

ADVANCED SPECIAL SYSTEMS THEORY
PROJECTIVE GEOMETRIES AS THE EMERGENT MODEL OF THE
ESSENCE (NERVES) OF SCHEMAS WITHIN THE REFLEXIVE SOCIAL
SPECIAL SYSTEM

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Abstract: Special Systems Theory has been developed over the last 20 some years starting in the early 1990s. Several collections of papers and summaries have been dedicated to describing it². Much of the work over the years has been looking for precursors to the theory in other traditions such as Buddhism, Islamic Sufism, and Taoism that has been successful. However recently a major advance has been made which calls for a reassessment of the theory. In this paper we will discuss the theory as it stands and the advances that have been made in understanding it recently.

Key Words: Special Systems Theory, Schemas Theory, Systems Theory, Meta-systems Theory, Worlds Theory

Special Systems Theory (SST) was born out of a study of Plato's Imaginary cities in the work Fragmentation of Being and the Path beyond the Void³. Plato's cities were considered as the first systems theory and the first sociology theory, and treated systematically within the development of the Indo-European tradition. These cities have many oddities that seemed to work together to give a bigger picture that had a systematic nature. Recently it has been found that Herodotus picture of Babylon has some of the same peculiarities. It is assumed that whatever Plato was trying to get across in the peculiarities he was describing in his cities was taken from Egypt because similar oddities are found in Egyptian Mythology. After studying the cities in a systematic way, from the perspective of Systems Theory, it was decided to try to find similar structures in mathematics. And this is what

¹ <http://independent.academia.edu/KentPalmer> See also <http://kentpalmer.name>

² See Autopoietic Reflexive Systems Theory, Reflexive Autopoietic Dissipative Special Systems Theory, Special Systems Theory, <https://osf.io/tw37d/>

³ <https://independent.academia.edu/KentPalmer/Fragmentation-of-Being-BOOK>

really set off the development of Special Systems Theory (SST) because similar and analogous structures were found in several branches of mathematics which were anomalies that corresponded to the structures seen in Plato's cities and also the descriptions of Babylon by Herodotus. We know that Herodotus did visit Egypt even though it is unclear whether Plato did. So, finding similar structures in Herodotus to those in Plato is a confirmation that these structures probably mimicked patterns of wisdom taken from Egypt. However, regardless of the source it is quite clear that several kinds of mathematics have the same structure and so we can use the mathematics to define the Special Systems (SS) fairly precisely. And the interesting thing is that the various types of mathematics work together to render the definition of Special Systems (SS) very rigorous and precise. The main definition of the SS is based on the structure of the Hyper Complex Algebras. There are four such algebras related to the real, complex, quaternion and octonion mathematical algebras. We relate these to the System, Dissipative Ordering SS related to the dissipative structures of Prigogine⁴, Autopoietic Symbiotic SS related to the theory of autopoiesis by Maturana and Varela⁵. And the Reflexive Social SS related to the theories of *reflexive sociology* of Barry Sandywell⁶, John O'Malley⁷ and Alan Blum⁸ that was developed in the 1970s. The key point is that as we follow the Cayley Dickson Process⁹ by which the Hyper Complex Algebras¹⁰ are developed the algebras lose properties at each step of their unfolding first losing the unity of the complex conjugate, then the commutative property, then the associative property and then the division property in the Sedenions. Special Systems Theory is a meta-theory that has niches for theories that fit together with emergent discontinuities between them. What we are looking for in the meta-theory is special properties of the theories that match up with the structure and function of the associated mathematical objects. There are a set of these associated objects. One of those is non-orientable surfaces which we will be concentrating on in this review. But there are also solitons, breathers and hypothesized super-breathers from physics as well. Another set of related mathematical elements that has recently become significant in this regard is the Platonic Solids of Higher dimensional spaces. In fact, it is advances in the foundations of the Special Systems along with the realignment of non-orientable surfaces that we want to concentrate on in this review of Advances in Special Systems Theory (SST). The idea of Special Systems Theory is that it appears between Systems and their inverse dual Meta-systems (OpenScapes) within Schemas Theory. If you do not have a good theory of Meta-systems, for which our tradition has a blindspot, then you cannot get a proper view of the SS. Systems are wholes *greater than the sum of their parts*, i.e. *gestalts*. Thus, Meta-

⁴ Prigogine, Ilya. *Order Out of Chaos: Man's New Dialogue with Nature*. La Vergne: Verso, 2017.

⁵ Maturana, Humberto R. *Autopoiesis and Cognition: The Realization of the Living*. Dordrecht, Holland ; Boston : D. Reidel Pub. Co, 1980.

⁶ Sandywell, Barry. *Logological Investigations*. London: Routledge, 1996.

⁷ O'Malley, John B. *Sociology of Meaning*. London: Human Context Books, 1973.

⁸ Blum, Alan F. *Theorizing*. London: Heinemann, 1974.

⁹ Hagmark, Per-Erik. *The Isomorphism Problem for Algebras Formed by the Cayley-Dickson Process*. Espoo: Helsinki University of Technology. Institute of Mathematics, 1982. Felipe, Raúl, and Raúl Felipe-Sosa. "Relaxed Linear Spaces and a Generalization of the Cayley-Dickson Process." *Linear Algebra and Its Applications*. 434.2 (2011): 424-442. Narin, Stephen. *The Cayley-Dickson Process*. M.A. University of California, Santa Barbara, 1974. Cleven, Johannes. "The Cayley-Dickson Doubling Process Revisited." *Communications in Algebra*. 24.13 (1996): 4159-4179. https://www.wikiwand.com/en/Cayley%E2%80%93Dickson_construction

¹⁰ https://www.wikiwand.com/en/Hypercomplex_number

systems are wholes *less than the sum of their parts*, that is wholes with holes like sponges. Those holes are niches for Systems, and SS exist in those niches between the System and the Meta-system. Another type of Mathematical Object that helps us to understand the SS are the aliquot numbers¹¹. Most numbers are excessive or deficient when you compare the sum of the divisors to the number itself. The only numbers that are exactly equal to their sum of divisors are perfect number that are extremely rare, we only know about 49 of them at this time¹². But besides the perfect numbers there are also amicable and sociable numbers. Amicable numbers are two numbers whose divisors add up to each other. Sociable numbers are a ring of numbers each of whose divisors add up to the next number in the ring. Amicable numbers are like the Dissipative Ordering SS. Perfect Numbers are like the Autopoietic Symbiotic SS. Sociable Numbers are like the Reflexive Social SS. The key here is that these numbers are rare, and SS themselves are always associated with Anomalies. And the other is that the SS are holons, i.e. part and whole at the same time, and the Aliquot numbers show this property of the supervenience of the part and the whole in the SS. Systems and Meta-systems are excessive or deficient. Meta-systems are described by the *General Economy* of Bataille in Accursed Share¹³ which is the dual of the *Restricted Economy*. This difference is described by Arkady Plotnitsky in Complementarity¹⁴. Once we have a picture of how the SS relate to each other, and relate to the System and Meta-system then we can look for this same pattern elsewhere. And thus, SST attempts to relate its meta-theoretic relations between sub-theories to various types of theories looking for a homomorphism. The main source of theories of this type in the Western tradition is Plato who has many different structures in his thought that mimic the structure of the SS not just in his Imaginary Cities, such as the various levels of within the Symposium. One of the major finds related to SST is that they are interspersed with the Kinds of Being. In other words, the Meta-levels of Being¹⁵ (Pure, Process, Hyper, Wild and Ultra) and the Special Systems (SS) along with the System/Meta-system pair serve to differentiate each other and are often found together. So, for instance we get such a differentiation in the Symposium of Plato as the difference between the various speeches. Similar structures can also be found in various Indo-European and specifically Greek myths by applying Ontomythology as a methodology to the comprehension of mythology. We take the kinds of Being as a fundamental structure of the Western worldview, and hidden within that is the latent image of the Special Systems (SS) that can often be found as a nondual implicate order through tacit knowledge within the tradition.

The Aliquot numbers are a good example of what we are looking for in the structure of the SS Meta-theory. There are only five kinds of numbers. Two are either excessive or deficient and this is the vast majority of numbers whose totals of their divisors are greater or smaller than the number itself. One is perfect and very rare, an anomaly where the number and the sum of the divisors are exactly equal thus exemplifying supervenience.

¹¹ <http://djm.cc/amicable.html>

¹² <http://www.mersenne.org/primes/>

¹³ Bataille, Georges, and Robert Hurley. *Accursed Share*. Zone Bks., U.S, 1992. Bataille, Georges, and Georges Bataille. *The Accursed Share: 2/3*. New York: Zone Books, 1991.

¹⁴ Plotnitsky, Arkady. *Complementarity: Anti-epistemology After Bohr and Derrida*. Durham: Duke University Press, 1994.

