

# Emergent Meta-systems and Nondual Science

## *Dynamics of the Special Systems and the production of Gaia*

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### **From Special Systems to Emergent Meta-systems**

We have explored the mathematical analogies behind Special Systems Theory and how they fit together and each tell us something different about the nature of the Special Systems. But this is not the end of the story. There is also another level in which the Special Systems cooperate with the normal system to produce a meta-level phenomenon called the Emergent Meta-system. With each property lost there is a relaxation of the system thorough stages of partial system and partial meta-system until the background energy of the meta-system is reached. Each stage of relaxation causes new properties to arise, and this produces a cycle. That cycle is called the Emergent Meta-system. It is has already been partially

described in conjunction with the example of the game of Go. In this cycle there are seeds in a pod that are associated with the system, which then through a creation operator give rise to monads in a swarm. Through a mutual operation operator these generate the viewpoints in a constellation. Then through a schematization operator these produce candidates in a slate. Then through an annihilation operator these in turn produce the seeds in a pod. This is an extension of the theory of magicians articulated by Ben Goertzel in Chaotic Logic. Seeds pods exist in a real space. Monads in swarms exist in a complex space. Viewpoints in a constellation exist in a quaternion space. Candidates in a pod exist in an octonion space. When the candidates annihilate with each other then they become seeds in a sedenion space. Sedenions have pockets of each higher type of algebra including the real, and with the appearance of a pocket of the real then we are off in the same cycle again. The key to the emergent meta-system is that things pop out of the void or emptiness, so called ex nihilo, i.e. out of nothing, like the Origin of Order described by Stuart Kauffman. The fact that it describes a cycle of creation and destruction popping out of the void/emptiness and returning to it is what makes the Emergent Meta-system (EMS) interesting, even exciting. It is driven by the relaxation away from the oddity of anomaly toward the background energy. So energy bound in the void/emptiness of the background is released by the emergence of the successive stages of the unfolding of the Special systems one by one with respect to some situation. That energy is always there because the sedenion has pockets of octonion, quaternion, complex and real numbers. So it spontaneously forms a background energy that is expended by bring together other things into existence. That goes through set phases all defined by a different regime of conjunction. The set phases look a lot like the natural sequence from seeds, to leaves, to flowers to fruits and back to seeds that nature employs in large part. So we hypothesize that the pulse of nature itself is the

flow of the EMS phases. But that pulse creates order out of nothing as Stuart Kauffman suggests. There is another EMS that is called Autogenesis that bootstraps the EMS into existence which then gives rise to the separate special systems that then gives rise to systems and meta-systems in the same breath. The EMS is based on the fact that within the void/emptiness order is inscribed that overflows into Autogenesis, then the EMS proper and then the Special Systems, and the duality between the System and Meta-system. Creation *ex nihilo* which so abhors Western philosophical sensibilities is the way that things come into existence, and when they go out of existence they return to the void/emptiness. Things are continually popping out of the void/emptiness and then after a while returning to the void/emptiness. Since this happens in duals but the duals are slightly asymmetrical then this leads to the vision of existence as annihilation mosaics. That is where each annihilation has a side effect creating new pairs of objects which in turn annihilate with their own side effects. If there is a cycle in such a series of annihilation products, i.e. if it follows Aczel's non-well-founded set paradigm then we would get cycles and then things would look stable in spite of the fact they are continually annihilating. Annihilation mosaics gives us a vision of how things can be continually annihilated yet stable at the same time seeming to persist as if they had Being. The annihilation mosaic view of things offers a vision of existence, while the persistence view offers a vision of Being. Annihilation mosaics give us both at the same time, i.e. something else besides empty or void existence and Being, which is a kind of tainted or impure existence where the void/emptiness contains the seeds of the next karmic cycle as an impurity. The emergent meta-system is a detailed and specific model of Karma as a causal configuration. The EMS is merely a conjunction of separate moments of the special systems with the normal system. When these are conjuncted then you get a meta-system. A meta-system is no more than a conjunction of

