In ancient Greece it was the first goddess. For us following Peirce it is the realm of the bubbling up of Firsts into existence like the morass of virtual particles being created and destroyed in the space that underlies the particles that are conserved. Thus we can say that Firsts without Seconds, or relations, definitely belong to the anti-category theory. If we can create relations then we have mappings. But not all mappings are perfectly continuous. So if we have Seconds that are broken then they also would enter into anti-category theory. And what about Peirce’s Thirds? These are the significances that grow up from composing relations, the meanings of the diagrams in category theory. Well if these were partial meanings, incomplete or inchoate then we might even be able to include them as well. Now it becomes clear that anti-category theory concerns the constellation of Firsts as a meta-system, that

which cannot quite be rendered as a gestalt, and partial relations and partial significances. We might say relations and significances that are sticking half out of the Void and so we cannot actually define them completely. What is interesting is that Firsts alone as pure sensation cannot be seen. So without relations and significances Firsts would remain invisible to the theoretical gaze of the totalizing and totalized subject. Thus Hun-Tun is very difficult to see. We call him unhewn in as much as definite hewn lines of demarcation cannot be drawn for him. He can be hemmed in using fuzzy methods however and in fact this makes us wonder if anti-category theory could as a first approximation be defined as the category of fuzzy relations under the caveat that associativeness and commutativeness of diagrams may not hold. In fact, these properties themselves become fuzzy tending toward non-existence within anti-category theory. This makes sense because the logico-mathematics of the level of traces is Fuzzy Sets and Logic. A fuzzy arrow is one that varies in possibility between existence and non-existence as well as between truth and falsehood besides its fuzziness in relation to reaching its target or departing from its source. The truth scale follows the kinds of truth that August Stern ascribes to Matrix Logic. We see that each fuzzy arrow has four scales of fuzziness.



The sources and the targets are Firsts arising independently out of the Void.

If all these values are “one” then the limit of normal category theory is achieved.

But how about the composition of arrows? We must also have a fuzzy association and a fuzzy commutativeness for arrows as well as their identity in order to have a complete anti-category theory.

Axiom One For Normal Category Theory¹

For any three (not necessarily distinct) objects A, B, C of K, three are given functions

$$K(A, B) \times K(B, C) \dashrightarrow K(A, C) :$$

1. Arrows Structures and Functors by Arbib and Manes page 30

$$(A \xrightarrow{f} B), B \xrightarrow{g} C) ==> A \xrightarrow{f \cdot g} C$$

called composition which satisfy the associative axiom that for all objects A, B, C, D of K and all morphisms f in K(A,B), g in K(B,C) and h in K(C,D) we have h.(g.f) = (h.g).f: A ----> D.

We notice that a composition is a meta-relation between at least three relations. It is through the composition of Seconds that Thirdness is produced which are significances. Now we have noticed that all these relations may be made fuzzy as to their source, target, existence and truth. But fuzzy associativeness would have to do with making the composition itself fuzzy in relation to other compositions. So if we substitute the fuzzy composition “&” for the definite composition “.” then we will have effected a fuzzy transformation that will allow fuzzy thirds to appear out of the background of all possible meta-relations between relations

Axiom Two For Normal Category Theory¹

For every object A of K, the set K(A,A) contains (possibly among other morphisms) a special morphism idA, called the identity of A, with the property that for every object B of K, and for all f e K (A,B) and g e K(B,A) we have

$$A \xrightarrow{idA} A \xrightarrow{f} B = A \xrightarrow{f} B$$

and

$$B \xrightarrow{g} A \xrightarrow{idA} A = B \xrightarrow{g} A$$

Here to we might replace identity “id” with fuzzy identity “fid” and render our ability to isolate any particular First and project an arrow back on it with confidence suspect. The complete fuzziness of the identity makes self-determination and definition of anything the anti-category theory is applied to tentative at best.

Both fuzzy composition “&” and fuzzy identity “fid” may be given values between zero and one to show the degree of confidence in the operation and its associativeness. When we compose diagrams then we would also make fuzzy the ability to interchange paths with impunity. Whole paths within diagrams might be

1. Arrows Structures and Functors by Arbib and Manes page 30]

marked as to there fuzzy commutativity in relation to other paths. In this way we render ourselves able to deal with the partiality of relations and significances and still make it possible to fall into the two limit cases of complete anti-categorical dispersion where all values are zero and complete adherence to mathematical category theory where all values are one.

It may not be nice and neat like category theory but it does show that anti-category theory is a definite theoretical possibility as an addition to mathematics. And this is all we are trying to show. We do not intend to develop such a monster but it is enough to show that this monster exists in order to render our project worthy of consideration.

What is interesting is that between the unhewn where fuzziness is greatest and the hewn where fuzziness is least we may define now the rough hewn as some optimal median fuzziness in anti-category theory. The rough hewn is the ideal extent of determinateness and we might use the golden mean to define it or some other optimal middle figure that represents balance and harmony. If things are too definite they lose meaning. However, we are uncomfortable if indefiniteness dominates definiteness. Thus, we postulate that there is a golden mean of definiteness that is optimal to preserve meaning yet produce the assurance of patterned order. This golden mean of definiteness is very important because it defines the edge of the Void as it wafts in and out of our world.

5. Annihilation Mosaics

Anti-category theory does not have Categories but instead Mosaics. How many kinds of anti-categorical mosaics exist is not known but one of them we will explore here is the Annihilation Mosaic. Here we want to talk about the minimal annihilation mosaic. Annihilation seems to be a phenomena that exists in the mind (as cancellation in mathematics) and in nature where fundamental particles make each other disappear from time to time vanishing from bubble chamber charts. But as a phenomena it does not appear to have seemed to have garnered any serious philosophical study. Here we will attempt to study annihilation more closely and suggest some first exploratory attempts to define this mosaic minimally at the conceptual level.

Figure 76:

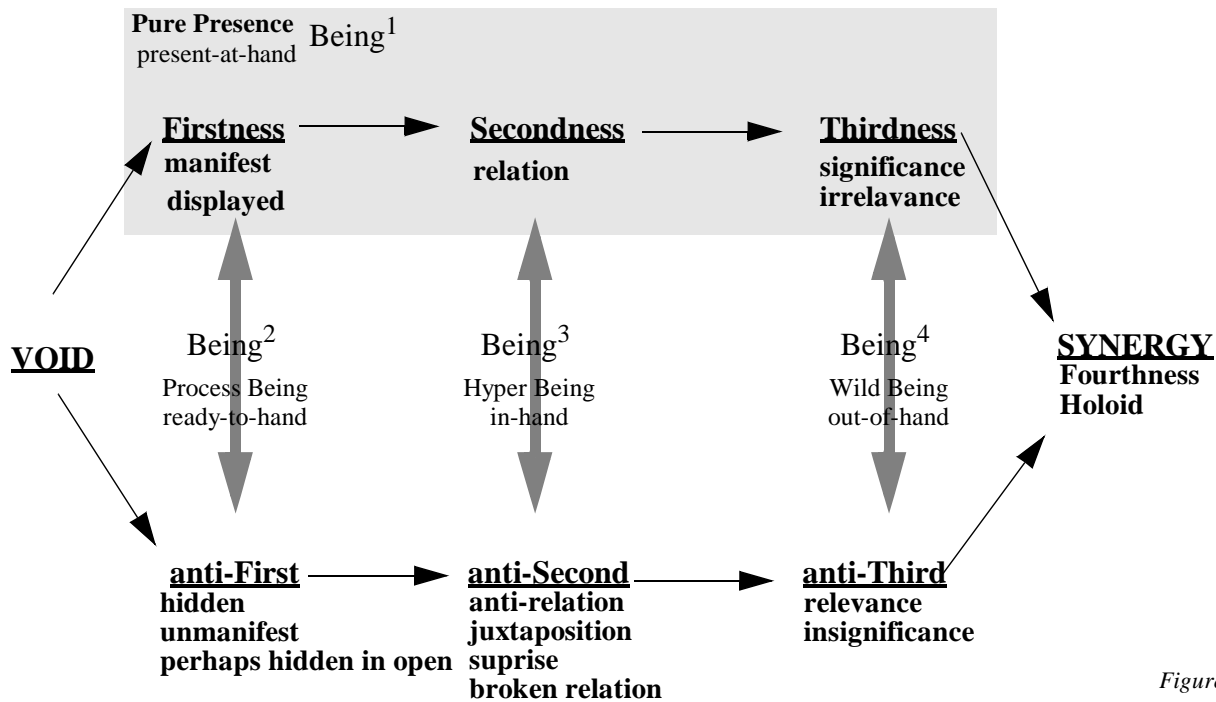


Figure 2

We call them “mosaics” because like ceramic mosaics there are breaks between the continuous pieces that make up the overall pattern. Those breaks may be highly irregular. They create juxtapositions between things that can be highly surprising. For instance in pictorial mosaics called “collages” any image could be juxtaposed to any other image giving highly novel results. This lets us know that significance is not just produced by relations that show continuous mappings but may be generated by unforeseen and unheard of juxtapositions. In the irrelations we see a certain kind of significance different from the significance seen in the normal relations. Let us call such significance drawn from ruptures in the normal relations of things “anti-significance.” We might have a myriad of juxtapositions in a mosaic that produce a lot of anti-significance. Each juxtaposition might be thought of as a broken relation or an anti-relation. This brings us to the conclusion that Seconds and Thirds may be positive or negative. Now that makes us ask whether Firsts can be negative. Something hidden like the Purloined Letter is definitely a negative first. It is something hidden in the showing and hiding relations. It may be hidden by being unmanifest or it may be out in the open for everyone to see and still be just as hidden. When something is hidden while it is out in the open for everyone to see we say it exists in the “hollow” in the showing and hiding relations. If Firsts, Seconds and Thirds have positive and negative moments then we can see these as

moving away from the Void itself which would be the Zeroth cardinal term in the two way series. Of course we posit that these series also extend beyond what Perice saw to the addition of Fourths. We would consider Fourths as being the dual of the Zeroth element. It is a point of reversibility out of which the Perician series and anti-series vanishes. Fourths are synergies and are due to a reformulation of the thought of B. Fuller about geometry which sees it in terms of Perice's philosophical categories.

Now we have an interesting structure which exhibits appearance of opposites issuing from the Void which vanish again at the point of synergy. In the beginning there is the Void. Out of it comes what is manifest and hidden, this means that showing and hiding relations appear as a web in which both things and anti-things are entangled. Out of that web of showing and hiding relations that manifest manifestation to us as Process Being there appear relations between things. But some of these relations may be broken or partial to the limit case of non-existence. As the opposite of relations we see with surprise these juxtapositions that arise from partiality of connection. The interference between connections and anti-connections reveal the trace level underlying phenomena at the level of forms and signs (structured-processes). And out of these interferences arise anti-significance and significance. This reveals the meta-level of Being called Wild Being. We might call this anti-significance an "in-significance" in as much as the meanings are never overt but often very subtle ironies which normally might not be taken seriously. But the opposite of significance we posit to be relevance¹. The ironies that arise in juxtapositions may be very relevant despite their insignificance. Synergy synthesizes each of these levels of manifestation and its opposite to produce a harmonious whole. George Leonard calls the harmonious whole the "holoidal." It is because of the anti-properties that synergy may exist in the world. Synergy must always hide certain aspects of the system or meta-system and surprise us with necessary juxtapositions and then blend relevance with significance. Synergies are balances of the properties and the anti-properties of manifestation.

We notice that on the level of First and Anti-first that Process Being becomes apparent. Then we notice that it is in relations and broken anti-relations that allow traces to appear. Patterns are combinations of order and disorder on the background of disorder. Forms are combinations of disorder and order on the background of order. Traces are the interference patterns between these two ways of looking at

1. Alfred Schutz introduces this term in Relevance.

phenomena. So the juxtaposition of Relations and Anti-relations point to Hyper-Being and the phenomena of differing and deferring of DifferAnce. We can see traces as the meta-relation between relation and anti-relation. Traces are interference patterns. They do not appear when you can only see Firsts. They only appear when you begin to trace relations and note distortions within the field of the Firsts that could not be seen before. Finally we see that significance and relevance are chiasmically related and this points to the propensities that are related to Wild Being. Propensities or tendencies are extremely insignificant but the little skew they give things in their nascence may cause wild deviations as things develop. This “butterfly effect” is something revealed by Chaos theory. What we see is that relevance and significance are chiasmically related. Meaning that appears from the Void is here the non-dual point of reversibility between significance and relevance. The tendencies or propensities are the very edge of what can be said to exist. It is clear that the Void and complete synergy of the universe as interpenetration are actually the same thing. We get little glimpses of that synergy in mundane things. But the underlying synergy of everything is what the Buddhists called the Tathagata Gharba. The Tathagata Gharba is the same as emptiness or the Void. Thus we can see that the Firsts, Seconds, and Thirds and their anti-categories emerge from the Void and in effect return to the Void by evolving into Synergy. In the Juxtaposition between each meta-level of Peircian/Fullerian philosophical categories we see the three meta-levels of Being beyond Pure Presence. Peirce philosophized completely in the realm of Pure Presence. He did not recognize the philosophical anti-categories to his fundamental categories. It is only with the advent of philosophical anti-category theory that we can see this relation and see how hidden in the difference between each philosophical category and its opposite is the indication of the three meta-levels of Being.

This extension of the Peircian and Fullerian philosophical categories makes it possible to see how philosophical anti-categories emerge from Pure Presence by a series of meta-levels. This lays the ground work for understanding annihilation mosaics because we see that Mathematical category theory makes use of Seconds and Thirds discarding or rendering as variables Firsts. But it assumes that we are constructing our formal system in the Pure Presence meta-level of Being. When we see that each philosophical category identified by Peirce has a philosophical anti-category then the door is opened for the other kinds of Being to unfold and be considered in our analysis as we construct the opposite of mathematical category theory which is mathematical anti-category theory. Mathematical anti-category theory is naturally fuzzy as it deals with the possibilities as opposed to the

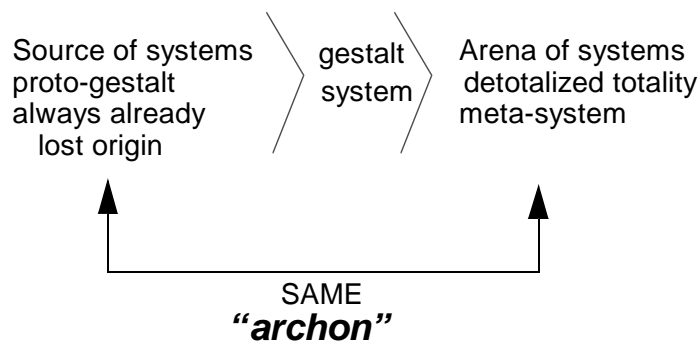
certainties of mathematical category theory. This places it at the level of traces because of the relation of fuzziness with Hyper Being. It is difficult to talk about this because the word “category” is used for the philosophical “categories” of Peirce and Fuller and the Mathematical formalisms that are called “categories” in mathematical category theory. So please beware of the terminological pitfalls in this discussion. But be that as it may what becomes clear through this formulation is that mathematical anti-category theory through the extension of philosophical anti-categories lends itself to an analysis of the mosaic of annihilation. In effect each philosophical category and its anti-category cancel each other out. So below the continuity of mathematical category theory is a deeper theory ontologically based in which annihilation is embedded.

Now the question arises as to the structure of the minimal annihilation mosaic. This is to say what is the minimal set of juxtapositions that will allow Firsts and anti-Firsts to appear and then cancel. What is not been said before is that each First is an emergent event. It has to be in order to be called a “First” in any originary sense. Thus Firsts are more than just pure sensations. In some sense they are the primordial novelties upon which the recognition of all other things are based. If we take this interpretation we see that in truth manifestation is based on micro-emergences. This explains why Firsts are independent of each other. It is their novelty in relation to each other than make them independent. They are not merely isolated from each other. But they have fundamental discontinuities between themselves that make them orthogonal to each other so they produce a field of monads. In these micro-emergence’s showing and hiding structures we see that they participate in gestalt joining configurations which show some aspect of the gestalt while hiding some other aspect. If we think of these gestalts being made up of pure sensations then we are happy to talk of them at the gestalt level. But if we see the Firsts as originary events then we must think of them at the meta-gestalt level. Since all emergent events must pass through the four kinds of Being on their way to manifestation within the clearing in Being then we see how Firsts contain the whole of manifestation. That is why they cannot be seen on their own. They need to be unfolded and infolded by looking at relations and anti-relations and by configuration into significant and relevant constellations of relations and anti-relations. Ultimately all this is done in order to see the synergies that they participate in. A proto-gestalt, or meta-system, is a synergetic constellation participated in by other systems, or gestalts, and which serves as the always already lost origin for them. Firsts are really only fully unfolded and infolded as they progress across the interval from the Void to Synergy. Each of them like

Leibnizian monads contain the whole that is unfolded and infolded into the greater whole of the hologram-like holoid of which they are parts at the point of synergy.

A terminological note is in order. “Meta-systems” has two senses. One sense looks at the arena within which systems contend as Sartre did in Critique Of Dialectical Reason where he considered boxers fighting in an arena and asked how we can consider them a dialectical unity. He used the phrase “detotalized totality” to talk about the kind of system these two fighting systems produced between them through their conflict. But there is another sense of the meta-system as “origin” out of which systems evolve like the “Family.” I have used the term proto-gestalt to indicate this always already lost origin of the systems which come to emerge and have relations within a meta-system. However there is no known term that covers both of these senses. So I propose the term **archon**, going back to the Greek supervisors of cities. Cities are clearly prototypical meta-systems just as are households.

Figure 77:

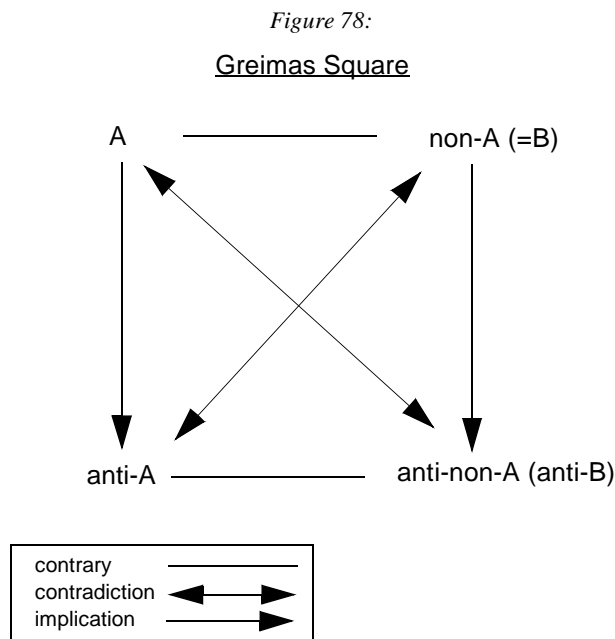


This word archon has resonances with Ballard’s term *The Archaic* and with Jung’s *archetype*. Arche means the foundational source of something. An **archon** serves as both the origin and the arena for the gestalts of systems. Domains, the next emergent level up from meta-systems, contain many Archons. Worlds consist of many domains. One of the best examples of Meta-systems is the operating system in a computer which allows many software systems to coexist and function together or independently as necessary. We naturally conflate systems and meta-systems but these two ontologically emergent levels have different natures that need to be recognized.