¹⁵ https://www.academia.edu/13194091/Meta-levels_of_Being

Then there are two that are a combination of these two extremes, that is to say a given number itself does not equal its divisors, but sets of numbers equal each other out, by being equal to the divisors of another number. There are two cases of this meta-stability Amicable numbers where the numbers each equal the others divisors, and Sociable numbers in which there is a ring of numbers where successive numbers add up to the divisors of each other until the ring closes. This ring may be from 4 to at most 28 numbers long. These sociable and amicable numbers defer and delay the resolution of the equality between divisors and the numbers themselves which is called by Derrida Differance¹⁶. Amicable numbers only defer and delay resolution to one other number, while Sociable numbers extend the deferment and delay from somewhere between 4 to 28 numbers. Sociable and Amicable numbers are also rare but Sociable numbers are far more rare than Amicable numbers. So, there are just five kinds of numbers with these characteristics. Systems being greater than the sum of their parts like gestalts are like excessive numbers. Meta-systems that are wholes full of holes (proto-gestalts) are like deficient numbers. Amicable numbers are like Dissipative Ordering SS, Perfect Numbers are like Autopoietic Symbiotic SS. Sociable Numbers are like Reflexive Social SS. And it is at this point that some explanation is necessary. DO-SS are negatively entropic ala Prigogine's theory of Dissipative Structures¹⁷. In such Dissipative Structures there is a boundary which is moving outward that is converting its environment into itself across that moving boundary. But Autopoietic Symbiotic SS have static boundaries and are composed of two DO-SS that are in a symbiotic relationship with each other that is meta-stable. The same is true of Reflexive Social Special Systems. RS-SS are composed of either DO-SS or AS-SS conjuncted. Thus, we can see the AS-SS as two conjuncted DO-SS like the Amicable Numbers or four conjuncted DO-SS like the smallest circuit of the Sociable Numbers. Thus, when assimilating the Aliquot numbers to the SSs it is best to think of them from the point of view of the Autopoietic SS. The Autopoietic SS can be seen either as two DO-SSs like the Amicable Numbers or as a single AS-SS like a perfect number, that is perfectly holonomic in itself without any Delay or Differing in resolution of its equality between parts and whole. Or if we double the Autopoietic SS then we get a ring structure of the RS-SS. The central point of these numbers is that there is a holonomic feature which is preserved in them of whole being equal to parts, it is just a matter of how soon this whole/part resolution occurs in the series of numbers, immediately, after one, or in a ring after between 4 and 28 numbers later. But this brings up the idea that DO-SSs are building blocks and they may participate in a kind of molecular chemistry of holons that allows them to build larger ring like structures larger than just 4 elements, i.e. greater than what we would get if we just added to AS-SS. These chains can be 5 or 9 numbers long and thus have an odd number of elements. And thus the idea of a kind of holonomic chemistry is suggested by the analogy between SS and Aliquot numbers. And more generally the point is that this structure of the SS meta-theory is that there are five elements, two of which exhibit either surplus or lack, and two of which exhibit compensated surplus or lack that ends up being equal, and one of which gives perfect resolution immediately with no surplus or lack. And the picture this paints generally is of different types of Holons, which Koestler¹⁸ called the combination of

¹⁶ <https://www.wikiwand.com/en/Diff%C3%A9rance>

¹⁷ https://www.wikiwand.com/en/Dissipative_system

¹⁸ Koestler, Arthur. *Janus: A Summing Up*. London: Pan, 1983.

wholes and parts at the same time in the same entity. There are three kinds of Holons within a non-holonic field that exhibits either excess or deficiency overall, but in a special case exhibit rare holonomic features as an anomaly. What we are looking for generally in the mathematical anomalies of SS is isomorphy between these different kinds of holons and their frame of non-holonic elements that lack the balance or supervenience (deferred and delayed or direct) that the Holons display. The mathematics gives us a lot of detail concerning holonomics that we would not otherwise get from the conceptual ideas of Koestler about holons.

As we add each analogy from a different types of mathematics we get more and more information about the nature of the SS. So, for instance when we add the Hyper Complex Algebras we get a series of Algebras generated by the Cayley-Dickson process which are ever weaker in terms of their properties. And this loss of properties tells us a lot about the nature of these systems. Systems are associated with the Real Algebra. But then we discover that there are algebras based on imaginary numbers generated through the square root of negative one that have in Complex numbers most of the major properties of the Real numbers except that in the Complex Plane there are Complex Conjugates that do not exist in the real numbers. Thus, the unity of the complex conjugates are lost in the Complexions. When we move to the Quaternions then we lose the Commutative Property, which means that actions cannot be reversed. When we move to the Octonions then we lose the Associative Property which means that who sits next to whom at the dinner party matters, which is a social property. When we move to the Sedenions then we lose the Division Property which means there are 84 zero divisors, and that means we cannot divide and that is the same as a fusion of the algebra because we cannot trust the division algebra to give us a meaningful answer any longer. Division by Zero is undefined, these zero divisors are singularities. What we learn from the Cayley-Dickson process is that these three holons as SS form a emergent chain where we are constantly losing very special properties associated with identity, action, and sociality and articulation. And the loss of these properties gives each of these different Holons their particular properties. And in fact it is by studying these algebras that we realize that the SS form a cycle with the Normal System called the Emergent Meta-system (EMS). And the discovery of the EMS is one of the most important things we now know about the SS. The EMS is a cycle from Seeds in a pod, to Monads in a swarm, to Views in a constellation, to Candidates in a Slate that returns to the Seeds through an annihilation operator. This was worked out on the basis of the Chaotic Logic¹⁹ in collaboration with Ben Goertzel. He was missing an operator and had not recognized the cyclic nature of his Magician Systems. Once we added a Creation operator that took us from Seed to Monad, then we could refine the Mutual Action operator that takes us to the View and the schematization operator that takes us to the Candidates before the annihilation that takes us back to the Seeds. The EMS is defined by the differentiation of the various anomalous and rare algebras that appear as the Hyper Complex algebras out of an infinite number of algebras only four have interesting properties. The Sedenion represents the first algebra where most of these interesting properties have been lost. However, it is also the field from out of which the next cycle

¹⁹ Goertzel, Ben. *Chaotic Logic: Language, Thought, and Reality from the Perspective of Complex Systems Science*. New York: Plenum Press, 2010.

arises. These cycles exemplify what Deleuze and Zizek call quasi-causality²⁰. And we see this in models of Karma in Buddhism, especially in the commentary²¹ on the Awakening of Faith²² by Fa Tsang in Hua Yen Buddhism²³. But we also see this cycle in the game of Wei Chi (Go) in a very precise model²⁴. Other aspects of Buddhism such as the Mudras of the Five Buddhas exhibit this structure. This is in fact a natural holonomic formation that combines a normal system with all three of the Holonic SS. And we can expect to see it arise in Nondual Spiritual Traditions spontaneously because it describes an underlying reality of existence (See <http://nondual.net>). The anomaly of Hyper Complex Algebras have extremely very deep roots in various kinds of Mathematics. And we can see all of the places where these related mathematical structures appear as telling us something more about the nature of the SS. Systems are real algebras. Holons are the Hyper Complex algebras associated with the Complexions, Quaternions, and Octonions. Meta-systems appear as all the Algebras starting with the Sedenion and beyond the infinite co-recursion of the Caley-Dickson process. The Real Algebras have all the properties we expect in an Algebra, which turns out to be something very rare among all the infinite algebras that can be generated by the Caley-Dickson process. The Complexions, Quaternions, Octonions and Sedenions lose these special properties one at a time, until we get in the Sedenions the lack or deficit of all the most important properties that we expect in an algebra. The properties that each algebra has in this series gives them each their unique nature as holonic exemplars of SS. And thus, these algebras allow us to posit the nature of each of the SS based on mathematical properties and in relation to other mathematical objects. And this is what we want to do which is to step by step get a clearer and clearer picture of the nature of these SS through the mathematical analogies that have the same overall fivefold structure we saw in the Aliquot numbers. And also what we learned is that we can combine these different holons to produce larger structures like the EMS, and other structures by a kind of holonomic molecular chemistry to gain variations on the properties of these different types of SS. For instance, here we have learned that when we think of Systems and Meta-systems we normally think of Systems as being Emergent and Meta-systems being De-emergent. But we can also think of Systems as being de-emergent when we take them apart. But we normally do not think of Meta-systems as being emergent wholes. But by combining a System with the Special Systems we can create a Meta-system with special emergent properties like the EMS. And this is a very important lesson for us to learn because it changes how we think about Meta-systems. Every schema is a whole, and meta-systems are wholes just like Systems, but of a different kind not normally considered as a whole. But we learn after some study that the difference between descriptions of the System and the Meta-system is that between the Turing Machine²⁵ and the Universal Turing

²⁰ Mike Bennett see https://www.academia.edu/9062058/Deleuzes_Concept_of_Quasi-Causality_and_its_Greek_Sources Bennett, Michael J. Deleuze and Ancient Greek Physics: The Image of Nature. New York, NY: Bloomsbury Academic, 2017.

²¹ Fa, zang, and Dirk Vorenkamp. *An English Translation of Fa-Tsang's "commentary on the Awakening of Faith"*. Lewiston (N.Y.: E. Mellen, 2004.