the special systems and normal system. Everything is conjunctive and complementary. That is the organizing principle of interpenetration of void/emptiness. It appears in an image of inter/ intra/ /penetration /surfacing. In other words there is an embodiment of the EMS instances (seeds/ monads/ views/ candidates) within a grouping (pod / swarm /constellation /slate). Each ipsity of the EMS within a conglomerate contains other conglomerates composed of ipsities in an Aczel non-well-founded set. The only rule is that a class cannot be directly a member of itself but must be only mediately so. Interpenetration is the depth of nesting of the other-mediation. But this is not the full situation. There is also the intra-penetration because of the self membership mediated by the other. So interpenetration and intrapenetration are duals of each other. But also there is not just depth here, there is also the surfaces and the relation of a surface to itself and to other surfaces as we have in our topology analogies. Deleuze talks about how these surface effects produce sense in his Logic of Sense. He also talks about depth effects and we see here that these are what produce meaning rather than sense. Sense is related to paradox and meaning to suprarationality. Deleuze only sees half of the story because he starts with the assumption of paradox and does not recognize suprarationality that describes inter and intrapenetration. Each ipsity in a conglomerate is an example of this inter/intra// surfacing/penetration of sense and meaning production.

But talk about ipsities leads us to talk further about the set/mass distinction. An ipsity in a conglomerate is the nondual between a particular in a set and an instance in a mass. Swarms are not sets nor are they masses but something else, something nondual. Also the elements of the swarm are not instances or particulars but something else, the ipsity the nondual individual, which then appears only within a conglomerate.

The EMS is like the reflections of light off of

mirrored surfaces. No mass passes between the phases of the EMS cycle, but they communicate with each other by some other means, like through light. So each special system is merely conjuncted with the others, but here temporally not just spatially. The relation of the ipsity to the conglomerate is spatial but the relation between phases of the EMS is temporal. In Mahayana Buddhism they call this relation between phases a perfuming. Something insubstantial passes between the phases giving the impression of movement and casualty across noncrossable boundaries.

One of the most interesting things about the EMS was discovered by Onar Aam who showed that each of the special systems is like a set of mirrors. A real system is one mirror. A complex special system is two mirrors facing each other. A quaternion system is like three mirrors facing each other forming a regular triangle. An octonion system is like four mirrors facing each other as an inwardly mirrored tetrahedron. The sedenion system is like more than four mirrors facing each other forming what Onar Aam calls a funhouse mirrorhouse where the mirrors must be warped. The set of mirrors can maintain their regularity up to the level of the meta-system and then the whole thing breaks down. These inwardly mirroring tetrahedron is the dual of the mirrored balls of the hypercomplex imaginaries. This is our next analogy, that the special systems are like facing mirrors. That is they are like the mirrored room that Fa Sheng created to show the princess in china what interpenetration was like. Faceted mirror complexes are an analogy for the interpenetration. The cells in the matrix of mirrors in the reflections reflect each other. In these reflections of reflections the inter and intra penetration become confused. But also there are the relations of the mirrors to each other and to themselves which is seen in inter/intra surfacing within the complex of mirrors. There is no apparent depth without a configuration of mirror surfaces. What is real is the surfaces and what is unreal is the apparent

additional depth and ramification of the cells over and above the space between the mirrors that makes reflection possible. What is bouncing around is just light. There is suppose to be a single path through a regular solid which is inwardly mirroring that will return to its original starting point. That path within the inwardly mirrored tetrahedron is the EMS. Light bouncing between surfaces of the tetrahedron leaves four images of ipsities in conglomerates. That single path is the view of the EMS and all the other paths are the meta-system landscape around the EMS golden path.