So when we ask what a minimal annihilation mosaic is then we must see that it mirrors the whole of the interval from the Void to synergy. In it are Firsts and their

Anti-Firsts which combine into Relations and anti-Relations and further combine into Significant configurations of relations and Relevant anti-configurations of anti-Relations. These combine to reveal synergies build into the Firsts and Anti-Firsts from the Beginning. As we realize that the Void and the Ultimate Synergy of the Universe are the same then we understand that the annihilation mosaic is merely an incarnation of the cancellation of these philosophical categories and anti-categories which reveal as their substrata the hierarchy of the meta-levels of Being.

When we look at the minimal annihilation mosaic we see that it must be structured on the form of the Greimas square.



This is the square of contradictions and contraries from logic. Here A and anti-non-A (anti-B) cancel each other out if they come in contact. Non-A (B) and anti-A do the same thing. The relations within the square keep them from canceling each other out. It is because we have introduced anti-Firsts that we can now recognize the importance of this square. Given any First it has its anti-First and it has everything that is not it (non-A, i.e. other Firsts). The anti of the non-A is the otherness opposing A. Each First is seen on the background of that otherness that is opposed to or contradictory to it. On the other hand anti-A and the non-A are themselves contradictories. Unless these contradictories are held apart they cancel logically. Thus the major work of the process of showing and hiding is to hold these contradictories apart for every First that is manifest. If they are not held apart then A vanishes because what it hides and what it contrasts to cancel and it fails to

be differentiated anymore from its background. The set of constraints that dynamically hold these sets of contradictories apart is the minimal annihilation mosaic. It is a standing wave in the interference pattern that prevents contradictories from annihilating each other.

In order to find an example of this kind of formation we can consider solitons. It turns out that solitons and their anti-solitons do not cancel. So here when we speak of solitons we will be using ANTI in a different sense from that which is normally used which usually refers to that which cancels "A." Instead they interact forming "breathers" which oscillate between the two positive and negative soliton formations. Thus in order to put cancellation into such a system it is necessary to introduce creation and annihilation operators that produce pairs of solitons with canceling properties. If we do that then we see that each soliton, A, and its anti-soliton, anti-A, produce breathers which we hypothesize produce super-breathers when paired with the pair of canceling solitons B and anti-B. This super-breather configuration would have the form of the Greimas square. In other words A and anti-B or B and anti-A would cancel if they were separate but since they are part of a larger formation they do not cancel but create a higher level breathing formation instead. So it is with the annihilation formation. A and anti-B would cancel if they ever encountered each other separately, as would B and anti-A, but since each set of canceling opposites hold each other apart cancellation is averted in this minimal system formation. We also note that each particle is defined on the background of all others so that any one other comes to stand for all others. This aversion of cancellation may be temporary and in fact just long enough for the annihilation mosaic to be what it is. This is the minimal temporality of every thing in existence according to G.H. Mead. So in this case the annihilation formation is really a relation between any one foreground First and all other Firsts or any one other First representing all the others. The annihilation formation focuses all these possible backgrounds of each foregrounded First. We might have expected A to merely cancel with anti-A but if that were the case then there would be nothing in existence since all cancellations would merely happen automatically. Instead the annihilation formation must be a minimal system that shows us how annihilations are prevented by occurring though the possible annihilation of other things. This interference or prevention of one annihilation by another is the house of cards from which all annihilation formations are built. When one releases one of the cards then there is a catastrophe in which multiple cancellations occur all of a sudden which have all been prevented from occurring through mutual interference up to this point. Such a catastrophe is an integral part of Magician systems. But why does it occur at a

particular point in the lifecycle of a Magician system. It must be that it was prevented by other annihilations that blocked the catastrophe from occurring. It is the minimal system of two blocking annihilations that account for this strange behavior that puts off the catastrophe. We cannot build up the apparent continuous nature of Magician systems from anything else. We must see that all Magician systems at root are self-interfering annihilation mosaics that once released from self-blocking move into the catastrophe of cascading annihilations. What holds the Magician system in existence is merely the fact that contraries can hold contradictories apart.

What is said here of Firsts is also true of relations and anti-relations as well as configurations and anti-configurations. The *anti* and *non* nodes are contradictions for relations and configurations. Likewise the *original* and the *anti-non* are contradictions. Each First, Second or Third enters into this annihilation configuration so that the whole is a web of such annihilation configurations. This web has its limit in complete synergy. What is interesting is that the annihilation mosaic is not what is visible in the Greimas square but what is invisible there. It is the constraints that keep the mutual contradictories apart to prevent annihilation. These constraints themselves are invisible. They exist at the trace level. They exist as sets of mutual interferences that at least momentarily keep the structure from falling together and vanishing completely. It is the set of all these interferences that all the Firsts and their relations and configurations enter into that underlie showing and hiding relations in the gestalt and which put these at the meta-gestalt level. These comprise the proto-gestalt that tends toward the limit of complete synergy called the Holoidal.

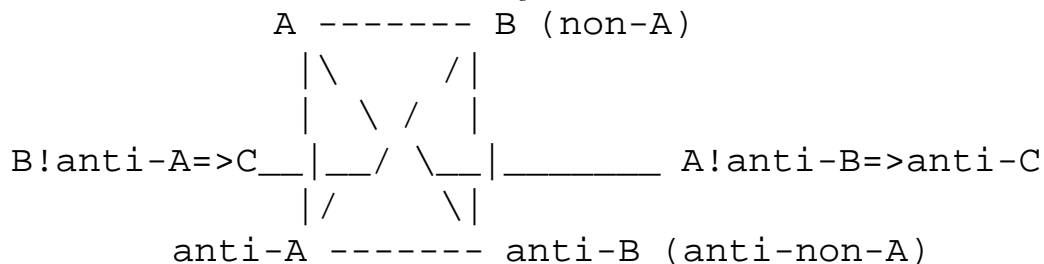
So the whole set of Firsts and anti-Firsts, Relations and anti-Relations, and Configurations and anti-Configurations are built out of the Void itself which is merely prevented from falling back into the Void by self-blocking of annihilation. Once this blocking ceases then the whole web falls back into the Void. But here there is an insight. The Void does not mean the absence of everything necessarily. It may mean a deep synergy that prevents, harmonically, cancellation catastrophes from occurring completely and which self-regenerates continually. When cascades of annihilations produce loops then we have dissipative systems. When we combine two loops of annihilation cascades we get an autopoietic formation. When we combine four loops of annihilation cascades we get a reflexive system. We can form loops because certain cancellations will have an asymmetry that actually creates something that can be fed back into the top of the annihilation cascade

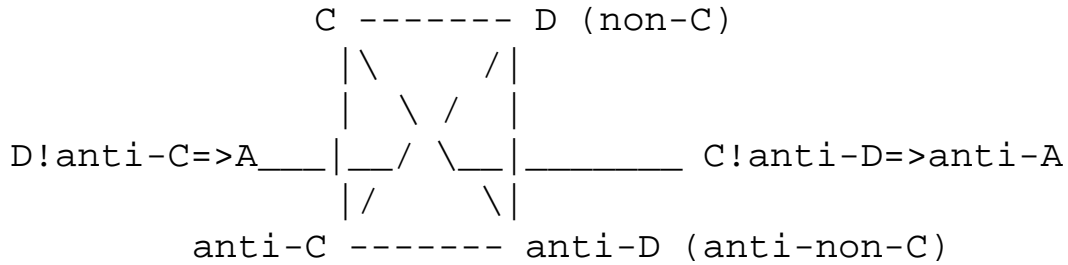
again. Annihilation cascades may cause enough production of created particles to keep the cascade going indefinitely. These looped annihilation cascades have forms similar to Escher waterfalls in which the falling water produces an equal upward current. Such a looped cascade twists through spacetime/timespace so it looks like it is entropic locally, i.e. annihilating itself, but globally it is creating enough side effects to keep itself supplied with cannon fodder for the continual annihilation. Such a cascade though purely negative in origin once it is sustained becomes a positive phenomena. We can see that in the *Game Of Life* by Conway that sports strange objects like gliders that appear to be positive phenomena by constantly renewing themselves as they are being destroyed. Annihilation mosaics many have this kind of dynamism based on self renewal that balances creation and destruction globally or across some sub-field of the mosaic. To understand that self-regeneration we must ask what is the opposite of the annihilation operator. The answer is obviously the creation operator such as that which exists in quantum field theory for instance. The creation operator can cause two particles to jump out of the field into existence. Once we define the possibility of annihilations that have side effects then it is possible to realize that side effects may synergize to cause things to appear directly out of the background field unbeckoned such as virtual particles do that writhe in spacetime beneath the limit of the conservation laws. A creation operator must produce a particle and an antiparticle in order to preserve global symmetry even as local symmetry is violated. But these dual particles do not have to annihilate each other immediately. They can be drawn away from each other pursuing independent worldlines. All side effects would be assumed to have this kind of balance that globally did not produce an imbalance that appears locally perhaps in several places throughout the field of annihilating opposites. Conservation laws are a way of saying that there is a deep harmony in existence that keeps things that are conserved in existence despite the falling back into the field of specific particles and the arising of others perhaps in a local cycle. These local cycles of annihilation may have very complex relations with the epicycles of creation with which they are interleaved. It is these cycles and their intertwined cascades of annihilation and creation that form the substrate of everything in a discontinuous universe. Creation appears against the backdrop of annihilation as apparent persistence. It is that persistence that is reified into Being. Becoming is the reification of the ebb and flow of creation interlaced with annihilation. But both Becoming (Physus) and static Being exist only as side effects to the process of continual annihilation. The holoidal synergy is that face of existence that is constantly creative in the face of annihilation. In Hindu mythology this is Vishnu in relation to Shiva. Vishnu is the preserver and Shiva is the destroyer. These two are

balanced against each other in such a way that the universe appears to remain in place even though it is constantly perishing and being renewed. What sustains that balance is Brahman which is the name for the Absolute Being. And in fact Magician systems assume that there is a creation operator that may produce a Magician or anti-Magician out of nothing to influence the annihilation process acting as a group filter on individual Magician votes. We cannot have annihilation without its opposite which is creation of particles out of nothing (or the groundstate). It is this creation of wild cards that allows for the cascade of annihilation to be guided so that it never quite destroys everything and which reveals the deep synergy intrinsic to the Void.

We have asked what the minimal annihilation mosaic might be and found that it was a minimal system of contradictory pairs in balance. Next we should ask about the minimal cascade with side effects. It is clearly two minimal systems in which the annihilation of the first square produces pairs of side effects which then generate another Greimas square that then creates a new set of annihilations that produce the starting point for the first Greimas square. In this we notice that a Greimas square is really a minimal system that contains within it two annihilations which are opposite each other. These are the other two legs of the tetrahedron that are hidden in Greimas' formulation because they are really anti-relations or juxtapositions. Out of these Anti-relations we posit opposite side effects (C and anti-C) arise in the process of cancellation of "A ! anti-B" and "B ! anti-A." Once these new phenomena exist then a new Greimas square forms as they appear on the background of the ever present field of all other possible pairs. That field defines Non-C which immediately gives rise to anti-non-C which can be embodied as another specific particle/antiparticle pair. These we posit cancel to produce A and anti-A and so the minimal cycle starts all over again.

Figure 79:





This is the minimal cascade of annihilations with side effects. We may imagine many more complex structures. But this scheme is comprised of interlocking minimal systems with concretized juxtapositions that manifest as positive side effects. B. Fuller calls this kind of interpenetrating minimal system formation the vector equilibrium. Note that once the cycle begins then it stabilizes and the field it is part of has a net energy dissipation of zero. This is why it can be a stable cascading formation.

We can construct Magicians from these cycles because once a cycle is set up we can count on the side effect to pop up after the annihilation of the first square leading to the annihilation of the second and back to the first. This is not recursion. Recursion would be if the first annihilation produced itself instead of another -- but that is merely continuity. To be discontinuity at least every other side effect generation must be different. Yet even though this is not continuity it can approximate a semi-continuity which is what the Magicians provide. Think of a multi-tasking system. It trades CPU cycles to do two tasks seemingly concurrently. Magician systems can approximate continuous processing through multi-tasking -- i.e. returning to the same task every other cycle. Also we see that this means that Magician systems are by definition autonomous agents. Agency appears with multi-tasking or concurrent processors. Multi-tasking is usually seen as a degenerate simulation of concurrent processing. But here we see that it has a fundamental meaning when seen in relation to Magician systems. It allows the approximation of continuity by degrees. We also notice that this violates Church's Thesis that all computation is partially recursive. Total recursion is mere tautology. Partial recursion can issue results so computation is identified with partial recursion. Partiality has to do with asymmetry in computation. All computation is seen in terms of its departure from symmetry of pure recursion. We can see pure recursion as the annihilation whose side effect is recreation of itself. All the partialities that depart from this are asymmetries that lead to computations some of which are finite and halt and some of which are infinite or of unknown duration without being tautologies. We only

consider those partial recursions that halt as computable. But we cannot know before hand what computations will halt and which won't. The non-computability of the halting condition makes the boundary between the computable and the non-computable indeterminate. This boundary is explored with Turing Oracles which can "know" whether a given computation will halt. By giving turing machines an operator which knows the halting condition very fine distinctions between shades of computability can be determined. This is because the indeterminateness of the halting condition can be separated from the non-determinateness of the computational results. It is the meta-indeterminateness -- or compound indeterminacy that makes computability such a thorny problem.

Magician systems are not recursive but at most bi-recursive. Through bi-recursion single recursion can be simulated via multi-tasking. But bi-recursion is fundamentally different from recursion. The fact that it violates Churches Thesis but still computes places Magician systems in a very special class in which interfering recursions appear. If one of these bi-recursions is computing the halting condition via some proof then the Magician system can simulate a turing oracle. But the turing oracle is a special case of bi-recursion. The other bi-recursive thread could be computing anything. And bi-recursion is merely the simplest case much more complex looping cascades of annihilation with side effects are possible. This field of possible combinations of interlocking threads leads quite quickly to incredible complexity. It is only through the use to the minimal design methods and the viewpoints on software design that any sense can be made of the least complex aspects of this realm of interfering autonomous computational threads. The limit of this is what Kampis calls quantum computation which is completely statistical upon a field of infinite threads which connect to each other randomly. Even this limit of possible computability schemes can simulate continuity. But the point is that the interference between multiple threads operating in cycles of annihilation and creation produces incredible complexity which is inherently non-recursive. Only reciprocal partial recursion of bi-recursive threads can produce a complete simulation of continuity within a Magician system. This splitting of the continuity production can degenerate to the limit of quantum computation and still simulate continuity.

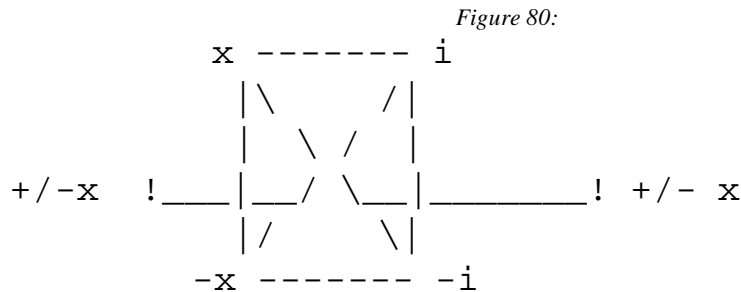
I postulate that within this complexity of interfering threads there are islands of computability beyond the limit discovered by the turing oracles. The limit discovered by the turing oracles is clearly fractal but like chaos we think there must be islands of computability within non-computability just like we have islands of

order within chaotic regimes. Similarly we think there are islands of ultra-consistency beyond the threshold of inconsistency Godel found for axiomatic systems. What we are really saying here is that there are thresholds of complexity where the cycles of creation and destruction interleave to form harmonic thresholds where synergy is especially strong producing both computability and consistency in the midst of uncomputability and inconsistency. The special systems mark one related set of such thresholds which express themselves as full or partial algebras. So the special systems are merely specific points in the space computed by Magician meta-systems that are synergistic and harmonic to the extent that they mimic dissipative, autopoietic, and social systems. These harmonic fixed points are the ones which approximate complete intertransformability of the illusory continuity. They are the levels of conjunction of continuity. The intertransformability weakens as the complexity of conjunction increases. These levels of increasing complexity correspond to the loss of algebraic properties which gives each level its emergent properties. The special systems are harmonic locuses of creating and annihilating cycles. They are encompassed by the Magician meta-system that computes these and other multi-threaded formations. Each thread can have its own kind of numbers so that the multi-threaded aspect corresponds to the differentiation of numbers into kinds that can be held in conjunction but cannot be told apart otherwise. Conjunction holds these numbers together yet apart. Conjunction operates like the constraints of an annihilation system.