²² Asvaghosa. *Awakening of Faith: The Classic Exposition of Mahayana Buddhism*. Dover Publications, 2012.

²³ Cook, Francis H. *Hua-yen Buddhism: The Jewel Net of Indra*. Delhi, India: Sri Satguru Publications, 1994.

²⁴ https://www.academia.edu/35695508/The_Significance_of_the_Game_Wei_Chi_Go

²⁵ Petzold, Charles. *The Annotated Turing: A Guided Tour Through Alan Turing's Historic Paper on Computability and the Turing Machine*. Indianapolis, Ind: Wiley Pub, 2008.

Machine²⁶. And thus, we see that both can be described by the same Formalism of the Gurevich Abstract State Machine²⁷ method that generalizes the Turing Machine, but that Meta-systems are Universal Turing Machines which means they are like operating systems that run applications, just like a Universal Turing Machine runs other Turing Machines. And this gives us some insight into the kind of duality exists between the System and the Meta-system. The first is a whole greater than the sum of its parts, and the second is a whole full of holes. Another analogy from number theory is the difference between the various numbers built up in Series (Natural Number, Integer, Rational Number, Irrational Number, Transcendental Number) and the Surreal Numbers²⁸ which are all created as a single set of rules for constructing game moves. Surreal Numbers have holes in them like the Meta-systems. Systems have emergent properties like those of the various numbers in layers built up through the recognition of the deficiencies or advantages of various numbers in relation to each other. Interestingly most of these new numbers are produced by negating the new operation generated at each level. We have seen that these negative operations are related to the negations of the meta-levels of Being. But the key here is that there are a series of emergent levels that give us different systems of numbers of various kinds. Surreal Numbers in one set of rules for the production of game moves gives the equivalent of all these numbers and more that is an image of the Meta-system, i.e. specifically as a whole full of holes that cover most of the various kinds of numbers generated step by step in normal number theory. Normal Number theory that generates kinds of numbers in stages all the way up to transcendental and infinite numbers in the paradise of Cantor is an example of a *restricted economy* while Surreal numbers are an example of a general economy in the in the sense of Bataille. What is odd is that the Emergent layers of Normal Numbers is that they are built up in striations one layer at a time while the Surreal Numbers gives all the numbers in one single structure. Thus, the restricted economy is articulated in layers while the general economy is unified in its definition. However, for us the layered numbers are easier to work with, and the Surreal numbers because of their holes have difficulty performing integration and so they are less useful, and complex transformations have to be made to produce normal numbers from surreal numbers. The point of this is that we have in our Number Theory a perfect analogy of the relation of the system to the meta-system, and our tradition chose the system of numbers that are striated and built up by layers rather than the unstriated and unified meta-system of the surreal numbers as its standard. But we could have chosen the Surreal Numbers as the standard that would have allowed us to do math with the holes in the numbers, rather than thinking that there was a continuum of real numbers that were transcendental that had an infinity bigger than the countable numbers. Even if we just look at the natural numbers we see that those are divided into deficient and excessive numbers as well as the three types of aliquot numbers. And thus, we get right on the surface of number theory a hint that there are anomalies embedded in the number system that point toward the meta-anomaly in mathematics²⁹ that

²⁶ Herken, Rolf. *The Universal Turing Machine: A Half-Century Survey*. Wien: Springer-Verlag, 1995.

²⁷ Gurevich, Yuri. *Abstract State Machines: Theory and Applications ; International Workshop ; Proceedings*. Berlin: Springer, 2002. *Fields of Logic and Computation: Essays Dedicated to Yuri Gurevich on the Occasion of His 70th Birthday*. Berlin: Springer, 2010. <http://pages.di.unipi.it/boerger/ASMTutorialEtags.html>
<https://web.eecs.umich.edu/gasm/>

²⁸ Knuth, Donald E. *Surreal Numbers: How Two Ex-Students Turned on to Pure Mathematics and Found Total Happiness; a Mathematical Novelette*. Reading, Mass: Addison-Wesley, 2011.

²⁹ https://www.academia.edu/31883291/Mathematical_Meaning_01_On_the_Meta-anomaly

defines the SSs. And this is our major point in all this, that in the last couple of centuries but especially in the 20th century mathematics has had a renaissance and many new types of mathematics have been discovered. But these various types of mathematics are difficult to relate to phenomena in our world without first producing a Systems Theory that explains how these various mathematical facts that have been discovered have meaning in the world. This is the importance of a mathematical Systems Science with theories like those of George Klir in *Architecture of Systems Problem Solving*³⁰ (ASPS). Klir produced one of the first mathematically based Systems Theories that also combines several schemas together to give us a model of the Formal Structural System. By having such a model based on mathematics we can glean the meaning of the mathematics for understanding the phenomena in our world. Meta-systems Theory began when I realized that when you reverse the arrows of a category theory description of Klir's General Systems Theory you do not get a self-dual structure, but rather the opposite category is something different which I called a Meta-system, meaning what is beyond a system, which at first I did not know what that might be because it was not in the literature of Systems Theory. There was no Meta-system theory to go on, because our tradition is blind to Meta-systems. But eventually I discovered the work of Bataille and discovered that the inverse dual of a System (restricted economy) was a Meta-system (general economy). Once I knew what its characteristics were with the help of Arkady Plotnitsky who interpreted Bataille's works in his book *Complementaries*. Then I could begin looking for examples of wholes less than the sum of their parts (wholes full of holes) like the Surreal Numbers that were the opposite of wholes greater than the sum of their parts (gestalts). And after searching these other types of Meta-systems of Formal Structural Systems slowly became known and understood. Schemas Theory (<http://schematheory.net>) was born that compares the Meta-systemic World Domain as an environment to the Formal Structural System. And these six schemas are those that help us organize experience in different ways. Beyond them on each end of the sequences are scaffolding schemas Facet and Monad on the lower end of the hierarchy and Kosmos and Pluriverse on the upper end of the hierarchy of schemas. There are ten schemas in all stretching from negative first dimension to the ninth dimension with Schemas that are holons which bridge dimensions such that there are two dimensions per schema and two schemas per dimension. And the whole set of the schemas are the context for understanding the Special Systems (SS) because they only appear at the interface between Systems and Meta-systems in the fourth dimension. The Fourth Dimension has special nondual properties that make possible the SS as holons which do not appear in any other dimension. The sign of this is that the quaternion which is the analogy for the AS-SS is the basic group that organizes the fourth dimension. Thus, SST revolves around our attempt to understand the nature of the Fourth Dimension and its relation to the phenomena in the dimension in which we appear to live which is the Third Dimension, even though Physics tells us we actually live in the Fourth Dimension via Relativity Theory. Thus, we can say that the Fourth Dimension is the effective dimension in which we live while the Third Dimension is the apparent dimension in which we live. Thus, SST is about the relation between anomalies based in the Fourth Dimension that show up and effect our existence in the Third Dimension we experience. Essentially SST is an exercise in what B.

³⁰ Klir, George J. *Architecture of Systems Problem Solving*. Place of publication not identified: Springer, 2012.

Fuller called Synergetics³¹ but focused on the Platonic Solids of the Fourth Dimension rather than those of the Third Dimension. And just as B. Fuller did in *Synergetics* we attempt to assign meanings to the interesting mathematical structures we find in the fourth dimension and other dimensions. It is only through Systems Science and its General Systems Theories (GSTs) like those of Klir ASPS that we can attempt to glean the meaning of the mathematics we have discovered in the last century or so calling on it to help us understand the phenomena that we experience through our scientific endeavors. And one of the main things we are attempting to interpret is what I call the Meta-anomaly in mathematics, which is a whole series of peculiar mathematical structures that have been found in various branches of mathematics that have very similar structures, like those that we have already associated with the SST. SST is a Systems Science that concentrates on anomalies that are difficult for General Theories of Systems or Meta-systems to explain because they are holonomic. These are phenomena like Consciousness, Life and the Social. Phenomena that are very difficult for Science to explain. Our SST is very much in the same vein or like the work of Terrance Deacon in *Incomplete Nature*³². In fact, his work is a good basis for considering SST, because reconsiders many of the fundamental concepts of Natural Science that seem to preclude the possibility of SS existing. Our DS-SS is very much like his *Morphodynamic* System, and our AS-SS is like his *Teleodynamic* System. He leaves out however the *Sociodynamic* System that we describe as the RS-SS. So, there are other workers in this field doing work much like SST. The problem with Deacon's work is that it is all theoretical and not guided by mathematics, and thus he does not know the mathematical underpinning of the Morphodynamic and Teleodynamic systems he is positing as the basis for Life and Consciousness. He does not consider Social phenomena as being significant for his enterprise. Also, he does not know about the existence of the EMS which combines the Morphodynamic, Teleodynamic and Sociodynamic characteristics together into a natural cycle as part of the evolution of a Normal System within a Meta-system. Thus, we say that SST is the conditions for the possibility of Consciousness, Life and Society. And that is because these systems exploit negative entropy and negative information to produce complex architectures based on holonomic alchemy (the chemistry of holons) to produce complex living social conscious existential structures in far from equilibrium environments like this universe and this planet.