### **Autogenesis**

Autogenesis is the bootstrapping of the EMS into existence from out of the void/emptiness. It was discovered that several of the anomalies worked together to describe a meta-EMS cycle by which the EMS itself came into existence. Autogenesis is a very important process which shows the inherent reflexivity of the EMS is as much as the genesis of the EMS is an EMS cycle. But the cycle is made up of anomalies that are fit together to mutually elucidate each other. This is described in detail in the first chapter of Reflexive Autopoietic Systems Theory called "Reflexive Autopoietic Dissipative Special Systems Theory." I won't repeat the argument concerning autogenesis here. However, it is important to realize the mirror like relation between Autogenesis and the EMS itself. Just like void and emptiness are mirrors of each other, one being the nullity of space and the other the nullity of time, so too the EMS cycle and the Autogenesis cycle are reflexively related as if they were mirrors of each other. One emphasizes the differences of anomalies and how they fit together. The other emphasizes the differences in levels of emergence in a particular anomaly set. Here in both cases differences play a special role giving us emergent difference, what Deleuze calls difference-in-itself, which is related to Ultra Being, which is ultimately the non-nihilistic difference between emptiness and

void, the so called Tain of the Mirror<sup>1</sup>.

### Freudenthal-Tits Magic Square

One of the horizons of this research is into the nature of Freudenthal-Tits<sup>2</sup> Magic Square. It is a mathematical formation which combines Lie Algebras<sup>3</sup> and Jordan Algebras<sup>4</sup>. It has the following form:

	R	C	H	O
R	A1	A2	C3	F4
C	A2	A2xA2	A5	E6
H	C3	A5	B6	E7
O	F4	E6	E7	E8

It is a square that relates the hypercomplex algebras to each other. Tony Smith says about this mathematical formation:

"Division algebras define the rows of the Magic Square;

Jordan algebras define the columns of the Magic Square;

And Lie algebras define the entries of the Magic Square.

The Jordan algebras are Hermitian matrices with a symmetric product.

The Lie algebras are anti-Hermitian matrices with an antisymmetric product.

The Magic Square includes ALL the exceptional Lie algebras, but only some of the A, B, C, and D series Lie algebras.<sup>5</sup>"

This odd mathematical object in which the hypercomplex algebras fold back onto each other is one of the ultimate goals of EMS

<sup>1</sup> Rodolphe Gasche [The Tain of the Mirror: Derrida and the Philosophy of Reflection](#)

<sup>2</sup> <http://www.innerx.net/personal/tsmith/FTsquare.html>

<sup>3</sup> <http://mathworld.wolfram.com/LieAlgebra.html>

<sup>4</sup> <http://mathworld.wolfram.com/JordanAlgebra.html>

<sup>5</sup> <http://www.innerx.net/personal/tsmith/FTsquare.html>

theory to understand in terms of its implications for the theory. Explaining how to form a Jordan algebra and its relation to a Lie Algebra Tony Smith says:

"To construct a Jordan Algebra:

Start with  $n \times n$  matrices A and B, with entries that are elements of one of the division algebras over the reals:

the real numbers;

the complex numbers;

the quaternions; or

the octonions.

Consider the matrix product AB.

Note that the product AB can be decomposed into antisymmetric and symmetric parts:

$$AB = (1/2)(AB - BA) + (1/2)(AB + BA)$$

R{ [HYPERLINK](#)

"<http://www.innerx.net/personal/tsmith/Lie.html>" \l "Liealg" }

$$[A,B] = (1/2)(AB - BA)$$

that is, the antisymmetric part of the matrix product AB.

What about the symmetric part of the matrix product AB?

It is

$$A \circ B = (1/2)(AB + BA)$$

IT IS THE JORDAN ALGEBRA PRODUCT.<sup>6</sup>"

### Tony Smith contiues

"The antisymmetric Lie algebras generate generalized rotations.

If you start with a generalized sphere, the Lie algebras are infinitesimal generators of generalized rotations or flows mapping the generalized sphere into itself.

The symmetric Jordan algebras generate generalized radial distortions.