It is an interesting fact that the different kinds of numbers are like anti-matter in that they do not appear except in conjunction with real numbers. This is a sure sign that they are a manifestation of the unconscious. We postulate that they do not appear because when imaginaries and reals come together except when held apart by conjunction cancel. If this is true then we can see that there is an isomorphism between the minimal annihilation mosaic and the complex numbers conjunction. Here we have to assume that besides annihilation there is induced the strange twist that appears in the imaginary numbers within the Greimas square. This can be accomplished if the side-effects of production interchange the particle and antiparticle produced with each annihilation. This interchange of signs can be statistical instead of determinate. This would induce a twisting motion within the cancellation if it were repeated over and over. There is a similar correspondence between the quaternion algebra and the minimal self-annihilating and self-creating cascade defined above. This is because that cascade creates four Firsts and we can see that the i , j , k and x of the quaternions can be construed as those Firsts if we see the Firsts as numbers and we assume that there is a dual twist in the cycling of the

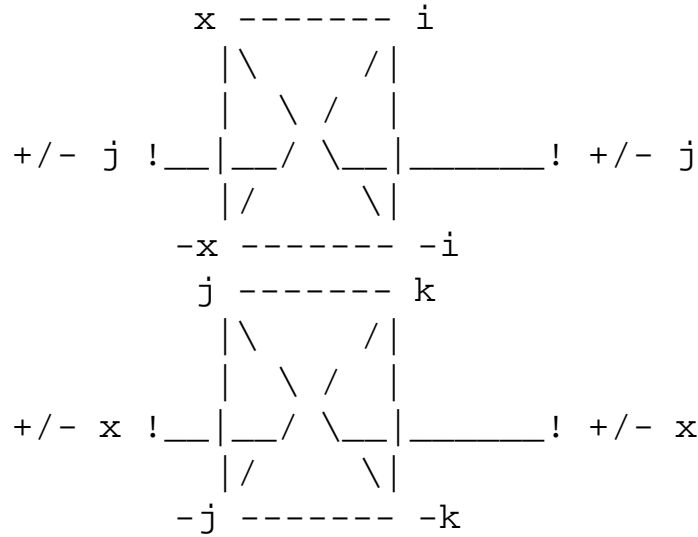
cascade. This is accomplished as well by the exchange of the particle and antiparticle that is produced by each annihilation. Following this line of argument we can see that the octave level will would combine two minimal twisting annihilation cascades with side effects to produce a simulation of the octave system. These formations of cascades have algebraic properties when the Firsts that are combined represent numbers.

Complex numbers simulated by one Greimas square which is self creating. This formation is recursive not bi or multi-recursive. The twist is induced by the annihilation side effects producing opposite signed result each time. This interchange of signs can be statistical instead of determinate. The exclamation point (!) signifies annihilation of the center paths that cross the inside of the square and convert it into a tetrahedron with two juxtapositions that when they annihilate have side effects that produce new particles which in this case are Firsts in the guise of numbers.



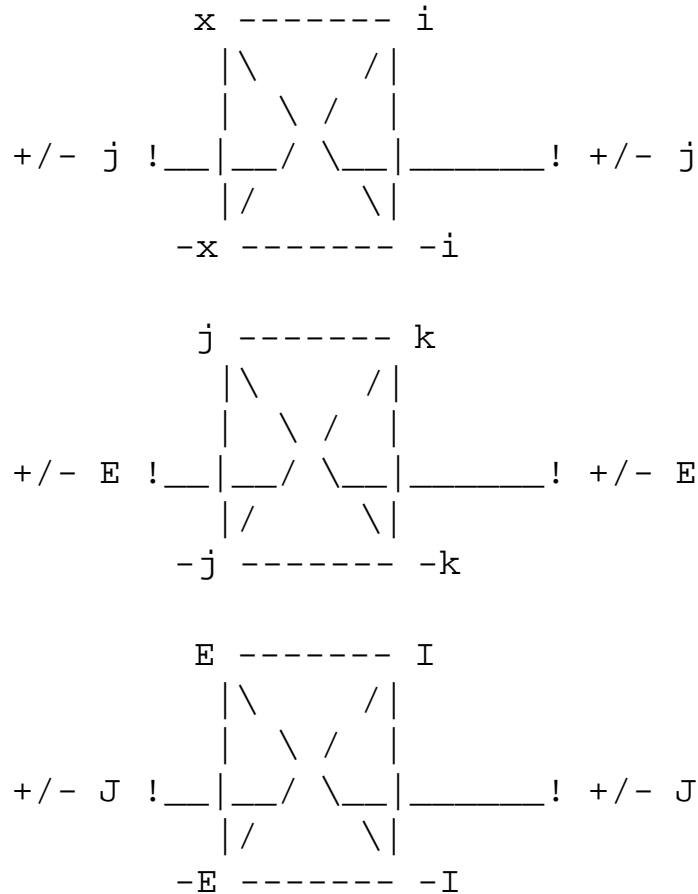
Quaternion numbers simulated by two interlocking Greimas squares in a looped annihilation cascade with side effects. Twist induced by annihilation producing opposite signed results each time. This interchange of signs can be statistical instead of determinate. These two annihilation mosaics form a cascade which is looped via the side effects of particles produced. Here the Firsts appear as numbers of different kinds with algebraic relations determined by the Quaternions.

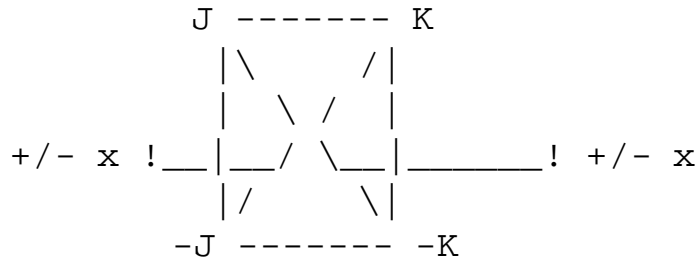
Figure 81:



Octave numbers simulated by four interlocking Greimas squares in a looped annihilation cascade with side effects. The interchange of signs can be statistical instead of determinate.

Figure 82:





These twisting looped cascades of annihilations with side effects provide minimal models of the analogies for the special systems. The Magician meta-system includes these three harmonic levels as a meta-algebra that uses there emergent properties as operators producing an inner product of the algebras related to the special systems. The next step is to consider Magician meta-systems or constellations more carefully as something that arises out of the annihilation mosaics.

6. Magician Constellations

Notice that relations may appear in three guises in Magician meta-systems. They are either annihilation, mutual action, or gestalt joining operations. Firsts appear from the point of view of showing and hiding within gestalt joins. Within these patterns of showing and hiding they have mutual actions which are non-commutative. And on the basis of these actions they participate in annihilations that leave the seeds for the next moment. In all of these kinds of relations we can see complex configurations and anti-configurations. When we enter into the realm of General Systems Theory (GST), that is the realm of structural-form from the realm of patterning of Firsts, then we can add *order* relations to those mentioned above. So we see here a minimal system of kinds of relations three of which arise as emergent characteristics of the special systems and the other which arises in the build of GST form the Methodological Distinctions (kinds of order).

We must add this minimal system of kinds of relations to the minimal system of the annihilation formation mentioned above. Before we only considered generic relations. But here we see that four specific kinds of relations appear in the domain that contains Magician meta-systems and general systems. These lead us to formulate the different kinds of significances and relevances that might appear within the domain.

Figure 83:

Zeroths (Void)

The groundstate out of which Firsts arise.

Firsts (showing) & Anti-Firsts (hiding)
completely orthogonal micro-emergents

Seconds (relations) & Anti-Seconds (juxtaposition)

- gestalt joining
- annihilation
- mutual action
- order

Thirds (significance) & Anti-thirds (relevance)

- gestalt joining - annihilation -- Mutual Blockage
- gestalt joining - mutual action -- Reciprocity
- gestalt joining - order -- Voting
- annihilation - mutual action -- Side Effect or Collusion
- annihilation - order -- Seeds
- mutual action - order -- Inscription

Fourths (synergies, holoid)

Creation Operator = social filtering or conservation

What we notice is that the different possible Thirds or anti-Thirds produce the basic life-cycle of the Magician meta-system.

- 1) Seeds are laid down from the last creation of the universe emanating due to the creative principle. That last moment of creation or specious present is cut off from this one by the discontinuity of total annihilation. Thus like the Hindu cosmology there is a fundamental oscillation between the dominance of Shiva and Vishnu. The seeds are the combination of annihilation and order which means they are the way order is passed on from moment to moment in spite of annihilation.

- 2) When the seeds fructify they produce the Magicians of this present moment that can be seen in relations with each other despite their intrinsic propensity to annihilate each other. Thus gestalt joining overcomes annihilation long enough for the seeds to fructify and produce the orderings of present Magicians. This occurs because of the possibility of mutual blocking inherent in the annihilation mosaic. Magicians are basically delayed annihilations or collective disasters waiting to happen. In this we see their basic existential foundation in Hyper Being as they display DifferAnce of differing and deferring. They are all diacritically different from one another and what is deferred is their mutual self-destruction.
- 3) Mature Magicians inscribe the trace level. If nothing else they write their turing machine representations to the light communications tapes to communicate their DNA-like make up to other Magicians. Inscription is the outward action of the Magicians directed at the substance upon which they exist at this current round of existence. That substance is a palimpsest. It is destroyed as well at the end of the specious present but this is the way that Magicians set up the illusion that they exist in the present. Inscription is the combination of mutual action with order. They write a pattern together as a social product or cultural artifact. For Deleuze and Guattari the substance on which they write as the socius must be their own bodies. This is the automatic writing aspect of DifferAnce. This is the phase when social construction of reality occurs.
- 4) Next the Magicians interact socially within the world they have created and inscribed. This is the combination of gestalt joining with mutual action. This is their intergroup action. We could see this as the group sex phase if we are thinking in terms of genetic algorithms. It is the explicitly social phase. It is during this phase they dialog to decide what should happen in the next specious present moment. This is the phase of symbolic interaction in which selves are formed.
- 5) Next voting occurs where virtual Magicians are produced. Voting is the combination of gestalt joining and order. In it the order that has been socially created which is now seen in the votes as a higher level gestalt. These virtual Magicians are projected into the realm of possibility where everyone can see the various possibilities projected. Out of nothing either Magicians or anti-Magicians may be created as wild cards from the social unconscious of the group interacting with the field in order to skew the results of voting. Voting is the inward action of the individual magicians.

- 6) Finally in this realm of possibilities Annihilation occurs among possible Magicians. As a result of this process it is decided what Magicians will be laid down as seeds in the next moment. But those seeds are not the actual Magicians but they are potentials that lead to side effects that occur in the next instant as a result of the annihilation process. Thus in this phase annihilation is combined with mutual action to produce side effects or collusions that appear in the next discontinuous instant. It is these collusions that emanate from instant to instant not actual Magicians. If actual Magicians moved from moment to moment we would have a continuity and thus a system. Here we are talking about a Magician constellation instead of a system so we cannot allow actual Magicians to live beyond the end of a specious present moment.

So the lifecycle of the Magician meta-system or constellation is determined by the relation between the four kinds of relation that appeared at the level of Seconds and anti-Seconds. Needless to say Magicians as a constellation may have imputed relations and juxtapositions just like the stars in a constellation. Some stars are imputed to be connected by lines and others not. Also configurations of relations may produce significance (irrelevance) whereas configurations of juxtapositions may produce relevance. We see both the relations/juxtapositions and relevances/significances as clouds that surround the Magicians which appear as constantly shifting alliances within the group and appear as beliefs or ideologies (sets of significances) that arise and replaced in the wheel turning from birth to death within the moment.

Magician Constellations arise out of GST and appears orthogonal to it as the unification of the special systems theories. But together they constitute a minimal system of kinds of relations which covers all systems and meta-systems within an overall meta-meta-system or domain. The domain contains all the special systems plus GST. It contains the Magician meta-system that unites the special systems in a computable model of Chaotic meta-systems. It is Domains that combine GST and Magician Constellations that make up the World. We might say that GST and Magician Constellations work together to project the world. These operate within the interval between Void and Synergy and differentiate the kinds of relations that can occur between Firsts and Thirds. It is the differentiation of relations that Magician meta-systems and Formal-Structural systems cooperate to define.

7. The Minimal Structure of Magician Constellations

We have posited that the difference between a Magician meta-system and a system is that there is a moment of the life cycle of the Magician Meta-system where the whole group is annihilated. It is this entering into potentiality that defines the meta-system as a proto-gestalt and differentiates it from the system as a gestalt. The Magician system that enters into pure potentiality and then bounces back into actuality juts out from the proto-gestalt and defines it negatively as the source of all systems. It is necessary to go on from this insight to ask what the minimal structure of Magician constellations are. When we do that we find that there are two answers to this question. We ask first what their minimal structure of manifestation is and then we must go on to ask what their minimal structure given occlusion must be. The important question for us is what the minimal structure of these systems must be to pass on karmic causality from discontinuous moment to moment.

In answer to the first question we note that a Magician system is in fact as Grenander defines a generator with attributes and bonds. However, we approach that definition through the equation of ideation:

$$\text{Idea} = \text{Form} + \text{Sign} + \text{Trace} + \text{No Trace (Propensity)} + \text{Emptiness}$$

FORM:

The Magician system is composed of individuated actualized generators which are defined by constraints that differentiate the Magicians within the system from each other and the system from its environment. We can see these constraints as rules which define what is allowed within each generator and what is within the system in relation to what is excluded.

SIGN:

Signs are the values of the attributes of the Magician/generators. Magicians may have any number of attributes some of which may represent internal states of the Magician. These attributes take on values which are either self-imposed, imposed by other Magicians, or imposed by the environment. The collection of attributes differentiate the individual generators from each other. Among the attributes are the bond values which represent bond receptor sites.

TRACE:

Traces are the results of actions. Thus the presence of actions within the Magician system is its addressing of the trace level of existence. The Magician/generator must at least have these actions:

- appearance (self-showing)
- morphogenesis from a seed pattern (coded turing representation)
- the ability to observe gestalt patterns (parser)
- the ability to inscribe patterns
- the ability to communicate to other Magicians
- mutual interaction with other Magicians
- voting to produce potential Magicians
- side-effects of annihilation
- disappearance (self-hiding)
-

PROPENSITIES (No Trace):

Traces inscribe the substrate which support the forms and signs. But the substrate itself is composed of propensities and tendencies. These are statistical or chaotic tendencies to act in a certain way by the Magician/generator. Propensities are described by vectors with direction and intensity. They are added to obtain certain attributes or occur when certain gestalt patterns are perceived. They connect the attributes of the Magician, the group of Magicians, or the environment, to the actions of the Magician.

EMPTINESS:

Magicians that exist as part of meta-systems must be Firsts which means micro-emergent events. A Magician system that is not a meta-system may not be a First. As such the Magician must produce an anti-First which is its opposite. An anti-First is something hidden. Just as solitons have as an opposite the dark soliton which is soliton shaped emptiness so does the Magician that is part of a meta-system. These shadows of Magician systems are what maintain the balance between what is manifest and what is not manifest as the Magician meta-system images the proto-gestalt that lies behind the scenes as the gestalts appear and disappear. These shadows are “nothing” or “holes in existence” but they exactly image the Magician in reverse and have real action just like a Magician does. The shadows of the Magicians appear in the mirror of the Void.

Besides having this shadow aspect we can see that the Magician system may take part in anti-relations (juxtapositions) and may generate relevances instead of significances. The emptiness is the mirror within which we see the juxtapositions or disconnections between things. It is also the mirror in which significances mirror relevances. The chiasmic point of reversibility that juts out into the mirror of emptiness is meaning. Meaning arises from emptiness. Things are ultimately empty like the geode and it is because of that they have endless meaning. Thus all Magicians that operate as meta-systems and point to the proto-gestalt must have this emptiness at their core which is seen in the relevances over against the significances, in the juxtapositions over against the relations, in the anti-Firsts over against the Firsts. All these form synergies within the showing and hiding relations that the Magician meta-system produce. Those synergies are the group or social aspect of the Magicians working together in a complex dance that circles around the empty center of the vortex of their annihilation.

Now we need to move to the second part of our question. We see that the Magician has aspects that relate to each kind of Being as they define the layers of ideation which means illusory continuity. And in fact Magician meta-systems go beyond this and have a negative shadow that balances their positive side. Thus we can say that the Magician meta-system balances what we would call the negative fourfold with the positive fourfold. The fourfolds are basic metaphysical principles within our tradition. The positive fourfold is the primary metaphysical principle which is developed in philosophy of the Western tradition. The negative fourfold is what appears in anti-category theory and annihilation mosaics which is the aspect of existence that our tradition attempts to hide and remain unconscious of to the greatest extent possible. It is what our tradition turns away from and refuses to look at. It appears in the negative aspects of the Magician meta-systems as they interact with respect to annihilation. The Magician meta-system turns toward death and recognizes it as a phenomena to which is oriented. In this way Magician systems represent authentic Being-There as they are oriented directly toward their own death.

However, we must ask what is the minimal structure of the Magician system that will allow it to influence the next moment as the universe is created anew? How is the passage of karmic causation passed from moment to moment? And how does the collusion of Magician systems occur in such a way that the next moment can receive the seeds laid down in this moment when there is radical discontinuity between moments? These are the key questions that the Buddhist tradition

answered with respect to Karma when causation was denied. Their answer was the alaya vijyana or storehouse consciousness where the seeds for the next instant were laid down. But the alaya vijyana was destroyed and reborn anew in the next instant so that the seeds and what they were laid down in vanished. Thus their answer seems very tenuous given the radical discontinuity between instants where there is a new creation each moment in some time span less than Planks constant.