But here we are preparing to talk about another mathematical resource of SST which is non-orientable surfaces. There are three of them which is the Mobius strip, Kleinian bottle and Projective Plane. The Mobius Strip is additive as two of them combined produce a Kleinian Bottle. And it was assumed previously that the next layer up would be something like a Hyper Kleinian Bottle which is two or more Bottles joined at their self-intersection lines. And this may be true. But it has been realized recently that the RS-SS which is associated with the Octonion is isomorphic to the Fano Projective Plane (PP) and thus there is an emergent mutation at the RS-SS level that takes us from the Kleinian Bottle at the AS-SS level to the Fano PP at the RS-SS level, something that has been known for quite

³¹ Fuller, Richard B. *Synergetics: Explorations in the Geometry of Thinking*. New York: Macmillan, 1983. Fuller, R B, and E J. Applewhite. *Synergetics Dictionary*. Princeton, N.J: Princeton Datafilm, 1976. *A Fuller Explanation: The Synergetic Geometry of R. Buckminster Fuller*. Boston, MA: Birkhäuser Boston, 1986.

³² Deacon, Terrence W. *Incomplete Nature: How Mind Emerged from Matter*. New York: W.W. Norton & Co, 2013.

some time but whose importance was only realized recently. Once we realize that the Octionion is isomorphic with the Fano PP and that this is an emergent leap at the RS-SS level then many different threads of our research agenda congeal into a super-synthesis that changes fundamentally our understanding of SST as a whole. And it is this advance that we are reporting on in this essay. How this realization of the import of the Fano PP to the RS-SS as an emergent mutation was made is quite complex. Suffice it to say it had to do with Hegel and his idea of Internal Relations (IR). The norm in the Analytical Tradition and Science in general is to only consider External Relations (ER). But studying the work of David Rousseau³³ and his use of Concrete Universals³⁴ caused me to go back to Hegel³⁵ who in turn took this idea from Plato³⁶ and try to understand it again in a modern context. And it was through the work of Harris in his Formal, Transcendental and Dialectical Thinking³⁷ that I came to realize that Internal Relations were another blindspot of our tradition like Mass in relation to Sets, or Meta-systems in relation to Systems. Our tradition has totally forgotten about Internal Relations and have gone on to interpret all relations as external. When we start to reconsider Internal Relations and take them seriously it is necessary to introduce the equivalent of essences into schemas³⁸. The equivalent of an Essence of a Form Schema needs to be determined for all Schemas. We will call the general term for an essence of any schema a nerve based on the Nerve Category³⁹ of Mathematical Category Theory. And we will consider that Nerve of a Pattern is a Structure. From what is known of the tradition no one has named the Nerve of a System, and thus we will call it a 'Nucleus'. There is a paper in which I have named all of these Nerves for each Schema and this is a fundamental improvement of Schemas Theory because it is the Nerves that allow us to lend support to internal relations in the schemas. Essences are the carriers of Internal Relations and Husserl makes the case for direct intuition of Essences (essence perception, eidetic intuition) without mediation by Abstraction in his Phenomenology. Thus Essences are independent of all Abstractions, and thus all concepts and ideas. We conceptualize and idealize Essences when we assign them to categories within genera and species. But the Essence itself is intuited directly from the phenomena. And the same is the case with all the *Nerves*, the structures of patterns or the nuclei of systems. Nerves merely produce a co-simplex of all the elements that make up the essence of a schema and thus allow us to connect and index in to each of these elements that make up the essence which are attributes, their limits of variation, and the covariances between these attributes that are deemed essential rather than contingent to the thing whose kind we are determining by a

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https://www.academia.edu/36022714/Rewriting_and_Extension_of_the_Three_Systems_Concepts_of_David_Rousseau

34 https://www.academia.edu/31091924/The_Idea_of_Universal_Concrete_Systems_Theory_Explored

35 Harris, Errol E. *The Spirit of Hegel*. Atlantic Highlands, N.J: Humanities Press, 1993. Mácha, Jakub. Wittgenstein on Internal and External Relations: Tracing All the Connections. New York : Bloomsbury Academic, 2015. Lyng, Stephen. *Holistic Health and Biomedical Medicine: A Countersystem Analysis*. Albany, N.Y: State University of New York Press, 1990. Russell, Bertrand. *My Philosophical Development: With an Appendix, Russell's Philosophy*, by Alan Wood. New York, 1959.

36 Bănică, Marian. "Plato, Landmarks of the Way of Rationalism from the Abstract to the Concrete Universal." *Buletin Științific. Seria Științe Socio-Umane*. 7.1 (n.d.): 59-88.

37 Harris, Errol E. *Formal, Transcendental, and Dialectical Thinking: Logic and Reality*. New York: State University of New York Press, 1987.

38 https://www.academia.edu/29403507/Schematic_Nerves

39 [https://www.wikiwand.com/en/Nerve_\(category_theory\)](https://www.wikiwand.com/en/Nerve_(category_theory))

judgment. After framing the problem of the essence of the schemas and using the idea of the *Nerve* to align all the differently named essences of the various schemas, then an odd thing happened. I realized that in a design the relations between components were external relations, and the relations between different things that had components, i.e. systems, were also external relations. So, I realized I lacked a way of representing the Internal Relations that were any different from the External Relations that were themselves Simplices all built up using the various Philosophical Principles of C.S. Peirce and B. Fuller. And Hegel did not really help because he only had a conceptual model of the Internal Relations with no basis in Mathematics. But by serendipity I realized that a good model for the Internal Relations might be the Fano Projective Plane⁴⁰ which was isomorphic with the octonion. And that realization set off a cascade in which many different ideas that seemed unrelated suddenly synthesized into the set of ideas that I am presenting in this paper. Special Systems Theory (SST) is fundamentally extended based on the Fano PP as an emergent mutation within the progression through the series of SS. And it is precisely that emergent mutation that allows Internal Relations to be portrayed. Internal Relations are a fundamental emergent characteristic that appears at the RS-SS level. And this is a basic extension of SST. Thus, the series of non-orientable surfaces contributes a new property to the RS-SS, that is not seen in the algebraic series, in fact we are moving fundamentally from algebra to geometry at that transformational point in the unfolding of these series. The third type of Non-orientable surface is contributing new emergent properties to the RS-SS beyond what we considered possible previously. We knew about the relation between the Fano PP and the Octonion for a long time, but it did not occur to me that that mapping signaled a completely different way of looking at the RS-SS. And here we will explore the implications of this new way of looking at the RS-SS.

For quite some time it was known that the RS-SS was an inwardly mirrored tetrahedron⁴¹ whose reflection created what is known as an onarhedron⁴². The AS-SS is a set of three facing mirrors in a triangle and the DS-SS was two facing mirrors reflecting each other, while the Normal System with Real Algebra is a single mirror. This was discovered some time ago by Onar Aam with which we used to collaborate along with Ben Goertzel and Tony Smith. This mirroring relation stops at the RS-SS level because beyond that the mirrors have to be warped or they have to be separated from each other like they are in physics experiments with light. The special properties of the Hyper Complex Algebras breakdown due to the 84 singularities (zero divisors) in the Sedenion and the mirroring space is then referred to as the Fun House because it is full of distorted mirrors from that point forward. However, I never considered that the Inwardly Mirrored Tetrahedron at the RS-SS level contained anything. But when we realize that the Octonion is what sets up this inwardly mirrored tetrahedron then it makes sense that what it contains is the Sedenion when we realize that the Projective Space PG(3,2) which is the next level up is tetrahedral in overall shape. So suddenly what I thought to be merely a field with singularities in it, when considered as a projective space has a definite shape and configuration that is positive with its own specific structure. Thus, we transition at this point from Algebra to Geometry,

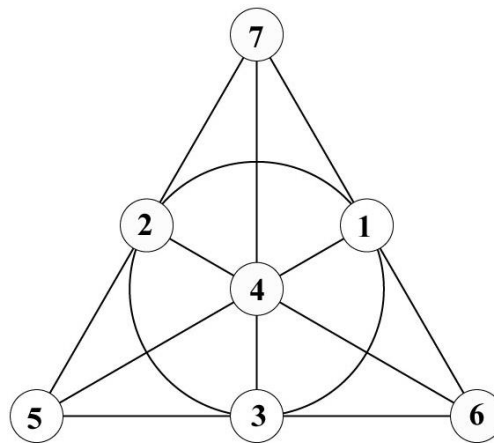
⁴⁰ https://www.wikiwand.com/en/Fano_plane

⁴¹ <http://think.net/answer-the-view-from-inside-of-a-mirrored-tetrahedron/>

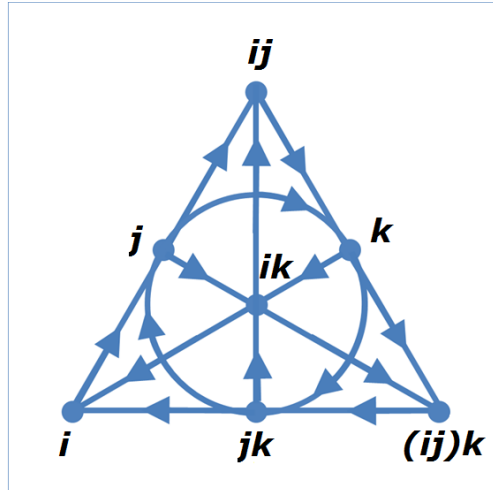
⁴² <http://www.tony5m17h.net/clcroct.html#heptonardef>

a special geometry called Projective Planes and Projective Geometry which is the basis of Projective Spaces and Perspective. They too have a structure similar to that of the Pascal Triangle, but their fundamental structure is different. And that fundamental structure seems to be suited for the embodiment of Internal Relations just as the simplicies and other geometrical figures that emanate from the Pascal Triangle is suited to portray External Relations.