If you start with a generalized sphere, the Jordan algebras generate generalized radial expansions and

<sup>6</sup> <http://www.innerx.net/personal/tsmith/Jordan.html>

contractions mapping the generalized sphere into a generalized ellipsoid.<sup>7</sup>"

There are according to Grassmann there are three types of algebras normal  $\mathbf{xy=0}$ , Jordan:  $\mathbf{xy=yx}$ , Lie:  $\mathbf{xy=-yx}$ . A simple way of understanding the relations between these is in terms of the Regions of Being. In order to get to the nondual from the mundane realm it is necessary to invert and substitute. If  $xy=0$  is the normal mundane realm then the Jordan Algebra inverts and the Lie algebra substitutes on top of inversion. Thus these are the natural steps toward the nondual. The Magic Square combines these two types of algebras in a formation which I believe is the foundation of the Emergent Meta-system in mathematics. I believe that the Magic Square is the basin of attraction within which the EMS operates. It is because this basin exists that the EMS is efficacious. However, I must admit that I do not yet completely understand how this structure works and so this view might be mistaken.

### **Triality and Quadality**

Arkady Plotnitsky in his book *Complmentarity* talks about the fact that not just dual complementarity exists but also many way complementarities that are three way, four way and five way and n-way complementarities. I wrote a paper disputing this called *Thinking the Unthinkable* which is part of my series of papers on *Reflexive Autopoietic Systems Theory*. That is because I never heard of any other than two way complementarities. But it turns out that Octonions have three way complementarities. And it is this structure that is the basis of the three regions of the world, i.e. the duals and the nonduals that are opposite the mundane realm. We discussed this previously in relation to Odysseus and the visit to the Island of the Sun. The fact that Octonions support triality, i.e. three way complementarity, was a shock for me because it

was right there within the special systems that the three way complementarity comes into play. But once we have triality established then that opens Pandora's box for higher level n-way complementarities. Thus I hypothesize that there is a mathematical operation called quadality and that it is this operation that is embodied structurally in the Tits Magic Square and that it is the basis of the Emergent Meta-system formation. This is a speculation, but the fact that there is a series of operators from zeroality, unicity, duality, triality, and now quadality, lines up the operators in math with the Peirce Fuller categories that describe the operands.

C.S. Peirce described three categories of things in his logical phenomenology. There are Firsts which are what Husserl calls hyle, i.e. unrelated matter of consciousness. In logic these are given terms in isolation. Then there is the Seconds which are relations between hyle, which is what we see as qualia in consciousness and as links in logic. Finally there are Thirds. These are continuities forged out of relationships. Peirce thought he could prove that there were only three categories of this kind. However, he was modeling his work on logic not geometry. The upshot of the work of B. Fuller in *Synergetics* is to show that there is another category called Fourths which are synergies. When we add to this Zeroths then we see that we have a full set of five categories which supply us with operands to build a logic of sense. But we are lacking the operators. These I believe are supplied by the series zeroality, unicity, duality, triality, and now quadality from mathematics. Quadality is the mathematical function at the heart of the Emergent Meta-system as it exists within the attractive basin of the Magic Square. That basin is the place where nonduality is concentrated by the matrix of the Lie and Jordan algebras which consist of inversion and substitution regimes. These inversion regimes are the inner connection in terms of order between the hypercomplex algebras themselves. This inner structure of the

<sup>7</sup> <http://www.innerx.net/personal/tsmith/Jordan.html>

hypercomplex algebras mutual relation allows the EMS to function. In effect we have five categories of operators and operands. If we appeal to the Logic of Form and think of a logic which has “Marks” instead where the operator and operands were the same, then we would have something approximating a nondual story about the relation between Peirce-Fuller Categories and Mathematical Operands in which they are two sides of the same coin, and in which the higher complementarities of Triality and Quadrality play an important role. As was said before this is on the horizons of this research into the basis of the EMS structure within mathematics, but the fact that the Tits Magic Square exists is a very promising discovery that needs to be incorporated into the Meta-systems theory as its mathematical basis and its means of pointing as a whole to nonduality at the heart of mathematical order.