This is the point when we need to delve deeper into the proto-gestalt. It is the proto-gestalt that makes this influence of one moment on the next possible. Within the moment there is a spawning of the Magician system which lays down new seeds which seek to pass on their influence via a collusion to the next moment after the radical discontinuity of destruction and recreation of a new universe. Let us remember that the each system that appears appears from the proto-gestalt which appears in the guise of the collective unconscious or the alaya vijyana. Likewise let us remember that beyond the universe we have the pluri-verse which acts like the proto-gestalt for the universe as a whole. The universe arises from the pluri-verse just as the system arises from the meta-system. Both the system and the universe the system appears within arise from the ultimate proto-gestalt that we posit as existing in endlesstime as the worldtree. Thus things do not just appear out of nothing but each thing has an origin. We trace back that origin in the Indo-european background to the Western tradition to the myth of the worldtree that stands in endlesstime and from which all things arise. All things ultimately have a single origin. And we know from Bell's theorem that anything that has been together with something else no matter how far apart they get can be influenced by changes in the thing to which it is connected. Thus we note that the separate systems that arise from the proto-gestalt and the separate universes that arise from the pluri-verse were all together at one point at the always already lost origin from which they arose in dependent co-arising. In our case we are merely positing that dependent co-arising does not have to be simultaneous but can be distributed in time in the same space. We know that the Matrix of spacetime/timespace allows dependent co-arising at the same time which then bonds the co-arising entities as long as they exist. But it is only a small change from this to realize that systems that arise at the same place but at different times can through the Matrix influence each other because they were together at the always already lost origin in the proto-gestalt. This is the concept put forward by Sheldrake of Morphological Resonance. In other words something that has occurred in a prior system or universe can influence a later system or universe if they have the same origin. And this relation is reciprocal no matter how far apart they become in the spacetime/timespace

Matrix. In Shledrake's formulation once something has been created in the universe then it is easier to create again. But he is assuming a continuous universe and is talking about a trace level resonance within that continuous universe. Instead we are talking about a resonance at all ontological levels between systems via a meta-system (proto-gestalt) and universes via the meta-universe (pluri-verse) which extends Bell's theorem which we know is physically true in terms of spacetime separation within the universe. Instead we see that different systems which arise from the same meta-system always remain linked no matter how far they are apart in terms of space and time. Likewise universes that arise from the same pluri-verse always remain linked no matter how far apart they get in terms of the Matrix of spacetime and timespace which holds all parallel universes. Parallel universes are merely those unreachable parts of the Matrix that cannot be linked via causation to a certain other regions. Having the same always already lost origin is the key to mutual influence between radically discontinuous segments of the Matrix or within a particular causally linked universe between discontinuous showing and hiding regimes. The same comment may be made for Domains and Worlds or for Forms and Primitives. In fact each level of the emergent ontological hierarchy is connected in this way. Each higher level is the always already lost origin of the next lower level. This must be true because each higher level emerges with its own properties, constraints and dynamics with sui generis reality. The origin is lost because we cannot see beyond the emergent arising of new properties to understand the connection of one layer to the next. Emergence means utter novelty and disconnection which is orthogonal to what was revealed at the last ontological emergent level of existence. So we posit that the influence between primitives is through forms, between forms is through systems, between systems is through meta-systems, between meta-systems is through domains, between domains is through worlds, between worlds is through universes, between universes is through pluri-verses. That influence may be across time or space because the spacetime/timespace Matrix is four dimensional at least and time can be traded for space with impunity. So as long as there is an emergence together from the same always already lost, i.e. emergent origin, then there is mutual influence no matter how far apart in time. So the influence can move from one completely separate and self-contained universe to another via one completely separate and self contained system that lays down seeds of influence that the configuration of another similar one in the new universe. This is similar to the tunneling that is found to exist in the structure of atoms. There is in effect quantum tunneling between universes and between one system in one universe to another system in another universe. The universes must have the same origin in the same pluri-verse and the systems must

have the same origin in the same meta-system within their universe. But if the origins are the same then quantum tunneling may occur that breaches the integrity of the discontinuous systems or universes on a wave level so that perfuming as the karmic transmission of causality does occur. If you think about it this influence via quantum tunneling due to Bell's theorem between discontinuous systems in discontinuous universe is an amazing result. Just as continuity is limited by the appearance of discontinuity in the substrate supporting the illusion of continuity, so to despite radical separation and discontinuity there is subtle influences between the discontinuous creations that gives a continuity to karmic causation.

So another question about Magician systems is what minimal structure do they need to be able to take advantage of this possibility of influence across continuities via the shared already always lost origin? When we look at this question closely we see that all manifestation of continuity has the ideational structure comprised of the layers already mentioned of Form, Sign, Trace, Propensity, and Emptiness. This is because continuity itself is formed in layers based on the four kinds of Being. So when we introduce radical discontinuity we must cut through all of these layers to reach the emptiness that means radical separation is achieved. Now we can discern discontinuities that are only formal in which case micro-formalisms that deal with rearrangements of content can bridge the gap from an explanatory point of view. But we can go beyond that to discern discontinuities that do not share content across the gap between structural-forms. In this case it is at the trace level that we find the necessary bridge. In fact we have seen that the special systems all appeal to the trace level to base their imaginaries on that allow intertransformations where both Form and Signs do not work anymore. The special systems produce more and more trace level fixed points around which these transformations revolve into the substrata of potentiality and back out again. Instantatons that jump from place to place also use this substrata of potential at the trace level as their means of continuous transport despite their seeming discontinuous movement. Below the trace level we can discern discontinuities that do not share traces across the gap between potentials. In this case what exists between potentials are propensities. Propensities do not retain traces but merely remember the intensity and direction within a chaotic substrata. Traces must produce an alignment between these propensities in groups to retain the impression of forms and signs. The propensities themselves without that alignment display chaotic perturbation. We can think of this as a wave. A wave is an alignment of propensities or tendencies working together to show the wavelike patterning. That wavelike patterning is the inverse of the particle of signs and the conglomeration of those particles into a form. But the

water itself ignoring the wavelike motion together has a Brownian motion where each water particle expresses its energy intensity and propensity to move. At the level of no-trace we only have these individual propensities embedded in the substrate and lose the wave like group actions that are the shadows of the forms and signs. Finally if we move beyond these propensities there is only emptiness or the Void. At that level we have reached the most radical kind of discontinuity that is possible. But even at this level there is the harmony and resonance that occurs because of mutual origin or prior interaction. Thus even at this most radical level where nothing is transferred across the discontinuity there is still the mutual influence across the discontinuity by the equivalent of quantum tunneling between universes or between systems dispersed in time that exists due to the physical effect of Bell's theorem. This is possible due to the fact that the Void or emptiness has an aspect of Harmony or synergy and it is the resonances between entities radically disconnected by emptiness that allow mutual influence despite utter disconnection.

Now when we ask how the Magician meta-system interacts across these levels of discontinuity we see that it would have to possess structure related to each level of possible discontinuity to be robust enough to influence what lies on the other side of the discontinuity. In fact this defines the minimal structure of the Magician meta-system. In the next moment, the Forms will be changed, the Attributes filled with signs will be changed, the actions that produce the traces or wavelike effects will be different, and the propensities that connect the perceptions and attributes to call up actions will be changed. The Magician system must address all these actions in order to cope with deeper and deeper levels of discontinuity. But the deepest level of discontinuity where emptiness declares that nothing will be passed between the discontinuous regimes must also be addressed. And it is addressed by the shadow of the Magician system. Each Magician as a First has its anti-First which is really nothing. It is a nothing that can be passed through the synergy of the Void to effect the other regime. Anti-Firsts are disconnected from each other via juxtapositions and have relevances. Anti-Firsts are the opposite of emergences. They represent what is not new what continues despite radical discontinuity. Magician systems must produce these shadows and push them through the synergy points in order to assure continuity between moments. This is why Magicians operate as groups and conform to the structure of the special systems. The special systems define the synergy points at the level of traces. The Magician systems must formulate the seeds through voting and then deliver the message to the next new universe via the synergy at the level of traces. The seeds are propensities that will arise in the next moment. We know that chaos is not complete disorder but order within disorder.

Thus when the Magician systems produce the seeds that the group think should exist in the next moment it must produce a trace and propensity impression which is then formed into an anti-First and placed in relation to the synergies that exist in the present moment. Then when the next moment occurs it discovers certain propensities that are patterned in a way that gives rise to traces that give rise to signs that in turn produce forms of the desired Magicians in the next moment. Magicians must have the minimal structure to perform this inscription of the desired form into the synergy inherent in the Void which will allow the correct group of Magicians to bounce into existence in the next moment. We can think of this as a forcing function that produces a wave of nonexistence that bounces off the mirror of the Void to produce in the next moment the desired effect. This amounts to the karmic passage of causality through the always already lost origin that mediates between the mutually influencing but disconnected universes that contain systems that emanate from the same meta-system.

Similarly the same kind of action can occur at the domain and world level. At the level of the world we project the primal scene as the image of the always already lost origin. For us that primal scene contains an image of the worldtree and the well that is the source of the water of life. And it contains the dark image of the female Norns dispensing fate. Each discipline or domain emanates from the worldview and produces an image of it. Each discipline must cope with discontinuities within it at either the level of fact, theory, paradigm, episteme or interpretation of Being. Thus it acts in relation to the meta-domain of the world to survive these discontinuities. It produces a great negative wave which appears as the embodiment of the negative fourfold that stands opposite the positive fourfold which it passes through the always already lost origin of the world view to attempt to ensure continuity of itself. We use the fact that just as discontinuity underlies continuity, so to continuity underlies discontinuity in a Yin in Yang and Yang in Yin swirling formation. We use anti-emergence in the form of produced anti-Firsts to assure continuity between disconnected moments via the resonances of the inherent synergy of the Void as interpenetration. This is why the negative fourfold exists as the undercurrent of our worldview, never faced, always hidden and turned away from as we run from the facticity of death even as we attempt to overcome it with a supreme act of will to power. Within the Indo-European tradition this is done through the sacrifice which harkens back to the primordial sacrifice of the cosmic representative. It is only in the Indo-European tradition that this is conceived as the death of god. The action of producing the negative fourfold as the anti-soliton formation, the dark singular wave, opposite the singular wave of the positive

fourfold is the means of using the continuity running secretly though the inherent discontinuity of existence. The negative fourfold defines anti-emergence just as the positive fourfold defines emergence. The two together define the world as a synergy rooted in the Void.

8. The Computational Basis of Magician Constellations

If we understand that Magician meta-system produces anti-Firsts which are passed between universes as a means of creating implicit continuities made possible by that Bohm calls the implicate order of the universe, i.e. its proto-gestalt infrastructure, then we have defined the measure of the minimal Magician meta-system as one which is complex enough to produce anti-Firsts. Of course anti-Firsts are the opposite of emergence and only emergent events have the necessary complexity to produce their duals. So Magician meta-systems must have a complexity that addresses each of the four levels of ideation and be configured in such a way as to use this to project anti-Firsts across the discontinuous boundaries between moments using the synergy implicit in the Void as a backdrop off which these anti-Firsts are bounced so they appear in the next moment as the synergy around which propensities, traces, signs and forms coalesce. But understanding this strange structural minimality of the Magician meta-system does not explain their computational structure. We need to understand the minimal computational structure that would support such a meta-system and this is no mean task. It has already been shown that Magician systems are built on looped cascades of annihilation with side effects. We have noted the necessary presence of multi-tasking to simulate continuity in such a system that violates Churches thesis. But now we have another piece of the puzzle which is that just as discontinuity underlies the illusion of continuity which Churches thesis depends on, so to there is an inherent causal continuity between discontinuous moments of the computation. We will use this principle to attempt to place bounds on the computational basis of Magician meta-systems.

Given that Magicians are inherently multi-threaded the question becomes what is the minimal structure necessary to make multi-threads cooperate. Here we are assuming that annihilation side effects do not produce the self again but must produce something different. Thus the difference must be complex enough to record the form/pattern of the previous incarnation. Thus we see that in multi-tasking between annihilation cycle threads we must have a way for the whole of the Magician to be mirrored within the part which is running at the moment. Now we

have already noted in a previous part of this essay that the reflexive special system has this property. It is a quaternion externally and its nodes are quaternions internally. Thus we can posit that the Magician system is made up of multi-threaded nodes operating with different quantitative kinds which approximate the structure of the quaternions. Thus the quaternions within the threads mirror the structure of the quaternion of the whole autopoietic structure. Then it is through the mirroring of the reflexive level that this system cooperates between its different time slices to create a coherent autopoietic formation. This mutual mirroring where every part is quaternionic just as the whole is quaternionic allows the mirroring which makes possible the creation of an internal continuity between the discontinuous threads that confer autonomy on the Magician system.

To produce a computational theory we need to combine the following elements:

- Annihilation looped cascades that create multi-threaded computational cycles.
- The laws of form and pattern which give us the means of expressing the formatting and content of the tapes and finite state automata of the turing machine.
- The Matrix Logic that provides the logical superset that combines and controls the laws of form and pattern
- The computational embodiment within the spacetime/timespace Matrix.

We start by looking at embodiment. We have already noted in previous papers that there are four minimal embodiments of computations within spacetime. We combine these to give slices of Turing machines where each slice represents a particular minimal design method. It is through these embodiments that computational systems function within spacetime/timespace and it is also through them that we understand that functioning. These minimal embodiments actually can be produced from a simpler structure which is comprised of the following elements:

- Value
- Range
- Variable
- Assignment
- Transition
- Action

From these information flows and comparisons between variables as well as hierarchical state transition diagrams can be built. So if we add these elements to

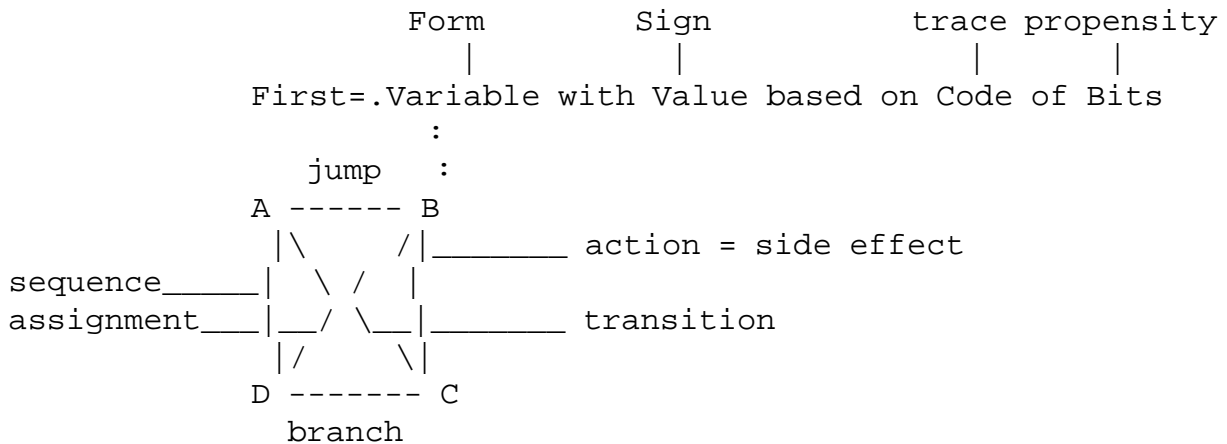
the concept of the looped and multi-threaded annihilation loops then we get a theory of minimal embodiment from which we can build up any computational superstructure. Notice that the minimal bi-recursive vector equilibrium (dual annihilating minimal systems interpenetrated) has to have at least four Firsts (A, B, C, D). It is clear that the Variable is a minimal representation of form and that value is a minimal representation of Signs which exist within the pure diacriticality of the binary distinction between signs whose scope is reduced to form a range. The range is a constraint on pure diacriticality and we can see that constraint as a trace. Thus in the above set three of the elements are given us by the basic constituents of Firsts which contain Form, Sign, and Trace levels as well as propensities that connect the Signs and Traces. What we do not have equivalents for are the Assignment, Transition and Action components except in as much as traces are formed by actions. We noted what actions Magicians must display but not where those actions appeared from in our speculations. We will note that each of these dynamical aspects have duals

Figure 84:

sequence ----- side effect = action
 jump ----- transition
 branch ----- assignment

We note that the duals complete the picture of computation by adding the ability to create order among the actions, side effects and assignments. Normally in computation things will occur sequentially unless there is an unconditional jump or a conditional branching. The branching may cause a state transition, and action or an assignment. A sequence is opposite an action because each is composed of monolithic units one occurs in time alone whereas the other occurs in the space of all behaviors. Jumps are transitions purely in time whereas transitions effect discontinuous changes in the space of all states. Both branches and assignments have values associated with them. One of them uses that value to make a if or while branch while the other uses it to actualize a variable. A jump with a branch back is a while loop and a jump with a branch forward is an if statement. These three (sequence, branch, and jump) are the basis for structured programming which any algorithm can be reduced to. If we combine the three constructs of structured programming with the three kinds of major effects (action, transition, and assignment) we get a complete computational discipline with which to view our Firsts.

Figure 85:



Firsts as micro-emergences are irreducible. They appear in the minimal looping annihilation cascade. When we see these Firsts in relation to the six basic computational behaviors then we have the basis of a computational theory of Firsts. We note that it is each multitasking thread is produced by a multi-threading that would execute these actions. The actions along with the Variables and Values of the Firsts will allow us to produce the minimal embodiments in spacetime along with their combination into algorithms. In our minimal methods we produce representations of the relations between design elements abstracted from their embedding in algorithms. It is the algorithms that can produce the problem of delocalization as design elements are smeared out within the sequence and embedded in strange cyclical structures that operate in time via branches and jumps. What our tetrahedron or minimal system of Firsts and computational structures gives us is that we see that Firsts can have any of the possible relations that can exist between computational structures. For instance, two Firsts can be in sequence. One variable's value can be assigned to another variable. Once variable can be compared to another to cause a branch. A transition may be from one state value to another. A side effect can change one value to another or produce any imaginable transformation between variables. Jumps can be from one labeled memory location to another. Variables may be sequenced in any order. All these possibilities and more are possible. What we are striving for here is some image of the minimal computational formation which we connect to Firsts that appear in the minimal Annihilation mosaic. There are many different ways to formulate this minimal computational structure. We have chosen a way that looks at minimal embodiments, isolates the six structures that compose them, then we see that three

of these can be ascribed to the Firsts themselves while the other three can be seen as minimal behaviors that when paired with the structured programming constructs gives us the capability to build both design level representations but also algorithmic representations within the multi-tasking threads of the annihilation multi-recursive looped cycles.

However this does not tell us how we should record the results of our computations or the programs that will drive our computations which reside in state tables and turing tapes. For these we choose a combination of the Laws of Form and their opposite the laws of pattern. If we look carefully at this elegant notation we see that all expressions can be reduced to forms no more than two layers deep. Thus such expressions allow us to write the format of the tape and understand where the line is that distinguishes the values within those formatted areas. If we add to Spencer-Brown's concept the idea of the blank place holder then we can produce codes to express values below that formatting line. We have also mentioned the concept of the turing mobius strip which has the state table (program) inscribed on one side of the tape and the data inscribed on the other. We noted that such a formulation has two temporalities that plays along the edges of the tape. One is the temporality of the execution of the data and the other is the temporality that encompasses it of the execution of the state machine. The interaction between these two temporalities that we discovered to be the duals of the two proto-imaginaries is controlled by the six computational behaviors already noted that connect the Firsts. The laws of pattern give us the capability of reading and writing that tape considering it as a pure pattern.

To this we would only add the Matrix Logic as the means of making logical manipulations based on the truth values of relations between computational elements. Matrix Logic was invented by August Stearn as the superset of normal logic that combines computation and logical manipulation in a single system. It approximates the normal logic but gives us the ability to do computations on logical operators alone. It is this capability that allows us to approach the modeling of autopoietic systems. Autopoietic systems have hypercycles which exist in the No-where beyond the embodied system. Matrix Logic operators can form rings that allow the creation of hypercycles and are connected to the embodied system via truth values that give them the necessary orthogonality to the embodied system. The cycles of logic operators operates at right angles to the cycles of annihilation which form the computational substrata of Magician systems as they multi-task and simulate continuities within a discontinuous time stream. But we note that at the

logic level there may be continuities that exist orthogonally to the cycles of annihilation that follow their own rules beyond the cycles of annihilation which are controlled by the structures of computational embodiment.