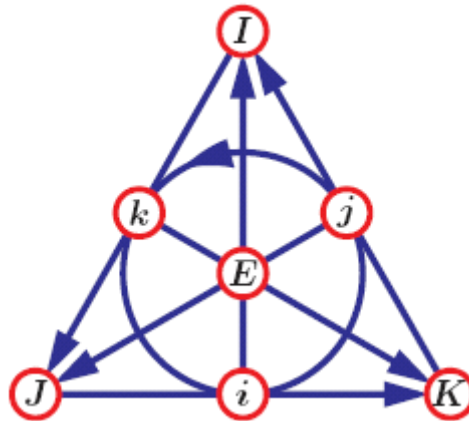
At this point we need to consider the nature of Projective Geometries of which the Fano Projective Plane is the simplest and is also isomorphic to the imaginaries of the Octonion. The Fano PP is composed of 7 points and 7 lines. And each line has three points on it. And all of the points and lines are interconnected so that every point is defined by three lines and every line is defined by three points. Only crossing lines that have points joining them are part of the geometry. So, this plane is basically made up of only points and lines, and crossing lines without points are meaningless. But this geometry has some interesting unique properties compared with other geometries. For instance, it is a non-orientable geometry. Also Points and Lines can be interchanged to get the dual geometry. It is a closed elliptical geometry. But it can be used to map three dimensional representations into the second dimension. However, when we attempt to fit this geometry into three dimensional space it will not fit. It produces surfaces like that of Boy or the Roman Surface when we attempt to stuff it into the third dimension. Thus, this surface has singularities or self-intersections when we attempt to place it in three dimensional space. But at the same time it is the simplest means for representing three dimensional things in the second dimension. We can see it as three points of perception (5, 6, 7) onto a horizon line (1,2,3) with the aid of the central point (4) that mediates three crossing lines. In general Projective Planes are known for the ability to transform one perspective into another through a line, and that is what it means to project. But also we can project one line into another through a perspective. Thus, the line 716 can be transformed into line 725 based on the pivot at 7 around the line 743. This PP has a group of 168 which is 6×28 the product of two perfect numbers.



Fano PP PG(2,2)



Fano PP to Octonion Mapping



Another mapping to the Octonion Imaginaries

Let us consider how this simplest of Projective Geometries called by the name of its discoverer Fano represents Internal Relations. Notice that all relations between the elements points and lines are internal to the geometry. And that the difference between lines and points are strictly dual, such that we can transform either into the other easily and directly by substitution. So everything within this geometry is fused together yet at the same time differentiated. It is not additively accumulated but it is an all at once structure like we say in the Surreal Numbers that had a few rules for construction which then gave rise to all the variety within the numbers themselves. Here we have a similar situation where we are given the entire geometry as one thing, even though we can dissect it into Axioms and show that the axioms force us into this minimal geometry as a configuration of points and lines. Thus, the geometry is a whole, with differentiated parts that we discover by prescinding it in a way that differentiates the parts which are both the same number and which are duals of each other in every way within the structure. This is what Internal Relations look like. And this is the basis of Systematicity⁴³ in reasoning because we can get to all the other properties of this structure from just a few elements that imply all the

⁴³⁴³ Aizawa, Kenneth. *The Systematicity Arguments*. Boston: Kluwer Academic, 2003.

others. This is an example of what Bohm calls Implicate Order⁴⁴ or that Polanyi calls Tacit Knowledge⁴⁵. The Fano as a closed like an elliptical geometry only having what Bohm calls Implicate Order⁴⁶ that relates only to itself and by those relations reciprocally define the complementary parts that are defined by each other and are perfect duals of each other. Every element is an ipsity (from ipseity) of this aggregate. It is neither a set nor a mass. We are better to call it a self-dual configuration. The configuration defines the elements and the elements add up to the configuration directly. If we were to try to say it is a set of points and a set of lines with a mapping between them then we could construct a Category Theory description of the object. Because it has rotational and flip symmetries the points are very difficult to distinguish other than the central point except by labeling. In a sense the points are like masses and the lines are like masses with a mapping between them that preserves the symmetries of the geometry. But either way we attempt to define it we discover that the configuration of the points in relation to each other through the lines and the lines through the points are basically mutually defining structurally through the configuration and not through the particularities of the points and lines, and not through the indistinguishability between the lines or between the points as in a Mass. Each element as an ipsity in this aggregate takes on its meaning through its configuration with the others, and that defines a geometry, a closed system whose elements are mutually defining in every way. Here the whole adds up to the configuration of its parts as ipsities in a configured aggregate with two types of elements points and lines. Points define lines and lines define points and they are mutually dually substitutable with each other. Thus, there only properties come from their mutual interdependence. Within the geometry it is only the *internal relations* among the configured elements that define those elements. Its external relation to other things is through its apparent triangular shape. But that shape is not necessarily the essence of the form because it can be given different shapes.

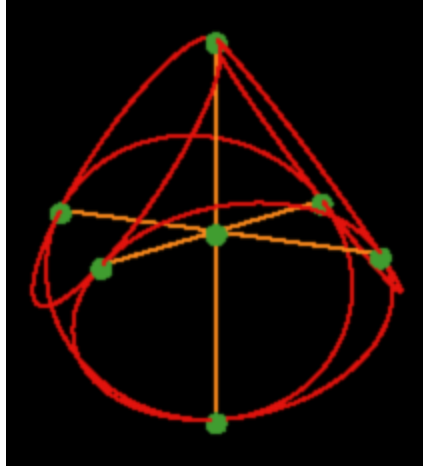
We should note that this is like a two dimensional analogy for the perfect number. The key to a perfect number is that the parts define the whole and the whole defines the parts perfectly. And the Fano PP has the same property as a two dimensional configuration. Thus there is a certain perfection to this idea⁴⁷ which make it unusual when we compare it to the other geometries both Euclidian and non-euclidian (hyperbolic and elliptical).

⁴⁴ https://www.wikiwand.com/en/Implicate_and_explicate_order

⁴⁵ https://www.wikiwand.com/en/Tacit_knowledge Polanyi, Michael, and Amartya K. Sen. *The Tacit Dimension*. Chicago, Ill: The University of Chicago Press, 2013.

⁴⁶ Bohm, David. *Wholeness and the Implicate Order*. London: Routledge, 2013.

⁴⁷ https://www.academia.edu/35789569/Perfect_Ideas



As a geometry this structure is oblivious to everything beyond it. To us it has different external shapes but to it there is only its mutually defining relations between its elements. We should also mention that this is also a famous Matroid⁴⁸ as well.

6

DILLON MAYHEW AND GORDON F. ROYLE

$r \backslash n$	0	1	2	3	4	5	6	7	8	9
0	1	1	1	1	1	1	1	1	1	1
1		1	2	3	4	5	6	7	8	9
2			1	3	7	13	23	37	58	87
3				1	4	13	38	108	325	1275
4					1	5	23	108	940	190214
5						1	6	37	325	190214
6							1	7	58	1275
7								1	8	87
8									1	9
9										1
Total	1	2	4	8	17	38	98	306	1724	383172

TABLE 1. All matroids on up to 9 elements

Matroids specify all possible geometries of which the Fano is merely one of order 7 out of 306. It is probably the one of rank 7 as well which is unique. Matroids it should be noted encompass the Fano Geometry and all other Projective Geometries in as much as they generate the possibility of all geometries. We associate Matroids with Internal Differences of Deleuze and distinguish Internal Relations from Internal Differences.