### Implications for Nondual Science

Here we have just briefly touched on the structure of the Emergent Meta-system as a meta-level formation beyond the Special Systems considered separately, but rather that appears as a dynamic conjunction of the Special Systems with the Normal System. We have also touched on the fact that the EMS bootstraps itself out of the void with a sort of Meta-EMS called Autogenesis which we discover in the relations between the anomalies that define the special systems based on physical and mathematical analogies. WE have also described briefly the Tits Magic square and the concept of Quadrality. In this essay the purpose is not so much to explain exactly how these esoteric mathematical ideas work as to consider their implications for Nondual Science in general. Notice that the series of operators and operands which are duals or **marks** which are considered nondual ipsities form the series zero though four. These stages are equivalent to the special systems as stages themselves. But in this case it is the EMS itself that is

exhibiting these stages as a whole.

The Zeroth level is the void/emptiness, but it is also a nil operation, at this level we see the dual of void and emptiness distinguished by Ultra Being. At the First/Unicity level we see the isolated elements of experience or conceptualization appear and we get operations of something on itself, like the negation operator. These isolated elements are either particulars, instances or the nondual ipsities. At the Second/Duality level we see the relationships but also operators that work on two elements to produce something else. Here the basic mathematical categories of set, mass or the nondual conglomerate arise. At the Third/Triality level we see the regions appear which are the basis of the world that distinguishes the nondual from the duals. But here the difference between continuity and discontinuity also appear. At this level we see either syllogism logic based on universals, pervasion logic based on boundaries, or the nondual Greimas logic which indicates the nondual using the chiasm between non-anti-A and anti-non-A. At the Fourth/Quadrality level we see the EMS structure appear in full bloom along with synergy. At this level the EMS is constituted with seeds in pods, monads in swarms, views in constellations, and candidates in slates. As transitions we find that out of the emptiness/void there is a creation operator that gives us monads from seeds. Then we get mutual action between monads to produce views. Then we have schematization of views to produce candidates. Then we have annihilation of candidates to produce the seeds for the next round of the EMS cycle. Note that the operation of creation is opposite that of schematization. Schematization is the process of projecting schemas like pattern, form, system, openscape, domain, world, etc onto things, and Creation as an operation is the arising of emergence in the ontic realm as the unexpected which is the reaction to our projection. Note that the operation of mutual action is opposite that of annihilation. Mutual action is the what Merleau-Ponty calls *motor*

*intentionality* and what Samuel Todes calls *poise*. This is to say that there is a bodily action prior to intentionality by which the distinguishing of subjective views are established. Bodies move in relation to each other and that action is non-commutative, and so each action is important and hard to take back or get back to the original state after the action has occurred. Samuel Todes has the idea of the *mirror of action* in which future turns into past. But we must consider in the sociality of the swarm the mirror of action between different agents in the swarm. Those mirrors of action operate in relation to each other to produce a complex mirrorhouse of actions in relation to each other out of which the theory of mind, or mindreading arises. That mindreading is the social synergy of the group each thinking it knows what the other is thinking and acting on that presumption. Opposite this primordial action that encompasses the contradiction of motion in the world of many fused group<sup>8</sup> members is the operation of annihilation. Annihilation gets rid of possible candidates and leaves the survivors of the cancellation operation. Cancellation is logical and Annihilation is physical depending on the status of the candidates that have been projected as possibilities of agents in the next round of the EMS cycle. Mutual Action creates views while Annihilation creates seeds. Potential Seeds are opposite Necessary views as Actual monads are opposite Possible Candidates. Potentiality is born out of possibility via annihilation. Necessity is born out of actuality via mutual action. Potentiality is what is brought out by creation that produces the next round of monads that are actualized. Schematization is the projection of possible candidates based on the various necessary views. Necessary views are irreducible like antimonies. Views are forged out of the mutual action of the monads. We can think of them as being like the class structure in the Indo-European lands. They express the necessity of the organization of the worldview and we see