This has been a sketch only of a possible computational representation of a Magician system. It is one that would allow us to build up the minimal methods and see the paradoxes arise within the software layer that would lead to the AI and Alife techniques that will allow us to model living/cognitive creatures which then learn and become reflexive. A much more exact picture is needed which would show how Laws of Form notation can be animated computationally and combined with the minimal elements of computational embodiment. The only way to do this would be to build a simulation that used the Laws of Form to construct computational mobius strips controlled by Matrix Logic and executed on the basis of annihilation loops. Here we are only speculating as to what elements should be put together to make a full simulation of the Magician constellation which is true to our insights into the nature of the meta-system. Unless we can articulate the vision we cannot make progress toward that end. Here we are interested in the greater vision and how the macro pieces fit together in a computationally viable simulation of Magician constellations based on annihilation mosaics.

What is the computational basis? Minimal interleaved annihilation mosaics. We allow their cycles to be controlled by a series of behaviors within the multitasking regimes. Three of those behaviors give us structured programming constructs by which any algorithm can be constructed. Three of those give us the actions between Variables with Values out of ranges which allow us along with the Variable and Value structure of Firsts to create the minimal computational embodiments. When we add the Firsts themselves and Matrix Logic then we have a complete theory of the computational basis of Magician systems. The Firsts allow us to place values in variables and they also have actions associated with them as well as the bonds that would create the network of computationally active Firsts. Matrix Logic allows us to guide the computation logically and construct the hypercycles out of those operators. And how do we write our programs? It is with an extended version of the Kauffman-Varela Spencer-Brownian Laws of Form. That version must add computational extensions to the laws of form notation to express the programs on the computational mobius strip. For instance jumps or tunneling are allowed but it is not thought that these might be conditional branches. Assignments and transitions as well need to be added to the notation. A myriad of little adjustments need to be made so that this notation developed to represent circuits can represent

programs that execute. Of course any programming language would do but we like the idea of operating at the meta-level that the Laws of Form stakes out above the level where quality and quantity split. Given an appropriate computational rendering of the Laws of Form it would then be possible to write programs for the multi-threaded annihilation mosaics on computational mobius strips. If such programs could simulate solitons then we would have an excellent model of the kinds of systems we have been discussing:

- Multi-threaded -- due to multi-recursiveness
- Multi-numerical -- with the kinds of numbers
- Multi-qualitative -- with the trigrams of qualities
- Multi-computational -- with multiple computational mobius strips
- harmonic and ultra stable -- with soliton wave formations
-

9. Sociality of Magician Constellations

We need to consider the inherent social nature of Magicians. We know that they appear as groups that act together on each other to produce the seeds for the next moment. But what needs to be noted is that there is an inner connection between Magicians and annihilation through which their social nature is affirmed. This is to say that Magicians call for their own annihilation either together or separately. The difference between these two alternatives is the difference between competition and cooperation. In the cooperative scenario we see Magicians as deciding together when a given moment is over after the seeds of the next moment have been laid down. In such a case the Magicians as a group have had time to unfold their entire life-cycle and so they die off together allowing the next moment to come into being with the seeds of the next generation of Magicians. On the other hand we can see sub-groups of Magicians competing in which case any one Magician could start the cascade of annihilations. In that case the advantage of starting the annihilation process must be weighed by each Magician or sub-group of Magicians. In either case annihilation plays a social role comparable to the social role of creation of wild card Magicians was posited to play in an earlier paper where the social group as a whole acting as a filter was seen to produce Magicians or anti-Magicians to influence and skew the results of the annihilation phase of the life-cycle by which the seeds of the Magicians in the next moment are produced. Thus unexpectedly both annihilation and creation have inherent social implications within the

Magician meta-system computational formalism.

Here we merely state that this relation between creation/annihilation and the social aspect of Magicians needs to be studied further. One way to do that would be to introduce Game Theory into the annihilation process so that utilities and outcomes played a role in annihilation and creation scenarios. The group as a whole would also be considered a player so that it might serve as a filter by creating Magicians and anti-Magicians to balance the plays of the individual Magicians. Applying such a gaming viewpoint with the addition of groups and sub-groups as players would give an explicit social basis for the dynamics of creation and annihilation. Games could be either cooperative or competitive. The prized outcomes would be the results of the annihilation contest. The Magician cohort as a whole and subgroups of Magicians would have weighted input into these negotiations and plays as well so that our Magician games did not just deal with individuals but the full complexity of the social situation.

From gaming it is a short step to economics. We note that if we assume that if creation and destruction of Magicians as well as inscription, mutual action, voting and annihilation manipulation all took energy and that energy was a scarce resource then an economics of creation and annihilation within Magician meta-systems would be possible. If we posit power relations between Magicians then we could institute political systems. In such systems we could attempt to mirror the autopoietic organization of Plato's "second best" city described in the Laws which is the first description of an autopoietic system in the Western tradition. Plato attempts to achieve perfect balance between the City and the Household the Laws. The city is, of course, the totality of Magicians of a certain species. If we posit other species of Magicians exist then we can create an ecology between "cities" in which Magicians of different kinds have trade and pursue warfare and other kinds of inter-city transactions. Likewise we can posit that households are the genetic continuities from moment to moment that link Magicians across time. If these genetic continuities are associated with other continuities then this grouping of continuities can be considered as a "household." A household is after all a recognized means of passing material property and genetic material from generation to generation. Plato sought a certain balance between the Household and the City that approximated the Autopoietic system. Both of these groups are meta-systems or images of the proto-gestalt. Both are arenas in which individuals come to exist and arenas within which they operate based on certain rules or laws. If we simulate these formations with Magician Systems then we see that the meta-

systems of Magicians can have a concrete social formation which balances the larger meta-system group and the smaller meta-system group making differing demands on the individual Magician. In this way we see how a truly social system of Magicians arises as the proto-gestalt splits into encompassing and encompassed meta-systems within the same domain. It is amazing that Plato in the first Systems Theory book concerning the laws of cities of men already understood the Autopoietic system in such detail as a social possibility. It is unfortunate that the Western Tradition modeled all its cities on the Republic instead which was introduced by Plato as an alternative to show the consequences of not following the Autopoietic formation in building cities.¹

Here it suffices to say that the social organization of Magicians may be very complex and may show different proto-gestalts analogous to households and cities might form which cause split allegiances in the Magicians just as we see them in Human society. The splitting of the proto-gestalts to produce complex domains where a Magician has multiple origins of various levels of logical typing produces another level at which the autopoietic formation may occur with genetic and property level proto-gestalts, “households” become autopoietic nodes within the larger species of Magicians that represent the “city” in relation to other cities.

Here we just mention briefly the relevance of the work of Jane Jacobs, The Economy of Cities. She turns many of the assumptions about cities upside down among them the fact that agriculture comes before trade. She sees trade as the prerequisite to agriculture. And more importantly she sees trade as the addition of new kinds of work to old kinds of work. Thus here model of economy of cities is very close to the analysis of kinds of work using the Magician system formalism in a social context to model chaotic or non-routine work processes in organizations. Jane Jacobs work allows us to put the work of Plato on the Autopoietic city formation into terms that we can understand from the point of view of work analysis. Cities are, among other things, places where different kinds of work are created and added to each other as a basis of trade which in fact is the basis of city life. Similarly so are large organizations within modern society. Work in such organizations on rare occasions form autopoietic rings which is the archetypal perfect self-organizing form of work in which a ring of essential transformations is produced that is self-balancing and self-feeding. To the outside organization it looks like a vicious circle but inside it is the most efficient sociotechnical

1. See The Fragmentation of Being and the Path Beyond the Void by the Author.

productive formation any society can produce. We experience the qualitative difference and say that such a team has “clicked.” Ultimately we wish to develop the magician formalism as a means of modeling the chaotic processes and to show how autopoietic social formations may exist and arise out of the chaos. The fact we can see examples of these autopoietic formations not just in autopoietic theory and its study of biological systems but also in Acupuncture Theory and Plato’s second best city presented systematically in the Laws gives us hope that eventually it will be possible to show experimentally that autopoietic viable systems appear in social and computational forms and that these may be married in Computational Sociology as a fundamental discipline building on Artificial Intelligence and Artificial Life which approximates a minimal Artificial Society or community. Distributed Artificial Intelligence and the Ecology of Artificial Life systems point toward the necessity of this kind of new level of emergent phenomena that needs to be studied through computational experimentation and theorizing working together to propound a model of the computational aspect of society in its minimal formation that makes Symbolic Interaction possible within the emergent social layer of phenomena.

10. The Orthogonality of Magician Constellations from GST

We say that Magician meta-systems are orthogonal to GST but we need to make clear what that orthogonality means. If we take Klir’s epistemological frame work as a starting place we can build a picture of the way Magician constellations jut out from GST. The Klir epistemological framework is as follows:

Figure 86:

- Generative Systems
- Data Systems
- Source Systems
- Object Systems

Each of these systems description levels have structural and process wings which extend to and infinity of meta-levels. These wings also display reversibility so that there are portions of the wings that combine structure with process giving one or the other dominance. Also we can stretch out the epistemological framework by showing that there is a knowledge/living level above the generative level. This level corresponds to the autopoietic system. The autopoietic system as an image of

an organism is the root metaphor for all systems. Once we attain the level of knowledge we realize that the four meta-levels of learning defined by Bateson arise out of that level. From the point of view of artificial life these become meta-levels of adaptation, flexibility, and evolution. These meta-levels of learning which define the reflexive level of systems ends at meta-level five in the unthinkable.

Figure 87:

- Unthinkable
- meta-meta-meta-learning
- meta-meta-learning
- meta-learning
- learning
- knowledge + living = autopoietic
- generative system = program
- data system = variables and supports
- source system = attributes and backgrounds
- object system

The wings of any given level might look like this:

Figure 88:

Separate Wings

infinity infinity

meta-meta-meta-structure meta-meta-meta-process

meta-meta-structure meta-meta-process

meta-structure meta-process

structure process

structured process process structure

meta-structured process meta-process structure

meta²-structure meta-process meta²-process meta-structure

meta³-structure meta²-process meta³-process meta²-structure

infinity infinity

Interfering Wings

Notice that for each level there are structure and process wings that independently go off to infinity. But there are also infinite levels of interferences between structure and process where one is dominates over the other. The separate wings

tending toward infinite meta-levels approaches the unthinkable in the form of infinite complexity of systems which is the study of complex systems theory. The unthinkable as infinite complexity is the opposite of the unthinkable as finite block to comprehension and understanding that occurs at the fifth meta-level of learning. But we can contrast these two approaches to the unthinkable with the interferences of the wings of process and structure. This interference has two aspects which are external and internal. Externally the interferences appear as two views of the same thing slightly shifted in dominance. But there is also the single non-dual view of that interval whose phases appear externally. We see this in the case of the special systems. They each represent a kind of reversibility between different aspects:

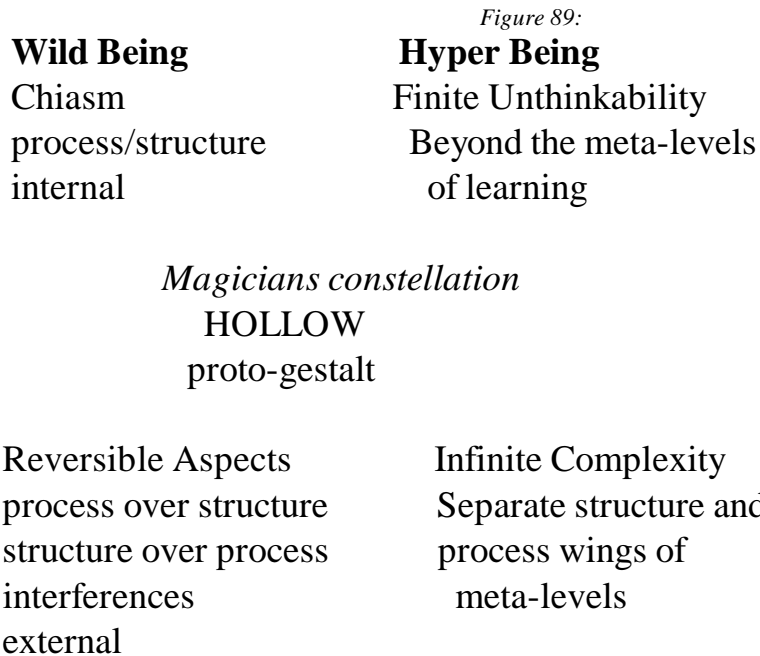
- psychic/social = reflexive special system
- living/cognitive = autopoietic special system
- pattern/form = dissipative special system

In each of the special systems there is a reversibility between the two aspects that are non-dually connected as what Merleau-Ponty calls the Chiasm. We can project meta-levels of process and structure on these chiasms without really seeing their actual nature as reversible non-dual wholes. Thus the entire set of infinite interferences between process and structure where one dominates over the other is an approximation of the chiasm of the special systems which is their inner reality.

When we talk about the reversible chiasm of the special systems I would like to use the word intaglio. An intaglio is an etching on stone that is concave but when frosted and viewed through the stone looks like a three dimensional patterned form. There are works of art which have intaglio of male and female figures on either side of the glass sculpture so it looks as if these figures are intertwined but all that actually exists is the glass making up the space between the intertwined dual intaglio figures. Non-dual reversible chiasma are like these intaglio. The substance of the chiasm is really what exists not the two aspects that are seen when it is viewed in one way or another. These chiasmic figures approximate under the auspices of Wild Being true non-duality which is associated with emptiness which is the view of the chiasm without aspects. In other words non-dual thought, perception, or action is when the chiasm does not appear dual to the perceiver. In other worlds there is a non-dual reality to the psychosocial beyond the chiasm between the psychic and the social. If we saw the chiasm from within the

envelopment of emptiness it would appear in that non-aspect. Emptiness is a non-experiential non-conceptual mode of knowing and living in which the interpenetration of all things becomes manifest.

This analysis of the wings and the chiasm beyond the wings of process/structure gives us the following four relations:



We note that the internal and external view of the chiasm are expressions of Wild Being and unthinkability in both the finite and infinite guises is the expression of Hyper Being. Between these two kinds of Being that occur when we extend the GST epistemological framework there is a place defined for the manifestation of the Magicians. We will call this place orthogonal to GST the “hollow.” We see that GST itself is an attempt to deal with changes in form by building a formal-structural system. As such it attempts to render structuring and process present-at-hand with perfect theoretical availability of Pure Presence kind of Being. But all we have to do is note that systems are gestalts not objects and we immediately turn the GST framework into an explication of Process Being. It describes processes by which structures are transformed and where time interacts with static forms frozen in Pure Presence. When we notice that the Epistemological Framework has extensions that end in finite and infinite unthinkability and that it describes the internal and external aspects of reversibility then we see how the two other kinds of Being enter into and are implicit within this model. We see that these two hidden kinds of Being interact

each with the Epistemological Framework in two ways and when we place these dual actions in relation to each other we realize that there is a gap between them which defines the orthogonal meta-system of the Magicians. What this says is that the proto-gestalt is hidden behind the structural system that defines the gestalt system. Magician constellations are one way to express the proto-gestalt so we can see the Magicians as a meta-system that fills this hollow between Wild Being and Hyper Being.

Within the Hollow behind GST where the proto-gestalt hides as the origin of GST we can see the action of the Magician meta-system is to define the karmic action with respect to the proto-gestalt. The Magician system life-cycle defined in the last section as the pairwise combination of the kinds of relations within the special system and GST gives an additional component of dynamism at the trace level that express Hyper Being and relating to the propensities that emanate from Wild Being. Individual systems emanate from the proto-gestalt as the always already lost origin of gestalts. The proto-gestalt can be understood as the precession of the meta-system as it emanates systems. When we describe this precession we are moving to a realm where time has a different character.

11. Norns and the Primal Scene

We are moving from the surface time such as that described by Husserl in Internal Time Consciousness which underlies the projection of continuous time back to a more primordial time that appears within the history of the Indo-european world view. That time is best described by the primal scene of the Well and the Tree. Here we are speaking of the Proto-Indoeuropean mythic image of the world tree and the wells that which provide the water of life to its roots. In Norse myth this tree is Yggdrasil and the three wells that are entangled in its roots. The upper most well is Mimir where the Norns take water and clay from the well and place it on the trunk of the tree and thereby maintain the tree from which all forms within the world arise. An analysis of this myth appears in the author's book The Fragmentation Of Being And The Path Beyond The Void. In that analysis the signifier of the Norns was not explored very deeply. Now it is apparent that the Norns who distribute fate to men in their act of watering the world tree are isomorphic to the Magician Meta-system. In my analysis of this primal scene I already indicated that the World Tree is an image of the Proto-Gestalt. The Wells are an image of what Plato calls the source forms from which things appear. Ibn al-Arabi calls these the Ayn al-Thabita. The water of life circulates from the well to the tree down to the roots and

back to the well. The water of life's rotation is the movement of primordial time which underlies all surface images of time such as the Matrix of spacetime/timespace. Nietzsche calls this rotation the Eternal Return of the Same. It is the cyclic movement of time that occurs in Endless time which is the dual of the linear type of time that occurs in the in-time realm. The water of life is what the Chinese call Jing Chi which is allotted at conception to each living thing. It is the closed finite life-energy which is conserved by the autopoietic system. The Jing circulates thought the meridians of the acupuncture system. But it does not circulate like moving water. It is subtle energy that forms instantatons that jump from acupuncture point to acupuncture point. The meridians are merely a heuristic device for understanding the flow of these instantatons in the net of 361 acupuncture points. Its circulation is controlled by the hyper-cycle of the five Hsing (energy transformations). The water of life circulates between the sources of things and the proto-gestalt which precesses as it emanates specific gestalt formations that appear in surface time. In this primal scene we are talking about the underlying mechanism by which discontinuous regimes of systems are produced out of an always already lost origin which is the proto-gestalt. Each thing has its source that mirrors like a part of a hologram the whole world. The sources are the key to interpenetration. As Shaykh al-Akbar says they exist from one aspect but do not exist from another aspect. The sources are the origin of each organism that unfolds. The DNA is merely the mechanism for unfolding the form but it is guided by the subtle energy, Chi, and the intrinsic patterning of things, Li, by the template of the source. When the thing manifests that manifestation is guided by a mirroring relation with its source. The source itself contains the mirroring with the rest of the world which gives that thing its place within the world. But the thing actually comes into being emanating from the proto-gestalt not from the source. The source is the origin in endless time which exists along side the proto-gestalt which is the center of the vortex of primordial time. The Jing or water of life circulates between the source and the proto-gestalt. That circulation is the basis of the autopoietic system that appears as a projection within the Matrix of spacetime/timespace.