We have an argument that if we start with external differences between things within the world, that we can deal with them either as Sets or Masses. But Sets have too much

⁴⁸ Mayhew, Dillon, and Gordon F. Royle. "Matroids with Nine Elements." *Journal of Combinatorial Theory, Series B*. 98.2 (2008): 415-431.

difference between their particulars and Masses have too much identity between their instances. Sets and Masses are duals of each other with emergence occurring in the particular within the Set and at the Boundary of the Mass that contains the identical instances. Thus they are duals of each other with respect to where the emergent properties are realized. But if Sets and Masses are duals of each other with their own logics (Syllogistic and Pervasion Logics) the what is between these two extreme models by which we can understand the external differences of phenomena. What is between them is the ipsity in the Aggregate. And we have two examples of this. One is the Emergent Meta-system which is open and transforming of swarms through different modalities such as possibility, actuality, reality and virtuality as seen in Bergsonism⁴⁹ by Deleuze. On the other hand we have seen that the dual of the EMS is the Projective Plane that is the perfectly diacritical configuration that is a good model for the internal relations and closure of the Essence. Deleuze makes clear that internal difference is different from the internal relations of Hegel. Deleuze uses the Adequate Ideas of Spinoza and the Complete Ideas of Leibniz to define these internal differences which then Hegel refines. Hegel names the sequence of internal differences when he gives as a model in the *Preface* to Phenomenology of Spirit⁵⁰ the transformation of a tree from its seeds, to the leaves on the stem to the flowers and then the seeds which is our example of the Emergent Meta-system cycle as well. Internal differences are the discontinuities of transformation within the thing itself that is produced by nature. And as Plato says we need to cut through the joints of the phenomena and not through the bones when butchering the phenomena. The appearance of internal differences talked about by Deleuze in Difference and Repetition⁵¹ is primary and the unfolding of internal relations between the holonic parts is secondary, and then the relations between the parts as a mereology and with other things is then an example of external relations that are tertiary which then we can model with Sets or Masses. Thus, the Matroid as the model of Internal Relations sets in the middle between the Set/Mass axis on the one hand and the Emergent Meta-system/Projective Geometry (Essence) axis on the other hand. And it is Internal Difference that Deleuze wants to pursue as the most fundamental phenomena on which all other distinctions, discriminations, and discernments are exercised. Deleuze wants to tell us that the production of internal differences is a positive phenomena. Essences are based on negation because the dualities within the configuration of the Projective Geometry is based on the negations that give the complement of any given element. We want to keep this perspective that differentiates Internal Relations from Internal Difference as we continue to explore the importance of Hegel's Internal Relations that are associated with the Notion and which is an extension of the Adequate Ideas of Spinoza and the Complete Ideas of Leibniz revolving around the concept of Perfect Ideas. Perfect Ideas bring everything that is needed for their understanding with them if they are Adequate and they being even concrete examples if they are Complete. Notions of Hegel on the hand are based on the Groupoid⁵² applied to Syllogistic Logic of Set Theory which then can be augmented by Pervasion logic to get a definition of the Mass Theory related co-Notion.

⁴⁹ Deleuze, Gilles, Barbara Habberjam, and Hugh Tomlinson. *Bergsonism*. New York: Zone Books, 2011.

⁵⁰ Hegel, G W. F, A V. Miller, and J N. Findlay. *Phenomenology of Spirit*. Oxford [u.a.: Oxford Univ. Press, 2013.

⁵¹ Deleuze, Gilles, and Paul Patton. *Difference and Repetition*. London, UK : Bloomsbury,, 2014.

⁵² https://www.academia.edu/35992276/Hegels_Groupoids

What we note is that Matroids are used to understand the relations between Facets and Monads in Schemas Theory⁵³. We can consider the Fano PP as based on the Monad, which is either a line or a point. But we can consider the differentiation of internal relations that distinguish these points as Facets. Of course, we can consider all the points instances, and all the lines instances. And thus the Fano PP would be an emergent mass effect of the solution of two heaps of masses being brought together in an isomorphic way. Or we can consider them as sets of points that are labeled and thus different and a set of lines that are labeled and thus different. In the case of Set theory, we can use functions to combine the set of lines and the set of points, but these functions are really morphisms of Category Theory from the domain of points to the domain of lines. But this category is really a Dagger Category⁵⁴ because the mapping can just as well be reversed if we substitute points for lines and vice versa. This mapping can specify the configuration externally, but the internal relations between the points and lines that exemplifies the triality of the octonion are in fact internal relations that we would externalize by providing a mapping. We do not have a good concept for this in English but in Chinese it is called Shi (勢 propensity)⁵⁵.

In *The Propensity of Things*, François Jullien suggests that *shi* is in fact a generic category the Chinese employ in cognition and in practice. The Chinese sees *shi*, a natural dynamic propensity in a form or a disposition, existing everywhere in nature and in the human world. The Chinese advocates an active employment of *shi* in many areas of their practice: devising a military and political strategy, composing a painting, a poem or a novel, and theorizing dynastic history and moral, political reality. Among the practices Jullien discusses, *fengshui* and the art of scroll painting are related, based on their common use of *xing* and *shi*.⁵ Seeing form and propensity operating in the landscape, the Chinese employs them and enacts their interrelations in a long horizontal scroll (Figure 9.2). The idea of form containing larger currents and flows, of shifting and rolling forces and propensity, are expressed not only in the profile of mountains and waters, but also in a composition of spaces and viewpoints extending across the surface of the painting.

In the configuration different elements have specific propensities to realize themselves in relation to the other elements. Xing (形) is the form and content together as reconciled with each other. In this case the external shape and the fact it is made up of points and lines. But Shi is the specific configuration of mutual dependence by which the various ipsities in the aggregate realize each other in that specific configuration differentiating each other mutually. The monads of points and lines are thus exhibiting a certain faceting that exhibits the structure of a particular Matroid in which there is complete duality between the two types of monad (point and line) which are reciprocally related.

⁵³ https://www.academia.edu/3795700/Schemas_Theory_Monad_Theory

⁵⁴ https://www.wikiwand.com/en/Dagger_category

⁵⁵ Jullien, François. *The Propensity of Things: Toward a History of Efficacy in China*. New York: Zone Books, 1995. Zhu, Jianfei. *Chinese Spatial Strategies: Imperial Beijing, 1420-1911*. London: RoutledgeCurzon, 2004.

The key point here is that it is only at the level of the Fano PP that this property exists, thus it needs a certain complexity to occur at all. And it turns out that its threshold of existence is the same as that of the octonion that specifies the minimal mirroring social structure in the RS-SS. And with this appearance of a structure that is like an essence, i.e. exhibits internal relations, a new world is opened up of projective planes and spaces. The very next one of these that goes into the next dimension is $PG(3,2)$ which has the shape of a Tetrahedron and thus fits into the inwardly mirrored tetrahedron of the RS-SS. But there is also a development by which the two dimensional projective geometries differentiate which are $PG(2, n)$. And thus, there are both types and co-types of Projective Geometries that form a grid of possible structures both to higher dimensions and also within each of these dimensions giving different answers to the possibilities of structural variation at different orders. What is amazing about this is that as Hyper Complex Algebras grow weaker these projective geometries become more and more complex in a fractal way filling the fields opened up by Hyper Complex Algebras with weaker and weaker properties with highly structured projective geometries of various dimensions and orders. This phase transition is what is new and considered an advance in SST. And we are led to ask whether in this transition between algebra and geometry we find also co-geometry, i.e. Topology, and sure enough it is there because we are dealing with anomalous non-orientable surfaces. And then we can ask whether there is anything like a co-algebra involved, and then we notice that both Pascal's triangles and tetrahedrons are produced by co-recursion of a progressive bisection when it is considered in terms of information infrastructure. And the same thing is happening in the negative space that mirrors the Pascal formations in which the Hyper Complex Algebras differentiate via the Caley-Dickson process. And so each of the types of Mathematics that we found in the Kantian Meta-episteme appears to be at work in the production of the differentiation of the various extensions of the SS into the spaces of the Meta-system which has suddenly taken on a positive form through the production of configurations that exemplify internal relations. Thus, if we can say that the DO-SS is the result of negative entropy, and the AS-SS is the result of combining that with negative information, then we can say that the RS-SS is the result of adding Internal Relations in the specific configurations with mutually defining propensities (Shi) of Projective Geometries that are non-orientable. This is an emergent mutation added by topology that underlie the geometries. These geometries are intrinsically representational. They represent three dimensional objects in two dimensions. But they do not fit into the third dimension without singularities or self-intersections of their surface. Thus, their relations of representation are intrinsically distorting. And in fact, we relate them to the Aspectual Field and its structure⁵⁶. We note that the number of elements in the Fano PP is 7 the same as the number of standings, and the number of sides to the tetrahedron of the three dimensional PP $PG(3,2)$ is four which is the number of the sides of the inwardly mirrored tetrahedron which is also the number of Aspects in the Western worldview. These aspects transform at each standing. In other words, we expect that there is a relation between the structure of the Western worldview and these structures born out of the RS-SS that conditions the possibility of the worldview arising. But understanding how this may be the case just became much more difficult because a lot of latent structure that was always there in SST

⁵⁶ https://www.academia.edu/9913285/Dreamtime_Structure_of_Inception

suddenly has become visible and its significance understood making the theory stronger but also much more complex and difficult to comprehend.