<sup>8</sup> See Sartre [Critique of Dialectical Reason](#) Volume I

them in the roots of Being in language and in the myriad differences that are entrenched in Western society. Deleuze<sup>9</sup> talks about the views as *conceptual persona* that show up in physics as *partial observers*. Destroying by annihilation or cancellation the plethora of possible candidates is the opposite of the generation of necessary views through mutual action of the monads. Candidates are potential and Monads are actual. Views are necessary and Seeds are Potential. These four Aristotelian modes are views of the kinds of Being. Necessity is Pure Being, Actuality is Process Being, Possibility is Hyper Being, and Potentiality is Wild Being. They are all bound together in the moments of the EMS. Schematization appears as the relation between Representation and Repetition in a way similar to Deleuze talks about in [Difference and Repetition](#). At each dimensional level related to the schemas there is a Mimesis between the embodiment of Representation and the embodiment of Repetition as brought out by Michael Taussig in [Mimesis and Alterity](#). Representation is related to Ratio and Repetition is related to Doxa. Ratio leads to the Suprarational through the non-representable intelligible. Doxa leads to paradox through the unfounded appearances. Ultimately this means there is mimesis between paradox and suprarationality. This points up the alternative between them which is manifestation, the deeper nondual beyond emptiness and void.

We can use the concept of Microgenesis<sup>10</sup> as developed by Victor Rosenthal<sup>11</sup> to understand the creation operator that takes us from seed to monad. In other words there are metamorphic stages between the monad and the seed in which the precursor of the seed is taken along into the fully articulated gestalt whole. This is the way that the ontic speaks to us in response

<sup>9</sup> See [What is Philosophy?](#)

<sup>10</sup> Talis Bachmann [Microgenetic Approach to the Conscious Mind](#)

<sup>11</sup> [http://www.revue-texto.net/Inedits/Rosenthal\\_Micro/Rosenthal\\_en.html](http://www.revue-texto.net/Inedits/Rosenthal_Micro/Rosenthal_en.html)

to our schematized projection. The metamorphic stages of microgenesis is mirrored by the stages of the unfolding of Schematization that we have seen in the commentary on Plato's Cratylus that shows up in the traumatic genealogy of the gods and allows us to interpret the unfolding of the heuristics related to the binary unfolding of Pascal's triangle. Pascal's triangle is seen as a very peculiar mathematical object that has the features of all the special systems in one object. So we see in Pascal's triangle the metamorphic unfolding of ontological schematization which is parallel the metamorphic unfolding of the response from the ontic physus being projected upon. Similarly we can say that there is similar metamorphic unfolding of the mutual action and annihilation. We have already talked about the annihilation mosaics that represent one possible view of the metamorphic unfolding of annihilation. In other words annihilation/cancellation is not all at once but is in stages through the production of side effects and those side effects can produce cycles and those cycles can appear as stable perduring over time. Mutual action can also be seen as metamorphic and that is how we can talk about primordial action, like Merleau-Ponty's *motor intentionality* or Samuel Todes' *poise*. Action can start out with small propensities to act, Coutu calls them tendencies in a situation (TINSIT). There is a metamorphic series of transformations from these tendencies to full blow action. The commutative property loss precisely destroys the possibility of perfect cancellation or annihilation of the effects of action. The associative property loss precisely destroys the possibility of rearrangement of schematizations and thus produces side effects that appear as the speech of the objects back to us in terms of anomalies that appear in the creation process giving rise to emergent events. So actions cannot be reversed by perfect annihilation and thus there is some taint in the process that causes seeds to be produced and the next karmic round to occur. So schemas cannot project perfectly so there is always some