Looking at the relation between the primal scene in the imaginal endless-time and the autopoietic system in-time we see that the autopoietic system presents itself as a body with a boundary. Upon that boundary across the body are spread out the acupuncture points. Embedded in that body in the no-where of its inner boundary we see the five Hsing which act as a hypercycle. Finite subtle energy called Jing flows around the acupuncture points jumping from point to point. As it flows it catalyzes the energies that come from breath and digestion, that is the gross

energies. But that energy that is flowing in the in-time creature, the closed autopoietic system, is also flowing in a cycle of eternal return between the source of the creature as a form/pattern structural system and the proto-gestalt of the creature as a meta-system. The Jing is finite because it flows in a double movement partially in-time and partially in the endless-time realm. The autopoietic system is never entirely separate from the source of its pattern/form or its always already lost origin. We cannot understand the subtlety of the acupuncture system within the lost Chinese science without understanding this double connection via the Jing that makes the autopoietic system function within the endless-time and in-time realms simultaneously. The time of the instantatons jumping between acupuncture points might be related to Jung's idea of synchronicity. The energy appears to be simultaneously everywhere within the system yet it has a definite precession that connects with the hours of the day in a cycle. That is just one of the cycles. There is also the sixty day cycle which represent the connection between the twelve earthly branches and the ten celestial stems. This cycle is represented by the group A5 which is the group of the icosahedron and the pentahedron in four dimensional space. The pentahedron is two mobius strips intertwined giving precisely the formation of the generation and control cycles of the five Hsing. These and the other cycles related to the energy flows within the body are the manifestation of the eternal return of the same circulation of the Jing in endless-time. A science that can only see in-time linear flows within the Matrix of surface spacetime/timespace can never understand the deeper science that sees the relation between the in-time and the imaginal endless-time cycles. The creature according to Chinese science exists in the interspace between these two temporal regimes, the linear surface timespace/spacetime and the cyclical primal time of the circulation of the water of life.

Magician systems give us a model for this karmic circulation of the waters of life. Within the Tathagata Gharba, womb of thusness coming, there is the alaya vijyana or storehouse consciousness. Within the storehouse consciousness which may be seen as related to the collective unconscious, the seeds of causality from one moment to another are laid down. Since the universe is destroyed and created every moment causation cannot move between incarnations directly as there is no substance to sustain them. But instead they may perfume from one incarnation of the universe to another and this is the way Karmic causes propagate across the discontinuous train of momentary universes to produce apparent causation. Karma is cyclical time just like the endless rotation of the water of life. It is an image of that rotation within the endless-time realm. Each universe appears as a system from the proto-gestalt. The universe interpenetrates because the source of each thing is a

part of a hologram of the pluriverse. So each thing mirrors the rest of the universe through the lens of the reflexive autopoietic system. Together sources and proto-gestalt give rise to successive universes with a family resemblance which interpenetrate and continually reaffirm the recurrence of the Same.

The Magician systems are like the Norns in the sense that they simulate the weaving of fate. The Chinese character for manifestation contains a sub-character for the sun and a sub-character for fire with threads strung between them. On the side is the sub-character for a shell. This says to us that manifestation is the emanation of golden threads from the source of things to the things themselves. The source of light is the sun and the mundane light we can control in the world is fire. The mundane light is connected to the source of all light by subtle threads. These threads pass across the layers of the shell which represent the emanation from the source to the surface expression of that source in things. So we can see in this subtle image that the threads cross the threshold of the layers of the shell producing a weaving. That weaving is the pattern of fate. We can see the Norns as the weavers of fate. They take the water of life from the well along with the clay. The clay represents the sedimentation of past actions that influence future unfoldings of events. The clay has the same function as the karma in the Hindu/Buddhist image of causation. We note that the clay is probably taken out of the well in woven baskets. Fired woven baskets filled with clay are hypothesized to be the origin of clay pots. The designs on the pots are seen as holdovers from the impression of the weaving left on the fired pots from the baskets that were used to form them before throwing pots became a standard technique for production. Thus when the Norns place the water and clay onto the tree it is sure that the clay would hold the imprints of the baskets that it was carried from the well to the tree in. That imprinting of the clay added to the tree is the inscribing of the design of fate by the Norns. In other words the Norns influence the vectors that come from past action as they pass the record of those actions back to the proto-gestalt. Similarly we can see that Magician systems attempt to influence the future by collusion in the process of annihilation so that the seeds for the future moment are skewed in each moment. We can see the Magician systems as taking the seeds from the past moment and transferring them to the next moment but in the process they change them based on their interaction and inscription activities in the present moment. They perform a task exactly analogous to that of the Norns according to the Delphic oracle. The distributors of fate also skew fate as they weave it into the fabric of life. Even the Gods must abide by the decisions of the Norns. The Norns represent the role of women as pattern makers as the dual to men the form makers. The two archetypal

roles of women in ancient Greece were as water bearers to from the Well to the proto-gestalt household and as producers of weaving. In these women are seen as dual archetypal reflections of the Norns.

12. Fourfolds Embracing

The Norns are the embodiments of the negative fourfold which is attributed to women as the positive fourfold is attributed to men.

Figure 90:

Role of Women		Role of Men	
Negative Fourfold		Positive Fourfold	
Night	Light	Earth	
Covering	Uncovering	Heaven	
Chaos	Order	Mortals	
Abyss	Transcendence	Immortals	

The negative fourfold comes from the Theogony of Aristophanes in the BIRDS. It is a clear picture of the inverse of the Positive fourfold developed into Western Metaphysics and archaeologically recovered by Heidegger from the words of Socrates in the Gorges. The negative fourfold has always been submerged by our tradition. It is the shadow of the positive fourfold. If we take the opposite of each of the negative fourfolds elements then we see an even better picture of the aspects of the positive fourfold than the elements that Socrates names. As Heidegger says each of these elements internally and mutually mirror each other. They form a minimal system that is the metaphysical ground of the Western worldview.

The clearing in Being is signified by the spreading Branches of the World Tree. Within those branches every creature finds its ecological home and niche. It is in those spreading branches that the positive fourfold unfolds to make a clearing of manifestation that sheds light, uncovers, orders, and transcends. But the opposite of those branches are the roots of the tree that are hidden from the light, covered over, rooted in the primordial chaos on the edge of the Abyss of groundlessness. The proto-gestalt connects these two fundamental metaphysical minimal systems and balances them. This is why the world can come into begin as a place of contrasts between light and dark. When we look at the extensions to the GST epistemological framework that attempt to unearth its underlying ontological basis we see that the four meta-levels of Being act as a manifestation of the positive and

negative fourfolds. GST attempts to model the world of systems that appear in the world within the Matrix of timespace/spacetime. We can call the Matrix itself the interpenetrating embodiment of heaven and earth. The heaven is the hyperspaces though which interpenetration occur within the earth of the Matrix. The highest order of systems that appear there are organisms which are the archetypes of all systems. The autopoietic is the basis for our view of all systems in the world. These autopoietic organisms are the mortal. When we look at them in terms of infinities of embedded structures and processes we see that complexity tends toward unthinkable infinity. When we look at the epistemological hierarchy we see that after adding knowledge/living level that there is generated the meta-levels of learning that are associated with the reflexive. These end in a finite unthinkability at learning meta-level five. Both the infinite and finite limits of unthinkability are indications of what lies beyond the mortal. These limits indicate the immortal which is the polarity opposite mortality. We know immortality by reversing the attributes of the mortal and thus we project on the unthinkable the Gods. But the gods are merely projections of the mortal as the duals of themselves on the screen of the limits of the mortal. Thus we see clearly that the extended epistemological framework originally proposed by Klir is an image of what Heidegger calls the positive fourfold. When we look at the negative fourfold and reverse its attributes we get another more dynamic model of the positive fourfold as the dynamic clearing in Being. It is a place within which order manifests. If order did not manifest within structural-formal systems then we would be lost. Order appears from no-where to create patterns in dissipative systems. The opposite of this ordering of pattern is the transcendence of formal boundaries. This is best represented by George Spencer-Browns Laws Of Form where crossing and recrossing a boundary puts you back where you started. Laws Of Form assumes you can cross that boundary, it assumes transcendence. Transcendence creates all the power relations within the clearing of Being expressing the Will to Power that is the opposite of the Eternal Recurrence of the Same. Will to Power always obscures the Eternal Recurrence of the Same. So we see that Order from No-where gives us patterning and Transcendence gives us the dynamics of forms. These patterns and forms appear in showing and hiding relations called gestalts within manifestation. Showing and hiding relations appear as the dynamics of uncovering. It is Oedipus who signifies to us the essence of uncovering. He is the archetype of all philosophical, scientific and technological endeavors which seek to uncover the hidden and make everything available. Uncovering is the basic dynamic of all gestalts and it is from that dynamic that systems are projected. Systems are viewed by observers. Subjects and Systems are trapped in a relativistic embrace as

explicated by Jumarie in terms of the role of relativistic information. The observers uncover the dynamics of the system and attempt to understand it by moving up the epistemological framework of levels of system understanding and simulation leading to knowledge. Finally we see that there is the light which appears in the world. We think of manifestation in terms of light because it is in the light that we can see things clearly. But we also can recall the Chinese character for manifestation which shows light as golden threads between the sources and the things. Thus we can also see in the light these threads of fate that are woven within the clearing in Being. The Firsts are micro-emergent events that appear within the clearing in Being. They are the infinitely variable bits of dirt that make up the clay. But the clay is held together by the water of life and in this form as mud all the relations and configurations of the Firsts are formed. These relations and configurations are the woven pattern of the light. Through the light we see these relations and configurations of the particles of mud (Firsts). But also through that light we distance the phenomena viewing it thought the Cartesian window on the world that sees the world at an infinite distance. So light reveals but also distances. Light allows the observer to maintain his distance from the system. Light is an image of transcendence of the observer over the forms just as the forms transcend the patterns by writing boundaries that cut across the patterns. So we can see here that Light, Transcendence, Order, and Uncovering all play crucial roles in the dynamics of the clearing in Being.

But when we continue to look at the extended GST hierarchy we see that it not only embodies the Positive Fourfold but also embodies the negative fourfold. We can see the infinite unthinkable as an image of the Abyss. We can see the Finite unthinkable as the image of Night because it is the point where the intellectual light that understands things is put out because it cannot think a higher meta-level of learning. We can think of the Structure covering Process or Process covering Structure in infinite meta-levels of interference between the wings of structure and process as manifesting covering from the negative fourfold. Finally we can see the chiasms as the manifestation of chaos. It has already been established by the author in Software Engineering Foundations: Software Ontology that Chaos is the mathematical manifestation of Wild Being as Fuzzy Sets are the mathematical manifestation of Hyper Being or as Statistics is the mathematical manifestation of Process Being or as Calculus is the mathematical manifestation of Pure Presence Being. Thus the chiasms viewed internally are chaotic in the sense that they are completely made up of propensities or tendencies which are related to each other chaotically. These propensities and tendencies are the substrate of the Firsts which

are micro-emergent things. They could not be genuinely emergent and novel if they were not rooted in the propensities and tendencies of Wild Being. Thus all emergent events that can be called genuine must emerge from the chaotic sea of tendencies that pull in all directions and provide the skew that is given by the Norns to the karmic causation that they transfer from universe to universe. The Norns are visualized as being in endlesstime and so immune from the re-creation of the universe in each instant. Magicians are their image in-time which answers the question of the Buddhists how causation can move between moment universes. Within Magician systems the skew is added by mutations which well up from the field where individual Magicians or anti-Magicians are created randomly. So we must say that Magician systems are more like the Buddhist Karmic case than the Mythology of Norns in the Indo-European primal scene that posits an endless time substrata. However, it is clear that the concept of the Alaya Vijyana, storehouse consciousness, contains a hint that this endlesstime realm intersects with the in-time realm in the Buddhist model.

The Negative Fourfold embraces the Positive Fourfold in a tantric intertwining around the GST epistemological hierarchy. According to Aristophanes this negative fourfold has its own dynamism. Blackwinged Night impregnates Erebus (covering) to give rise to Eros. Eros impregnates Chaos in the Abyss to give rise to the Birds and then in turn give rise to the elements in the form of Sky, Earth, Ocean and Gods (Fire) which finally give rise to mankind. Note that the two impregnations occur diagonally across the Hyper Being and Wild Being divide. Eros as was discovered in the study The Fragmentation Of Being And The Path Beyond The Void is a manifestation of Aphrodite which has five faces which show her to be an archetype of the Autopoietic hyper-cyclic ring. Only one face appears at a time and in this case Aphrodite appears as Eros. Then Eros brings Chaos together with the Abyss to form the Birds. The Birds here are bragging that their creation was prior to the Gods against whom they are rebelling as they try to garner mans support in Aristophanes play. But for us the birds are the symbol of the autopoietic nodes that self-organize the autopoietic system under the control of the autopoietic hyper-cyclic ring (five Hsing). So we would easily relate the birds to the Magicians of the Magician meta-system. They are the in-time image of the karmic causality. As such we would see them as the nodes of the autopoietic system as it is seen as moving though discontinuous time. In The Fragementation of Being and the Path Beyond the Void a evidence for the relation in mythology between the birds and autopoietic nodes is given in terms of the interpretation of the myth of the Phoenix. In an earlier essay it was noted that these nodes are

quaternions embedded in social relations via the octave structure. These nodes write patterns and connect to produce network forms like Grenander's pattern generators with their bonds. Only here the bonds are seen as dynamic rather than static. The autopoietic nodes as quaternion Magicians within an octave framework produce the computational basis for continuity from discrete universe to universe that the autopoietic system is incarnated within. From this computational basis which models chaotic processes comes the possibility of modeling non-chaotic processes and from that the world as the positive fourfold appears. The positive fourfold is the world that opens out thought the positing of continuity. The negative fourfold is the image of the world shot thought with discontinuity. Mortals stand within the mirroring of the positive fourfold and orient themselves toward their own limits creating the image of the immortals. But more basic than the immortals are the Norns that weave fate and whose decisions even the Gods must abide by regardless of their pretense to omnipotence. The negative fourfold is produced by the positive fourfold as its opposite in order to induce inner continuity between discontinuous micro-universes by pushing the negative fourfold into the synergy of the Void so that its opposite the positive fourfold might pop up again in the next momentous arising of the universe. Since the interpenetrating heavens understood as the synergistic Void is pure what ever goes into them must come out again. It is thought that the positive and negative fourfolds act something like the soliton/anti-soliton pair which form a pulsating "breather" formation. This pulsating formation is synchronized with the pulsation of the creation and destruction of the universe. This is possible because of the epochal nature of creation. In an epoch the positive fourfold is produced which is then transformed into its opposite and pushed into the Void of the Heavens in its negative image. Then it unfolds within the successive universes as the seeds of that sacrifice fructify as the positive fourfold which repeats the process. The positive and negative fourfolds operate in relation to the creation and destruction phases of the universe. The destructive phase turns the negative fourfold image into the positive which then produces another negative image repeating the process over and over to produce continuity (anti-emergence).

From this theogony of Aristophanes interpreted metaphysically we see that there is an intimate connection between the autopoietic ring and the nodes of the autopoietic system which in relation to discontinuous time may be seen as Magician systems, the in-time image of the Norns. We can see this when we think about the Jing which hops like instantatons from acupuncture point to acupuncture point. It's course is controlled by the five Hsing, transformations of energy. This hyper-cycle guides the Jing energy to effect transformations in gross energy throughout the

body. What the Jing energy does in each case is eternally the same but timed by the hyper-cycle balancing with other transformations so as to preserve the life of the organism or maintain homeostasis.

The nodes of the autopoietic system must be seen in relation to underlying discontinuous time function as Magicians which preserve the autopoietic system across breaks in time. They karmically propagate the internal and circular causation of the autopoietic system which moves both directions around the autopoietic ring. It is the Negative Fourfold that gives us an insight into the discontinuous world that underlies the continuous world of the Positive Fourfold. This has been traditionally the realm of women in our culture and has been hidden across the ages and submerged as attention was focused only on the metaphysics of Ontological Monism, or as Michael Henry says Transcendence Grounding itself. The dark discontinuous world underneath the illusion of continuity of the bright clearing in Being appears when we focus of the proto-gestalt and the sources and see that the role of the Norns in endless time is mirrored by the Magicians within time. The Magicians are the form of the autopoietic nodes as they deal with the reality of discontinuous time against which they must attempt to preserve themselves by means of collusion as they propagate themselves across time by perfuming the seeds of the next moment by various side effects. Specifically this perfuming is done by producing the anti-magician and pushing it into the Void where due to the inherent synergy and purity the pure potential becomes the seed of a positive Magician in the next instant. The negative fourfold is the metaphysical precursor of the shadow of the Magician. So likewise the Magician/Anti-Magician pair is exploiting the cycles of creation and destruction and the Homeopathic relation which allows tinctures to have opposite effects to create inherent continuity in the face of radical discontinuity.

So the model we are constructing sees the Jing as jumping as a four dimensional soliton (an instantaton) between the nodes of the autopoietic system which strangely enough are arrayed on the surface of the autopoietic system. We can think of these nodes as super-breathers that is double soliton - double anti-soliton pairs. They are equivalent to quaternions which provide the simple twist of fate that skews the karmic causation as it is passed from moment to moment. Magicians are the view of the nodes from the point of view of discontinuous time. Since they are super-breathers they balance annihilation by interfering annihilation pairs. This is why the whole system is really merely an illusion held in existence by a hairs breath balancing act. The Jing that travels from node to node is nothing other than the

nodes themselves seen from another angle. The nodes are nothing other than knots in the Jing. The hypercycles are the automatic balancing that maintains the structure and prevents self-destruction. Because the nodes are Yang locuses of celestial causation they appear on the outside surface of the autopoietic unity NOT within it. What is within it across the boundary of No-where-ness are the Yin five Hsing that reflect the light of the source of the autopoietic unity. This same source can be seen as a passive receptor of the light from the Yang acupuncture points. The source is the unity that confers ordering on the autopoietic system via the action of the five Hsing. The source gathers the multiplicity of the autopoietic system together again. The Major Yang of the source shines light on the Minor Yin of the Hsing. The Minor Yang of the acupuncture points sheds light on the Major Yin. This circulation of the light allows the Water of life to flow through autopoietic system by a mirroring of the endless-time eternal recurrence of the Same. The set of nodes arises from the proto-gestalt to create the gestalt of the autopoietic system. Because of its tie to the proto-gestalt it can radically change its patterning and new systematic showing and hiding relations can arise to replace the old ones in an instant. The autopoietic system always points back to its origin in the proto-gestalt even as it mirrors the source of its formation that gives it the template for its organization and gives it access to interpenetration. The autopoietic system is immersed in discontinuous time and so it must act as a Magician system in order to produce seemingly continuous karmic causation from moment to moment in imitation of the fate dispensation of the Norns which the Magicians reflect in-time. So as we can see from this the autopoietic system in-time is completely intertwined with the constituents of the primal scene in endless-time. Both in-time and endless-time vanish in the emptiness of the out-of-time which points to the single source of all causation which has no opposite.