- meta-dim 8 0 - null -- worldview is finite.
- meta-dim 7 1 - \
- meta-dim 6 1 - ___Trinity? or the three nonduals within the Divided Line?
- meta-dim 5 1 - /
- meta-dim 4 2 - ___ Worldsoul generators of tetrahedron
- meta-dim 3 3 - /
- meta-dim 2 4 - Aspects (Identity, Truth, Presence, Reality)
- meta-dim 1 7 - Standings (Meta-levels of Being, Existence, etc.)
- meta-dim 0 10 – Schemas (S-prime hypothesis)
- meta-dim -1 16 - Arche (quaternion of quaternions)⁵⁷

One indication that the Worldview theory based on Fibered Rational Knots which was developed as the context for Schemas Theory is pertinent is that as we go beyond the Seven Standings and the Four Aspects we encounter what is known as the levels 3 and 4 meta-dimensions of the Two and Three elements each which multiply together make a perfect number and are the sides of a Tetrahedron which we might suggest is analogous to the Inwardly Mirrored Tetrahedron of the RS-SS. We associate this tetrahedron with the WorldSoul of Plato, a moving image of eternity in time. The 4-6-4 elements of these tetrahedrons have been interpreted in various ways over time in the different contexts. But here based on the recognition that the Projective Plane and Projective Space relate to and fill this tetrahedron this brings new light to the question of how to construe the homologies between these three tetrahedrons which are probably the same thing. In one case it is the Inwardly Mirrored Tetrahedron of the RS-SS that becomes filled with the Projective Plane and three dimensional Projective Geometry. In another case it becomes the structure of the WorldSoul within the Western Worldview. And in yet another case it becomes the Formal Structural System in relation to its environment. If we can unify these various usages of the Tetrahedron and its interpretation in various contexts then we will achieve a synthesis of various themes in which a very similar structure appears. And it is the discovery that the Inwardly Mirrored Tetrahedron contains the Projective Geometry whose sides are Fano Planes that prompts this attempt to bring unity to these different uses of the same structure in various contexts. We might think of it like this. The RS-SS produces a space which is the inwardly mirrored tetrahedron which is reflective and social, i.e. a configuration of social mirrors⁵⁸. And this space of the tetrahedron is the basis of the Social Construction⁵⁹ of the worldview of the particular *fused-group*⁶⁰ that projects it. On the one hand that space is made concrete by being seen as the space of the relation of the Formal Structural System with the real world and thus generates the properties associated with that which are

⁵⁷ Jung, C G, and R F. C. Hull. *Aion: Researches into the Phenomenology of the Self*. London: Routledge, 2014.

⁵⁸ [https://www.wikiwand.com/en/Social mirror theory](https://www.wikiwand.com/en/Social_mirror_theory) <http://www.socialmirrors.org/en/> Whitehead, C.

"Social Mirrors and Shared Experiential Worlds." *Journal of Consciousness Studies*. 8 (2001): 3-36.

595959 Berger, Peter L, and Thomas Luckmann. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York, NY : Open Road Integrated Media, 2011.

⁶⁰ Sartre, Jean-Paul. *Critique of Dialectical Reason*. London, NLB: Humanities Press, 1978.

consistency, completeness and clarity in relation to truth, identity and presence and when we add reality then we also have coherence, verifiability and validity. Thus, the relations between the aspects are the properties of the formal system in relation to the world. We can represent the formal structural system within its context of meta-systemic world domain in terms of Schemas Theory. But every schema can be ramified up the series of the meta-levels of Being, and every meta-level of Being construes the aspects of Being differently. So there is a kind of reverse fractal structure that goes up from the schemas to the standings which include the kinds of Being to the aspects of Being. And there are four aspects of Being and Seven standings. When we consider the sequences that have 10, 7, 4 in them the most interesting of these are the Fibered Rational knots which have the sequence 1, 1, 1, 2, 3, 4, 7, 10, 16, 25 ... So we associate these with the structure of the Western worldview in order to get a picture of its possible transcendental architecture. This is the precise dual of the theory of Pure Immanence⁶¹ of Deleuze. Each of these levels are considered a meta-dimension and each meta-dimension has finite elements associated with it dictated by the fibered rational knots which is a subset of the table of all knots. This gives us a testable hypothesis about the structure of the worldview based in mathematics. And this makes sense because knots are archetypes of self-organization, which we can fall back on in realms in which there is no inherent order like the transcendental planes⁶². It gives us a model of the context of the schemas within the worldview, as we place the schemas at meta-dimension zero. Each meta-dimension is a new emergent level of transcendence, and it turns out that there are seven standings, and then four aspects. And we can interpret levels three and four in terms of the WorldSoul⁶³, and levels five, six and seven in terms of either the divided line (preferred) or the trinity which is how they are normally interpreted in the West. This allows us to see that the trinity really is at the highest transcendental levels of the Western worldview. Kant interprets these levels in terms of the relation between soul, world and god. This contrivance also places the perfect number six at the center of the worldview in the form of the image of the WorldSoul which is the intersection of temporality and eternity (moving image of eternity in time). In one context we have the space of the socius⁶⁴ produced by the RS-SS which is an inwardly mirrored tetrahedron. But in another context that tetrahedron is filled with projective planes and spaces through the articulation of projective geometries. Those geometries define the numbers seven and four with four Fano Planes on each side of the tetrahedron. And these numbers are associated with the seven standings and the four aspects seen in our W-prime hypothesis as to the structure of the Western worldview. We associate the four mirrors of the inwardly mirrored tetrahedron with Fano planes that are etched on their surface and see these as the aspects of Being. And each of these aspects of Being we associate with a different temporality⁶⁵. And we see the Fano PP as being an articulation of those temporalities in

⁶¹ Deleuze, Gilles, John Rajchman, and Anne Boyman. *Pure Immanence: Essays on a Life*. New York: Zone Books, 2012.

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https://www.academia.edu/19016064/A_Structural_Analysis_of_an_Egyptian_Book_of_the_Dead_and_the_Deep_Structure_of_the_Western_Meta-Worldview

⁶³ <https://medium.com/being-time/hypothesis-about-emergent-worlds-691c85ba8691>

⁶⁴ Deleuze, Gilles, and Félix Guattari. *Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1983.

⁶⁵ https://www.academia.edu/12970172/Genetic_Phenomenology_and_Fundamental_Ontology_of_the_Meta-levels_of_Time

which the central co-now on each plane is a different one of the four dimensions of time⁶⁶. But this is a filling up of the RS-SS mirrored tetrahedron with the structure that support Internal Relations. But we can reinterpret it again from the outside as the source of external relations. In that case we have the relations between the four aspects that produce the properties of the formal system and its relation to reality which is then understood more finely as the relation between the Formal Structural System and the external schemas of meta-system, domain and world. The key here is that we are either looking at the tetrahedron from the outside as the source of external relations or from the inside as embodying internal relations. That causes our interpretation of the points, lines and sides of the tetrahedron to flip with respect to its self-dual lattice 1-4-6-4-1. In the one case the aspects are the four points generating the six lines of properties and the faces are the combinations of those properties. In the other case the faces are the aspects which are distinguished by the six lines that define the four points. If the points are the aspects then we get a picture that looks like this where the existentials from Egypt and Sumeria are the struts that differentiate the aspects from each other. The six existentials give us the internal differentiation of the four aspects. But in terms of the Formal Structural System and its relation to its environment these existentials get reinterpreted as the properties of the Formal Structural System. This is the external view of the relations between the Aspects of Being and their differentiation in relation to the existentials and their connection with respect to the properties of the externally viewed Formal Structural System. But in terms of the internal view then we see the way that the four mirror faces of the tetrahedron are structured based on the Fano PP and its relation to time. The existential can still serve as the source of their differentiation and articulation from each other. But the overlay in this case is the perfect number six and its relation to the WorldSoul. The WorldSoul is a series of progressive bisection and progressive trisection with the form 8-4-2-1-3-9-27. Thus, it starts as the sequence of powers of two and powers of three. And these powers define levels of differentiation. The most basic level of each of these series is two and three. The binary differentiation proves the information infrastructure that we see in the Pascal Triangle. The trinary differentiation gives us the basis of the Pascal Tetrahedron. At each level the binary progression matches up with the tertiary progression. We note that the Octonion has the property of triality. This is a three-way complementarity which is very rare, as most complementarities are binary. It is triality that determines the rotational structure of the Fano PP. This may be the unique instance of three-way complementarity in existence which is mathematically well defined. Plato believed that the three-way series and the two-fold series defined the structure of the unfolding of the world soul and this structure gives us the Pascal triangle and tetrahedron respectively and these define external relations by differentiating and then mediating. We note that just beyond the threshold of the WorldSoul that Plato describes there is the level of 16-81 which is the structure of August Stern's Matrix Logic⁶⁷ which has many interesting and pertinent properties. In China the I Ching

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https://www.academia.edu/35853850/How_Simultaneous_Multiple_Independent_Times_Impact_Our_Ways_of_Being <https://independent.academia.edu/KentPalmer/Heterochronic-Era>

⁶⁷ Stern, A. *Matrix Logic*. Elsevier Science, 2014. Stern, August. *Matrix Logic and Mind: A Probe into a Unified Theory of Mind and Matter*. Amsterdam: North-Holland/Elsevier, 1992.