contamination in the schematization that does not fit the objects properly and this causes the anomalies to appear by which emergence is caused. In this view that takes Microgenesis seriously and applies its metamorphosis to all the operators in the EMS cycle is the solution to the Koan posed in Plato's Cratylus which is how it could be that the things can speak to us and we can know their true names and how those true names are related to phonemes. The objects speak back to us through emergent creation spurred on by anomalies in response to our schematization of them. The phonemes in language are a mimesis of the seeds produced by annihilation, because there is a mutual action among phonemes in action that produces the views we have of words in the language. But when we speak the words in sentences we produce many candidates through the creativity of our language pointed out by Chomsky. But only some of those sentences make sense and it is those sentences that are saved in the annihilation process so the Logic of Sense described by Deleuze comes into play. Phonemes are pure sense in both senses of the word. The speech that the ontic physus responds with is best conveyed in this pure sense of the phonemes. Microgenesis makes sense of this paradox of true names and the sense of phonemes in language which Socrates brings out in the Cratylus dialogue. It is this dialogue where schematization is considered in depth in our tradition after the work of Protagoras. If we want to understand what the System, Special Systems and Meta-systems are within our tradition we need to put them in the context with the other schemas and we need to understand their genealogy within our tradition. It is interesting that it is the application of Microgenesis to the paradox of the Cratylus through the structure of the EMS cycle that allows us to solve this paradox at the root of the concept of schematization within our tradition.

The key point here is that there is a parallel unfolding of the Peirce/Fuller Categories as Operands and the Operators of Mathematics.



This culminates in the level which defines the EMS cycle, and intrinsic to that cycle is the relation to Schematization, along with mutual action, creation of emergences and annihilation of nihilistic duals. This brings schematization or projection and emergence as opposites together through bringing nihilism and contradictory motion together. This is a potent brew. The EMS introduces a new operator of Quadrality beyond Triality that appears in the octonion as the ultimate basis of the production of synergy. The EMS operates in the nondual basin of attraction produced by Tits Magic Square in which the Special Systems are related to each other internally via the alternative algebras that lead to nonduality. All of this is an open horizon for further study. Only hints as to the relations of the EMS to these other elements have been received so far and the whole area needs to be canvassed to determine whether these hints will hold up under further scrutiny. But we have at least gotten a glimpse of the central nature of the EMS cycle and its Autogenetic dual which is produced out of the various anomalies working together taken from Math and Physics.

Nondual science is built around the vortex of the EMS cycle. In Egypt for instance we see this cycle represented in the myth of Osiris. We see the special systems in the Genealogy of the gods up to Osiris. If the Egyptians made the EMS and the Special Systems their view of NTR, Nature, at the center of their civilization then that would make us want to rethink the importance of Egyptian civilization and its influence on the Greeks. Perhaps the relation is as Plato claimed, everything of value, i.e. the EMS and the Special Systems view of things in the world, came from Egypt. But within the western tradition we had no artifact like the game of Go (Wei Chi) to preserve the form of the EMS cycle down through the generations. So despite the attempts of Alchemy to produce a science of special systems and despite the fragments of a prior knowledge of them in myth and epic, we lost hold of the special systems and the EMS cycle in our tradition.

Now we need to reconstitute that understanding, and for that we can rely in part on other nondual traditions which are still preserved which have images of the Special Systems and the EMS cycle. But for our sensibility that knowledge needs to have a very definite model based on mathematics and with physical examples in order to be taken seriously by science. Fortunately we have found that model and those examples of the special system, and now we search for examples of the EMS cycle in nature. We see it everywhere that seeds produce plants with leaves that have flowers and bear fruit that are the seeds for other plants of the same species. But ultimately we need other examples and what we expect is that the understanding of the EMS will lead to a more formal and demonstratable theory of Gaia. Meta-systems are nested like Systems are nested. And Gaia is the nesting of the meta-systems. But meta-systems are produced by a conjunction of systems and the special systems in a dynamic cycle which produces the meta-system nesting. If we could see that process I think there is a good chance that we would find a tenable theory of Gaia. This is the great promise of research into the EMS cycle along with Autogenesis which is that we would ultimately understand something deep about our abode, this planet, a blue pearl in the vast void of Space in which the emptiness of consciousness of time has been sparked. Will we achieve that understanding before it is too late to save the planet and ourselves along with our fellow species. Understanding the EMS is crucial for Nondual Science, but it is also crucial for us as a species to understand our abode in which we dwell as Gaia, a finitely deep nesting of meta-systems produced by the EMS cycle after its own autogenesis out of the void/emptiness as the engine of manifestation.

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