This image renders acupuncture theory comprehensible perhaps for the first time in hundreds of years. Acupuncture theory treats the human being as an autopoietic system. But that autopoietic system as it operates in time is intimately intertwined with the endless-time primal scene. The primal scene has different forms in different cultures. In Islam we speak of the Pen and the Tablet which is a transformation of the Well and the Tree. In the Chinese tradition they speak of Hun Tun or primary chaos out of which things spring. The different openings were drilled in Hun Tun's body and that killed him. From that beginning sprung the Yin and the Yang opposites in dual unfolding creation. Yin means the shadowy side of the hill where as Yang stands for the bright lighted side of the hill. But in actuality Yang means celestial causation and Yin is the terrestrial reception of that celestial causation.

Yin and Yang are the opposites that reflect the primal scene within the Chinese tradition. The combinations of yins and yangs produce the trigrams and the hexagrams which are the different possible qualitative states of a system as progressive bisection occurs through symmetry breaking. We have seen in an earlier essay in this series that this 2^n progression which is the wave view of the things is opposite the N^2 particle view of phenomena. There is a series of heuristic levels that unfold showing how things relate at varying levels of complexity. The difference of the Chinese system to the other systems that separate endlesstime and in-time is that the Chinese system sees the world as the Chiasm of these two rather than seeing the phases. Thus Hun Tun is not located in endlesstime and Yin and Yang are not located in endlesstime. But they are indicators of the primordial chiasm of endlesstime and the in-time. So acupuncture theory takes advantage of this and posits the view that the sources *are* the autopoietic system in a fundamental way without the discontinuity between endlesstime and in-time. This can be done because in the Chinese cosmology there is only Void and things. Things are their own sources. In effect they concentrate on the unity of things with their sources as they mirror each other in the out-of-time mirror.

As such acupuncture theory looks at the differentiation of the source into the autopoietic ring and the gathering of the autopoietic nodes into the source. The circulation of the water of life is for the Chinese system isomorphic with the circulation of the Jing. What we see is a lattice in which the constituents of the autopoietic system unfold out of the one as it arises from the Void and differentiate and then fold back into the one as it disappears back into the Void. The Hsing are yin in relation to the source but Yang in relation to the autopoietic system as the circulation of Jing. As yang differentiated sources they interact with the four elements to produce the twenty fundamental forms of interaction of Yin and Yang. These twenty sources appear embedded beyond mirroring and substitution within the I Ching hexagrams. They are the fundamental transformations within the social context of the autopoietic system. The autopoietic system is outwardly quaternionic and also its nodes are quaternionic so it has the same appearance outwardly and inwardly, socially and psychologically. This sociality of the nodes within and the outward sociality of the autopoietic systems between themselves sets up the transformations of the hexagrams. The hexagrams represent the $5d$ sextahedron that gives the degrees of freedom to the $4d$ pentahedron that define the hypercycle of the five Hsing. Within that nexus the twenty basic interactions are the what Grenander calls the bonds of the generators. The autopoietic nodes can have these twenty basic kinds of interactions. The nodes themselves are quaternions and

super-breathers. Here the through and the wave are basically two views of the same thing. But viewed in relation to discontinuous time the nodes are Magician systems moving through their lifecycle from instant to instant. We can see that the nodes are points of minor Yang or Yang in multiplicity. Each one is a fragment of the source. This is because the water of life is pouring thought these locuses. They radiate light which is reflected in the Major Yin aspect of the source. When the acupuncture needle goes in a pattern of these nodes it redistributes the Jing energy in the system and the system re-balances under the hyper-cycle of the autopoietic ring. That patterning is exactly parallel the laying down of fate in the endless time realm. That inscribing on the body is the reflection of the inscribing of fate in endless time. The body re-balances its energy pattern which has become out of balance due to perturbations to the autopoietic system. The balance of the body energies reflects the perfect balance of the source which is holoidal. The source is Yin in relation to the out of time single ultra-source of all causation while it is yang in relation to the autopoietic system. But in its yin aspect it gathers the light of the autopoietic nodes and brings unity to differentiation just as the source in its yang aspect brought differentiation out of unity.

This view of the autopoietic organism is very elegant and sophisticated. It is dependent on many assumptions that are opposite those of western science. For instance, it assumes a celestial realm where interpenetration occurs not just differentiated entities within a spacetime/timespace Matrix. It assumes subtle energies. It assumes a single source for all causation and subsidiary sources that from one aspect exist and from another aspect do not exist mediating between oneness and the creature. It assumes the ultimate closure of the organism. It assumes the existence of hyper-cycles and autopoietic nodes that exist in a subtle realm of energies and their balancing. It looks at existence in a completely different manner than western science which sees phenomena as expressions of harmony instead of as physical and chemical processes of matter.

But this subtle science has a depth which inspires awe. It is a result of a high civilization which like the Islamic empire was destroyed by the West because it could not maintain balance in the face of the extremely out of balance dynamism of Western Imperialism leveraged by external technology. But the West is starting to become somewhat less crude in their view of the world and theories like Maturana and Varela's theory of autopoiesis are beginning to be formed that have resonances with the Chinese science. We have a long way to go before we can actually derive the acupuncture therapies again from acupuncture theory. Acupuncture is basically

a lost science which is being carried on by technicians who do not know how to derive the theory anymore. What is amazing is that we have most of this lost science in tact as a practice so that we know the theory and we know how the practice works. But the equivalent of physicists that produced the theory in the first place no longer exist. It is a machine that works but no one knows why or how. Now with the combination of autopoietic theory and following the assumptions of the Chinese themselves we are starting to get glimpses of how this ancient science's theory operated. And it is revealing startling things about the world such as the existence of sources, of the proto-gestalt, of karmic causality. The fundamental discreteness of the universe is well known from the quantum theory. But we cover over that with the Copenhagen Interpretation that says that the discreteness only occurs at the micro level. We have already seen how Jahn and Dunne have posited macro-quantum effects and postulated that consciousness has a similar form to the quantum form of the atom. The Chinese science lived comfortably in a macro-quantum world. They did not block out the macro-quantum effects. But to them the macro-quantum world was not just quantitative but also qualitative with the hexagrams describing the possible quantitative combinations. We posit that all these structures that we have posited appear because of macro-quantum effects. These effects can approach perfect configurations that embody the structure of emergence. So we get the rare occurrence of configurations that approach the perfection of perpetual motion machines within the four dimensional Matrix of spacetime/timespace. All other configurations must be judged in relation to these rare perfect configurations of quality and quantity. In the case of the autopoietic system the nodes approximate quaternions and super-breathers. These two formulations show us the trough and the energy flowing in solitonic waves through the trough as a single formation. There is a chiasmic relation between the energy flowing, Chi, and the patterning of the place within which it flows, Li. There is a chiasmic relation between the nodes as discrete locuses of manifestation and the Jing energy that jumps from node to node. The super-breathers pulsate setting up the instantaton waves in motion. The quaternions twist to give the rotations that make it possible for four dimensional perpetual motion machines to project images of themselves. The hyper-cycle provides the balancing of the energy flowing through the nodes. And as the hyper cycle interacts with the four elements it provides the bonds through which the autopoietic nodes exchange energy and information about themselves. These nodes can be viewed as socializing within the autopoietic system forming a society of mind or we can see the socialization among the autopoietic systems. The inside of these systems reflect the outside. But as the nodes operate within discretized time they appear in the guise of Magician systems

which collude socially to produce the seeds that will fructify in the next moment. All this because annihilation is the substrata on which these systems are built as momentary illusions over the face of the Void. The whole structure is annihilated in each moment but not before it influences the next moment. Like in Bells theorem two things that were together once can continue to influence things over long distances. So each momentary universe arises from the same proto-gestalt and so they all have the ability to mutually influence each other passing on the perfumings of causation from moment to moment. That active influence between momentary universes appears within the context of the holographic interpenetration of things through their sources as mediated by reflexive autopoietic systems.

The Chinese worldview was built on the Void. We have assumed as they do there is only the Void and existents. We have assumed as they did that Being is an illusion within an illusion only projected by the Indo-european worldview. The full implications of this are explored in The Fragmentation Of Being And The Path Beyond The Void. But we can say that it is necessary to deconstruct the worldview based on Being to see the world that Chinese science addresses. With this in mind the following dialogue is presented as an indication of the way toward the Void from within the Western worldview.

13. An unlikely dialogue between Milrepa and Parmenides.

When we place the minimal annihilation mosaic in the context of Ontology then we get some interesting formations alluded to in this dialogue between the Buddhist Milrepa and the Greek presocratic Parmenides.

Milrepa is sitting meditating and having a particularly hard time concentrating when up walks a foreigner? Its Parmenides from Greece and he has come a long way. He has the signs of travel from a long journey on him.

Parmenides: Howdy! I'm here to disprove the existence of Emptiness!

Milrepa: Huh?

Parmenides: Is that any kind of answer from a world famous Guru sitting at the top of a mountain?

Milrepa: I'm having a bad day. It is hard to be insightful all the time. Everyone expects miracles all the time.

Parmenides: You ARE Milrepa, aren't you?

Milrepa: Would just anyone be sitting out here in the cold meditating like this?

Parmenides: Just checking. I heard you guys believed in something called EMPTINESS out here and I've come to set you straight.

Milrepa: Oh. Maybe this won't turn out to be such a bad day after all. By all means sit down and set me straight.

Parmenides: Thanks for the invite. It HAS been a long journey. It's hard having to go all over the world straitening people out. But some one has to do it.

Milrepa: Where do you come from?

Parmenides: Greece.

Milrepa: Never heard of it. Is that near Delhi?

Parmenides: Well . . . Kinda. It's kinda hard to explain how I got here. Could we just jump right in to the business at hand? I've got a lot more stops to make.

Milrepa: Sure. Shoot.

Parmenides: Well its like this. I had this vision see. And this Goddess came to me and clued me in on some secrets about the universe and I wrote it all down in this poem for you and others who need to know this kind of thing. Would you like to see the poem.

Milrepa. Looks like Greek to me. Maybe you could just tell me it?

Parmenides: Well. I guess. Uh. Don't know quite where to start.

Milrepa: Try beginning with this vision of yours.

Parmenides: Oh good idea. Well I got into this chariot and I went up into the heavens and met this Goddess, whose name I don't really know at a big door. . .

Milrepa: A big door in the heavens?

Parmenides: That's right you seen it too? Anyway this Goddess clued me in see. She said there were only three paths. Let's see. They were BEING, ILLUSION, and NON-BEING. BEING is the only true path. Illusion is kinda a path but not one you want to take. And NON-BEING is a non-path so we don't have to worry about that. So really she was saying there was only one path -- the path of BEING. When I told everyone back home about it they all said Yea. Great stuff. We'll all take that path and see where is leads. Everyone got together and we started building a thing called a worldview all based on BEING. We got rid of everything that even looked a little bit illusory and we refused to have anything to do with anything that was associated with NON-BEING. Things have been going pretty good since then. Everyone agrees that What "IS" is and what "ISN'T" isn't and everything in the middle isn't worth much. And once everyone got the idea things have been going pretty well.

Milrepa: Well that's quite a story. If things are going so well why did you come all the way out here?

Parmenides: Well I heard you folks were developing some strange ideas that might conflict with our project of worldbuilding some day. So I thought I'd come out here and set you folks straight before things got out of hand. I heard that you folks were talking about something called "EMPTINESS" and that sounds an awful lot like

NON-BEING. Now it would be a bit embarrassing for me if everyone thought EMPTINESS were real and they got off track back home. No telling where that might lead. So why don't we just sort this thing out right here and now so we don't have to worry about things in the future. I mean we've got a good thing going, why rock the boat.

Milrepa: What do you get out of all this?

Parmenides: What do you mean?

Milrepa: Sure a long way to go to aVoid something that may not happen for a couple thousand years or so.

Parmenides: You've got to take the long perspective. I want to build a worldview that will last. We Greeks believe in building things to last. Look at our temples. We even write things down to pass them on just so no one will forget what we have done.

Milrepa: Its all I can do to get from instant to instant. I have been spending all my effort to wipe away Karmic attachments and you tell me you are trying to leave an indelible mark on existence. I think we might have conflicting goals.

Parmenides: Well where did you get this dang fool idea about EMPTINESS any who.

Milrepa: Well you see there was this prince called Sidhartha. He led kinda sheltered life. His father didn't want him to know what things were really like. He never saw anyone poor or sick or dead in his whole life. But one day he was out in a carriage and he went buy some of his father's subjects who were poor, others who were sick, and even one who was dead. That was kinda a shock to him so he gave up his palace and everything and tried to learn what life was really all about. He went from one extreme to the other. Next thing you know he was wandering around in the forests talking to all the Hindu ascetics and becoming an ascetic himself trying his hardest to figure out what existence was really all about. However, it was a real problem. You see we have been in the same boat as you folks for a long time. Everyone was sure that everything was permeated by something called SAT. It is a word in Sanskrit that kinda covers everything. It sounds like something similar to your BEING. Everything other than SAT was MAYA or illusion. So everyone was trying their darndist to realize pure SAT that we call COSMIC CONSCIOUSNESS or Brahman. It was a head long race to become ONE with everything through identifying with the SAT in everything. And it was a lot of work. But the Buddha kept trying to get there along with everyone else.

Parmenides: You guys sure do a lot of work with this Asceticism stuff. Why don't you just act natural like us and talk about what everyone sees and thinks. Why do you keep pushing yourself so hard?

Milrepa: Well I guess that was a problem. Everyone was working so hard to out do each other with their ascetic regimes that it became very exhausting. So the Buddha decided to take a rest. He sat down under a Bodhi tree and BOOM it hit him like a flash. Everyone had to work so hard to achieve SAT because it didn't really exist. He realized in a flash that SAT was a kind of meta- illusion and we all thought it was real because we had all agreed it was real and not because anything was actually there. He called the illusory nature of SAT Emptiness. He started teaching everyone about that and it was like a revelation. We call that enlightened Prince the Buddha. He was the first one to realize perfect knowledge of the middle way. We were all trying to achieve something that did not exist anyway, we had all just talked ourselves into thinking it existed as a community. In fact it sounds like you folks are in a similar boat. Maybe you should find out something about Buddhism.

Parmenides: Hey. Wait a minute. I came here to clue you guys in. If I go home and tell everyone I just had a fantasy and it was a big mistake or something they wouldn't like it. Anyway how do you know I made a mistake. Maybe this EMPTINESS of yours is an illusion. It sounds kinda ephemeral.

Milrepa: Well that could be. But I did some investigation on my own and I think I have some good reason to think that SAT / BEING is an illusion and that Emptiness something else.

Parmenides: What did you find out? Could you clue me in?

Milrepa: Well I live in Tibet and it is easy for me to go over the mountains into China. No one knows that that country exists but me. But it is a country over there just as big or bigger than India. I learned to speak the language and I asked them about SAT. They said they didn't have any word for SAT in their language. For them it was as if SAT did not exist. They had nothing in their language that corresponded to SAT. I poked around a bit and found out that they actually had lots of Languages. And most of them didn't have anything like SAT. But there were a few languages that did have something like SAT but because the official language didn't have it the equivalents to SAT these equivalents when they did occur didn't have much of a role in Chinese culture. That was strange because in India it seems like everything revolves around SAT. That made me start doubting that SAT was real. I mean if it appears in some languages and not in others then how can it be something really basic.

Parmenides: Are you telling me that BEING is just an artifact of my language that I have blown up and projected on the world.

Milrepa: Well that is one way of putting it.

Parmenides: Hmmm. I never thought of that.

Milrepa: Anyway that is what got me thinking the Buddha might be on to something.

Parmenides: But Emptiness is such a slippery concept. I heard someone say that emptiness was empty or something weird like that.

Milrepa: Well Emptiness has to be structured in a very specific way to counteract the meta-illusion of Being/SAT. First of all Being/SAT covers everything. It is a bit hard to say something else that covers everything. In fact for a long time we thought there could only be one concept that covered everything. That is what made SAT so unique. But that is where the Buddha's cleverness really shown through. He reasoned that the real problem with SAT was exactly that it was a concept. He realized that Being's only flaw ("Achilles heel" Parmenides interjected, Milrepa looked at him strangely) was its conceptual nature. So he invented the first non-concept to cover everything. He had studied homeopathy when he was young. He knew that if you took something that caused a disease and made it infinitesimal through dilution and agitation then it would cause the opposite effect and would cancel the disease that had symptoms similar to those caused by its gross form. The tincture of Being is Emptiness. The symptoms of Being are Clinging and Craving and lostness in illusion. One dose of Emptiness and those symptoms disappear. Emptiness started out as a concept. It was the concept of a lack of Being but through the process of agitation and trituration it became a non-concept that had all the opposite qualities of Being and actually annihilates the miasma of Being. That process of agitation is the destruction of the conceptual structure of Being. Watch out you don't get caught up in that. It is something that happens in these parts.

Parmenides: I don't understand this concept of a homeopathic cure for Being.

Milrepa: It is very simple. Lets take the concept of Tropes. Do you know what they are?

Parmenides: Aren't those METAPHOR, METONYMY, IRONY and SYNECDOCHE?

Milrepa: Yes. Now metonymy is the withdrawal of BEING and irony is the negation of BEING. You put these together at the same time and you get SYNECDOCHE. So Synecdoche is the anti-non-metaphor.

To get emptiness you must start with BEING or SAT. You withdraw SAT and what do you have?

Parmenides: Well lets see. BEING is presencing or ALETHEIA (uncovering).

Milrepa: Oh isn't that interesting. You see Being as an UN-COVERING a withdrawal of covering.

Parmenides: Oh. I never thought of that. You are right.

Milrepa: Well lets begin with covering. A-letheia is a withdrawal of covering. If we see that in reverse we realize that BEING withdrawn is the production of an

illusion. That is METONYMY. Non-Being is a negation of Being. That is an IRONY.

Parmenides: Hey that's the two paths mentioned by the goddess. She mentioned ILLUSION and NON-BEING. She didn't say what relation they had to each other. Just that one path was to be aVoided and the other one was not really a path.

Milrepa: A non-path path? What was this goddesses name anyway?

Parmenides: Well she really didn't say. I called her Peithia because I was persuaded by her story.

Milrepa: Anyway if we take metaphor and metonymy at the same time what do we get?

Parmenides: Oh I have no problem playing this kind of game. I would call the combination of the two NOTHINGNESS, it is the combination of ILLUSION and NON-BEING.

Milrepa: Quite right. I can understand that. So there is really another path that your goddess didn't mention. By the way have you ever met her since?

Parmenides: Well how many visions like that do you think one man can take?

Milrepa: She didn't tell you the whole story the first time. So I thought she might have come around again to finish the job.

Parmenides: Do you think she was keeping something from me?

Milrepa: Let's just say that if you meet stray goddesses by doorways in the sky the best thing is to ask them their name just in case you have some questions later.

Parmenides: I'll try to remember that.

Milrepa: Never mind. Lets carry on working on trying to derive Emptiness. We now have four paths: BEING, ILLUSION, NON-BEING, and NOTHINGNESS laid out in a square of contraries and contradictions. That kinda covers all the bases don't you think?

Parmenides: Well it is sorta hard to think how you are going to get anywhere else from there? It seems like a complete ordering to me?

Milrepa: ILLUSION and NON-BEING are contradictions. BEING and NOTHINGNESS are also contradictions. BEING AND ILLUSION are contraries. BEING and NON-BEING are also contraries. Likewise NOTHINGNESS has the same contraries as BEING.

Parmenides: I understand that. I taught logic to undergraduates.

Milrepa: Ok. Well what's missing?

Parmenides: What do you mean "What's missing?" NOTHING is missing. It is a complete ordering.

Milrepa: That's right nothing IS missing.

Parmenides: Say that again.

Milrepa: There is a hole. It is in the middle of the square of contraries and contradictories. That hole is nothing.

Parmenides: Oh. I didn't think of the hole. Well I guess you are right. But actually there is nothing there.

Milrepa: But does that make it any less a part of the square?

Parmenides: OK! There is a hole I admit it. If there was no hole then there could be no square.

Milrepa: You are doing quite well you know.

Parmenides: What do you mean.

Milrepa: I mean you are starting to learn something and I can tell you are beginning to enjoy it. I thought you came here for a fight and look we've started dancing.

Parmenides: Ok. Ok. Let's get on with it. I still have a long way to go to get home.

Milrepa: Ok. So we all recognized the hole. And the hole is just as real as the square. In fact the square could not exist without the hole. In fact without the hole we could not distinguish BEING from its contraries and contradictory.

Parmenides: Granted. But I did not come here to talk about holes.

Milrepa: Ok. Now that we have established the existence of the hole and that the hole is as real as the square. Now let's see if we can derive emptiness. Emptiness is more than nothing. Lets think about it together.

Parmenides: This is your show. I just came all this way to ask some questions, it appears. I thought I was going to be the center of attention. But all I can do is play the part of the skeptic. Not much fun for me. At home I'm the center of attention. In fact they've built a whole worldview around my vision -- you know the one you are destroying right here on this mountain top. But I am safe as long as you don't derive Emptiness from the square with the hole in it. I can go home and tell them all I discovered another path not worth going down -- You know the path of NOTHINGNESS.

Milrepa: You could leave now and you would not have to find out if your whole theory bites the dust.

Parmenides: Well. Actually I would really like to know if it is true or not. I mean I started having these visions because of my seeking after the truth. If I turn back now I will have betrayed my inner most self. I think I would rather know the truth than be right. And that is a hard thing for me to say because basically I've got it made. How many people you know have a whole worldview named after them.

Milrepa: You know I can identify with what you have just said. I had a teacher once. When I first started out on the path. He told me to build a castle. He pointed

out where he wanted it. I worked very hard and made it all very nice for him. When I showed it to him he said it was very nice but in slightly the wrong position. He asked me to tear it down and move it somewhere else. So I tore it down and rebuilt it there. Again the same thing happened. In fact I built that castle many times over, here there and everywhere until I collapsed in exhaustion. My teacher just kept having me move it everytime I built it. But all through that I really only wanted to please my teacher. And finally I learned that he was trying to teach me something about my self. That where ever I built it there would be something wrong. And that learning meant continually starting over again realizing ones own faults and ignorance. I could never know what was in the mind of my teacher and every castle had flaws.

Parmenides: Well the castle we are building back home is big enough to contain the whole world because it is all built out of ideas. It is easy to move around because it is just in every bodies heads. And it gives us a LOT of control over things which is what we like. But I am just a bit worried that it might obscure our vision of how things really are just a tad. But I am sure that problem can be corrected over time.

Milrepa: I hope so for all our sakes. But it is my experience with illusions that they are just a little addictive and as you get hooked on them it is harder and harder to see beyond them. There are just too many corrections to apply all the time.

Parmenides: I hope you are wrong. But we've got plenty of time to find out. We are in this for the long haul. Now that we have discovered Being and founded a new era with no Gods, Myth, or Poetry, and all that hokey stuff I think we are on to something BIG.

Milrepa: I thought it was a Goddess that told you all this.

Parmenides: Uh . . . Well that is just a way of speaking. We are all rationalists now. We have reasons for everything we do.

Milrepa: Sounds wonderful. Maybe we should get on with our thinking along together. Are you with me?

Parmenides: Well. With some trepidation. Well . . . Yes. Let's go.

Milrepa: Well then you tell me. Where is the emptiness?

Parmenides: You're asking me? Are you kidding. You want me to tear down my own creation.

Milrepa: Well remember my teacher? He made me tear down my own constructions over and over.

Parmenides: OK. I guess I'll think about it. But don't expect much.

Milrepa: At least you are trying. That is what counts.

Parmenides: Now lets see. There can't be anything outside the square, right?

Milrepa: I think that is right. It covers all the bases, like we said.

Parmenides: And it is not any of the corners of the square because each of those are really very definite concepts, right.

Milrepa: I can follow that.

Parmenides: And we have established that the square has NOTHING inside of it. And that the NOTHING is just as real as the square because if the hole was not there then there would be no square.

Milrepa: Yep that is as far as we got, the first time around.

Parmenides: I give up. We have accounted for all the elements of the square and even the hole in the middle. I don't see any other possibilities.

Milrepa: You sure give up easily.

Parmenides: If you were going to lose the glory of your place in history you would have a difficult time thinking of ways to make it happen faster too, I reckon.

Milrepa: Ok. At least you tried. Even if it was a token effort. It at least make me feel like we are in this together.

Parmenides: I said that down deep I wanted to know the truth. I didn't say I wanted to root out the truth that might pull me down into the forgetfulness of oblivion. We had a King called Oedipus that wanted to know the truth too bad once and it got him in one heck of a lot of trouble. We Greeks recognize the truth when it comes our way but we don't go out turning every stone upside down looking for it overly excessively.

Milrepa: Well I guess that makes sense. Let's consider the square again. We said that Being and Nothingness were contradictories. What happens if we force them together so they coincide.

Parmenides: The whole point of the square is to keep them apart.

Milrepa: But can we really tell them apart? Being and Nothingness might change places and we would never know.

Parmenides: But I know what Being is because I talked to the Goddess and she told me. BEING IS WHAT IS.

Milrepa: That sounds a bit redundant. Is there any other way of saying that without repeating yourself.

Parmenides: No.

Milrepa: That leads me to be suspicious.

Parmenides: Why

Milrepa: Because I am not sure you are saying anything. Sounds like a tautology.

Parmenides: It is not a tautology because in the process of becoming identical it must move through a phase of difference.

Milrepa: What is that phase of difference?

Parmenides: Well now that you mention it I think it might be NOTHINGNESS.

Milrepa: That makes sense. But does that mean you really have two kinds of Being?

Parmenides: Well I never thought about that before. But you might be right. There is BEING which is frozen and changeless that my Goddess taught me about. But she forgot to teach me about NOTHINGNESS. I suppose that when I say that IS is that I am moving through NOTHINGNESS back to BEING in order to return and reaffirm the SAME.

Milrepa: Well which kind of BEING (frozen block or mixed with difference) are we talking about here?

Parmenides: Well it depends on your point of view. NOTHINGNESS could appear to be the OTHER of FROZEN BEING from one point of view. Or from another point of view NOTHINGNESS could be a PROCESS KIND OF BEING and the FROZEN KIND OF BEING could be like a NOTHINGNESS. That is to say the FROZEN KIND OF BEING is a kind of DEATH which the PROCESS kind of BEING slides into at the end of its round of processing. This is kinda confusing but I can see that there are really four things in these contraries that appear depending on your point of view. There is STATIC FROZEN BEING and its opposite NOTHINGNESS. There is DYNAMIC PROCESS BEING and its opposite DEATH IN STASIS. Now if these four elements as part of the contradictories were brought together what would happen?

Milrepa: Please tell me. You are the philosopher here.

Parmenides: Well let's see. I guess NOTHINGNESS AND PROCESS BEING are really two ways of looking at the same thing. STATIC FROZEN BEING and DEATH IN STASIS are really two ways of looking at the same thing. This means we do not just have a square but we have viewpoints on the square as well. Things are starting to get complicated.

Milrepa: Things usually do if you fret with them long enough.

Parmenides: Well lets look at it this way. Say that STATIC FROZEN BEING has DEATH IN STASIS inside of it. We can say that cause we know that if STATIC BEING is separate from time which causes ILLUSION then it is like a kind of DEATH IN STASIS. And say that PROCESS BEING has NOTHINGNESS inside of it. We can say that because PROCESS BEING has to pass through NOTHINGNESS as pure Otherness in order for BEING to become the SAME with itself. So what happens when what is inside becomes identical with what is outside. Well PROCESS BEING cancels with NOTHINGNESS and TIMELESS BEING evaporates into DEATH IN STASIS. This is like our two viewpoints collapsing into each other.

Milrepa: That all sounds very strange. But let us suppose that occurred. What would happen next?

Parmenides: Well this is like the self-destruction of the two antitheses. PROCESS BEING would stop because it would have become identified with pure Otherness. It could no longer be the link for the Eternal Return of STATIC to itself. And if Timeless STATIC BEING became identical with DEATH IN STASIS then mortality and immortality would have intersected. In our tradition we have heroes who are born of mortals and immortals and like Achilles they always die. So I think that probably bodes ill for any identification of DEATH and STATIC BEING. Sounds like another self-destruction. I think this means that if we try to bring the two contradictories of the square into proximity we discover that there are really two viewpoints on them which are being made to coincide and this causes the contradictories to self destruct before they ever can actually be forced into proximity.

Milrepa: Well that is interesting. That means the self destruction did not come from the opposite contradictory but from within each of the two contradictories. But what were those two viewpoints that turned up.

Parmenides: Must be the difference between the viewpoints of gods and men. The whole thing sounds a bit like my meeting with the unknown goddess. She told me that everything was FROZEN STATIC BEING. That must have been her viewpoint since everything to me looks like it is in the Process of Manifestation. But to her perhaps things are STATIC. Maybe she is seeing the world multidimensionally somehow so that what looks like it is moving to me is still to her. On my side I see immortality as the challenge of my own death and from her side she perhaps saw Time as Nothingness in the heart of manifestation. This would explain why Death is inside of FROZEN BEING and Nothingness is inside Manifestation. I had to leave the earth and go into the heavens to see the goddess. So at that doorway Heaven, Earth, Mortal, and Immortal met. I think we might call this the Fourfold basis of the World. A great door way whose basis is the Earth and whose lentil is the Heaven at which Mortal and Immortal meet. I see the world as a process of manifestation in which difference is constantly overcome by our will to power. The most different thing is the realm of the gods. So within process is a drop of pure difference. The goddess sees a static kind of Being within which death is embedded. The goddess sees a static kind of Being but within that she sees our difference from her which is Death. So suddenly I understand better my meeting with the goddess. That door was the point of mutual mirroring of the Fourfold. It was the point where the reversibility between the viewpoint of the gods and the viewpoint of men appears in existence. If we take the Death within Static Being and the Nothingness within manifestation and make them identical within each viewpoint then it is like collapsing the viewpoints together and

it is like annihilation of the two contraries without their ever touching. In other words the Fourfold basis of the world collapses.

Milrepa: Frightening.

Parmenides: Yes but look how sublime our conceptual model has become. We have posited a square of contraries and contradictories with a hole in it. Then we asked what would happen if we made the contradictories come together. We said that was impossible from the beginning and it has turned out to be true. It is impossible to make them come together because if you try they self-destruct from the identification of the kernel of the other within each and what really collapses is the viewpoints of the mortal and immortal.

Milrepa: So where are we now:

Parmenides: Well the world has started to collapse. But only one set of contradictories has annihilated. Let us look at the remaining set: ILLUSION and NON-BEING. These are more difficult to think about.

Milrepa: How shall we begin?

Parmenides: Well one thing we discovered in the collapse of the other set of contraries was that there were really two kinds of Being: STATIC FROZEN BEING and manifestation as BEING MIXED WITH TIME. Now when we think about it these two contraries only existed to keep apart the ones that just canceled. Now if Process Being and Static Being can cancel like that and something still exists that means that there must be other kinds of Being besides those two. So that means that what we are dealing with here is some kind of progression. Now when we realized that there was a difference between STATIC BEING and MANIFESTATION then the viewpoints of mortals and immortals appeared. Death appeared in the midst of the way the world was from the point of view of the Goddess and Nothingness appeared at the Heart of Manifestation. These viewpoints collapsed instead of the actual contraries coming together and the kernels in the centers of the contradictories annihilated with the external aspect of the contradictories. All very complicated but at the same time elegant.

Milrepa: Yes.

Parmenides: So now I propose we look for further kinds of Being to appear as the square self-destructs.

Milrepa: Ok. I'm with you.

Parmenides: Well we can say that the self-destruction itself is different from the two kinds of Being that Self-destructed. That is fairly obvious. Let's call that kind of being BEING CANCELED. It is a pretty strange kind of catastrophe. It is a catastrophe that effects everything all the time. It is a continual catastrophe that is always possible at the heart of things. We would expect it to take down ILLUSION

and NON-BEING with it because they were just there as a means of distinguishing FROZEN BEING and NOTHINGNESS or DEATH and PROCESS BEING. ILLUSION and NON-BEING might be expected to have something to do with the other part of the fourfold. The fourfold is comprised traditionally of Heaven, Earth, Mortals and Immortals back where I come from. We have seen the two viewpoints of mortality and immortality collapse together in the first part of the catastrophe. Now I suppose Heaven and Earth are going to cease to be distinguishable. And you know in our tradition heaven and earth arise from Chaos. And Chaos is almost identical with NON-BEING in our tradition. So I am starting to see heaven and earth collapsing back into Chaos and I am thinking that Illusion might just evaporate. That gives me the willies because it makes me think that perhaps we were producing that illusion as a side effect of creating the House of Being. Certainly if NON-BEING submerges back into CHAOS then ILLUSION will not be sustained. But as the boat capsizes I get a vision. I get the vision of CHAOTIC ILLUSION. Maybe this is a fourth kind of Being beyond cancellation. It is the moment at which the illusion evaporates and heaven and earth sink back into chaos. It is just a moment. I can barely glimpse it. But I think it might be there. After that there is only the unthinkable. It has to be unthinkable because the goddess told us that NON-BEING was a path we could not take. We cannot go into the CHAOS and live. And sadly we cannot live without the illusions we have spun concerning the world. Now we are left high and dry. Nothing but the wreckage of a worldview at our feet. And history will forget my name.

Milrepa:

Parmenides: What can I do?

Milrepa: We didn't identify the emptiness yet. Where does the emptiness appear in your collapsing house of Being.

Parmenides: Well now that I understand how fragile the whole thing is I realize that it was all empty from the beginning.

Milrepa: Yes but where was emptiness in your conceptual model.

Parmenides: Clearly it is at the center of the vortex of canceling contradictories.

Milrepa: What is it like there?

Parmenides: Very still. It is like the center of a hurricane.

Milrepa: I think you have realized something very significant.

Parmenides: Perhaps but it spells defeat.

Milrepa: How so?

Parmenides: My glory was based on the structure of the House of Being lasting forever. Now there is nothing.

Milrepa: Exactly! But that nothing is not merely a missing element in your conceptual scheme, or a hole in the center of a perfect conceptual scheme, or the inability for anything in your scheme to move, or the inability for contradictories to collapse together, or . . . That emptiness is something that tells you something about YOU and YOUR project. Your project is empty. It will collapse and suffering is inevitable if you are living.

Parmenides: Oh.

Milrepa: Emptiness has a specific place. It is at the center of the vortex of annihilating contradictories. That place is really nowhere. You cannot find it like you can the hole in the center where the nothing lived. But it is a palpable presence underlying the whole scheme. It is the presence of an impossibility. It is the lurking haunting hint of an unthinkable state of affairs.

Parmenides: This is not why I came here.

Milrepa: We often get more than we bargain for. Sometimes as in this case LESS. But you came for victory and you found that there was no one here to fight. You are the one who discovered how to deconstruct your own scheme. Not me. I was just sitting here. You disproved your self. You have no one to blame but your self. And that self does not exist to be blamed. If you had been content with your victories at home none of this would have happened.

Parmenides: But what do I do now.

Milrepa: Build new castles else where and then tear them down again. Emptiness must be realized always anew. It cannot be captured in any conceptual schema. We build conceptual schema only to indicate it and since it always slips away we have to keep building new ones continually. You see WE ARE that square you built as the House of Being. The conceptual schemas are the frozen and static structures. The process of building them is the process of manifestation. When they collapse this is cancellation. And at the heart of the project is a glimpse of new creations or flaws in our construction which we can only see if we engage on the project of building and destroying to rebuild. But the entire project is empty. And if we become unattached to it we live in that emptiness instead of half built or half unbuilt illusory buildings.

Parmenides: I see that. I thought I was building a worldview forever. I forgot myself in that project. When I remembered myself the project vanished. The self I remembered was completely empty. It was the center of the vortex of building and unbuilding. It was defined by the vortex but if you took away the vortex then nothing would be there.

Milrepa: You got the message. What are you going to do now?

Parmenides: I hear there is work world building in Persia. Maybe I'll check things out there. The world construction business seems to be booming these days.

Milrepa: If I was here I would say good bye.

Parmenides: Since I never arrived I will continue my travels.

Milrepa: Illusions, they come and they go.

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