which is based on binary progression is complemented by the Classic of the Great Dark⁶⁸ which is built on three-way differentiation instead of progressive bisection. We would like to note that just as the first level is associated with the perfect number 6 whose divisors are 1, 2, 3 that add up to 6, so to the last level designated 8-27 is associated with the perfect number 28 because the number of relations between 8 this are 28 ($n^2-n/2$) just as the relations between four things are 6. The perfect numbers are associated with certain specific levels of the progressive bisection. Whether there is any odd perfect number is an open question. But it is interesting that the number of relations between eight things is 28 but the number of mediations at this level is 27, one less. We note that the group for the Fano PP is 168 which is 6 times 28. What we are saying is that the perfect numbers are at the heart of the world soul. It starts off with six as 2×3 . And then four elements at the next level have 6 relations. And then 8 elements at the highest level have 28 relations. The relations between binary elements are both perfect. If we multiply these two perfect numbers together we get 168 which is the group of the Fano Plane. The mediators on the side that is related to three, i.e. 9 and 27 are associated with tensors⁶⁹. There are three quaternion imaginaries. And when we take the Cartesian product of three sets of these imaginaries we get the 3-tensor which has 27 elements. This is the embodiment of the law that relates reference frames in spacetime for all observers. A slice of this is the stress 2-tensor has nine elements which is related to the Axiomatic Platform⁷⁰. Twenty-Seven then triples these 2-tensors which have been called Enneads and allows them to be mediated as well. Famously there are 27 lines on a cubic surface⁷¹ as well which is a related topological structure. In other words, there are deeper mathematical correspondences uncovered by modern mathematics of the Twentieth Century for each term that Plato includes in his model of the differentiation of the WorldSoul that need to be explored before we dismiss them as mere numerology. The WorldSoul is the germ out of which the Pascal Triangle and Pascal Tetrahedron are generated which give us all binary and tertiary mediations of External Relations. But within this structure there are two levels of the perfect numbers associated with the binary components giving us 6 and 28 element that when we multiply them give us the group of the Fano PP and thus the basis for the structing of Internal Relations. The Pascal Triangle and Pascal Tetrahedron are dissipative ordering structures par excellence. But within the WorldSoul that distinguishes binary distinctions from mediations as two series there are perfect numbers associated with the specified series. And these perfect numbers when they interact give us the basis for understanding internal relations via the Fano PP. I don't believe that this is a coincidence. We note that the Projective Geometries are closed structures and can be seen as the prototype of essences of forms, structures of patterns, nuclei of systems, and *Nerves* in general of schemas. This closure of the projective geometries can be seen as the image of eternity that exists at the core of the unfolding dissipative structures of the Pascal Triangle and Pascal Tetrahedron. Perfect Numbers are supervenient on their parts. And the parts always start with 1 as the first divisor. This 1 is the difference between 27 and 28 at the third level which is as close

⁶⁸ Yang, Xiong, and Michael Nylan. *The Elemental Changes: The Ancient Chinese Companion to the I Ching*. Albany, N.Y: State University of New York Press, 1994.

⁶⁹ <https://www.wikiwand.com/en/Tensor> <https://www.youtube.com/watch?v=f5liqUk0ZTw> What's a Tensor?

⁷⁰ https://www.academia.edu/34831961/EMERGENT_DESIGN <http://emergentdesign.net>

⁷¹ <https://blogs.ams.org/visualinsight/2016/02/15/27-lines-on-a-cubic-surface/> J. Baez
https://www.wikiwand.com/en/Cubic_surface

as the two sides get before they diverge completely. If we think of the Internal Relations as the interaction between perfect numbers that are themselves self-contained as supervenient with their parts in the form of the Fano PP, then we see that this perfection acting on itself is the anomalous source of Internal Relations and their differentiation.

We have made the case that the RS-SS inwardly mirrored tetrahedron which is the field of the Social can be seen as related to the Pascal Tetrahedron and Pascal Triangle as a DO-SS, to the Projective Space $PG(3,2)$ whose four faces are the Fano PP $PG(2,2)$, as well as the tetrahedron that appears in our model of the WorldSoul at meta-dimension levels three and four. We have argued that the external view has the aspects as the points of the tetrahedron, while the internal view associated with the Fano PP has the aspects associated with the sides of the tetrahedron. This unifies several themes of our research into the structure of the Western worldview and relates it directly to SST. It makes a clear distinction between Internal and External Relations. External relations are generated and modeled by the Pascal Triangle and Pascal Tetrahedron on up to N-simplicies of N-1 dimensions. Internal Relations are generated and modeled by the Projective Geometries. These different types of Relation can be seen as associating the Formal Structural System and its relation to the Meta-system Domain World environment in terms of Schemas Theory. But at the same time relating the four aspects to the properties of the formal system in relation to reality. This unification of the theories clearly needs more work. But it does give us a clear distinction between the characteristics of Internal and External Relations which is seen in terms of the difference between Projective Geometries as Fano Planes $PG(2,2)$ or the three dimensional Projective Geometry $PG(3,2)$ and Pascal Triangles and Tetrahedrons and it places the locus of this differentiation in the RS-SS which has an inwardly reflective tetrahedron at its core whose sides can be associated with the Aspects of Being and the four dimensions of temporality, where the central element of each Fano PP that are the faces of the Tetrahedron are the co-nows of the separate four dimensional timelines.

In this way the realization that the Projective Geometries are the way to portray Internal Relations, i.e. the structure of essences allows us to see the co-simplicies of the *Nerves* differently. These Co-simplicies are actually various dimensional Projective Geometries in the series $PG(2,2)$, $PG(3,2)$, $PG(4,2)$, $PG(5,2)$, etc. But the side effect of this realization is to understand that Nerves in themselves as *essences* for Forms, *structures* for Patterns, or *nuclei* for Systems, are in fact internally extremely complicated compared to their external form by which they connect elements of the *Nerve*. And we also realize that they are fractal in as much as the Fano PP is ramified internally to these Projective Geometries. There are four outwardly as the faces of the tetrahedron, but internally there are 15 such $PG(2,2)$ surfaces within the $PG(3,2)$. This internal complexity and fractal structure based on the Fano PP is a surprise and its meaning is not clear. But what is clear is that there is an emergent mutation at the level of the RS-SS that makes the simplest projective geometry which is the Fano PP and which is also a particular Matroid. And once this archetype of internal relations arises then the endless series of Hyper Complex Algebras that was considered an empty field suddenly becomes a very specific geometry that manages to represent Internal Relations and it is these internal relations that are the grid of type (class) and co-type (subtype) of the essence of the Social. We see Essences directly according to

Husserl's Phenomenology independent of all Abstractions either as Generalities or Universals. This possibility that allows us to navigate the world by seeing its different kinds arises as an emergent event in the RS-SS. This opens up a new field of the various projective geometries that appear as type and co-type as a ramified structure of classes for each dimension and types at each dimension. The Fano PP is the very first of these. It has three points per line with three lines intersecting at each point.

We can imagine degenerate cases of this simplest Projective Geometry. The next degenerate case down might be called 'PG(1,2)' is two points with two intersecting lines defining each point. This is not a Projective Geometry. But we can identify it with the Groupoid structure. In that structure each point has two types of lines one which maps to the other point and one that maps to itself. In the two element Groupoid there are two figures. One figure has one point with two self-mapping arrows. The other figure has two points each with self-mapping arrows. These combine to create the normal groupoid structure with two points each with a self-mapping arrow and each with an arrow mapping to the other. Math books do not say that the simplest 2 element groupoid is a degenerate case of the Fano PG(2,2) simplest Projective Geometry. But if this is the case then that presents an interesting scenario in which "PG(0,2)" would then be a further degenerate case with one point and one self-mapping arrow. We could read this as a self-calling co-recursive function that creates numbers. In this case the series would be that a co-recursive or reflexive function is the first to appear within the Open space of the Inwardly Mirrored Tetrahedron within the RS-SS. Then that unfolds into the Groupoid Structure that gives rise to synthesis. And that then unfolds into the Fano Projective Plane which is the simplest model of a perfectly diacritical system. Which then is the basis for Systematicity and the production of meaning within Semiotic systems that are partially diacritical with islands of pure diacritically. And this then is the basis for Logos. Logos as language has the same structure as the schemas which is then also projected on to things in terms of a projected schematization that allows various organizations of things to be recognized. The groupoid structure is the only source known of active synthesis. Groupoids are the way in which simplices or projective spaces are built as syntheses. This identification of degenerate cases of the Projective Geometries may not be perfectly correct mathematically, but in terms of ideational unfolding or progression and conceptual dependence it has merit.

Groupoid mappings produce the simplices at each dimensional level of the Pascal Triangle or the cross/ortho polytopes in the Pascal Tetrahedron. Each side of the Pascal Tetrahedron is a Pascal Triangle. We can see that as existing in the Inwardly Mirrored Tetrahedron of the RS-SS by finer and finer division as it grows as a Dissipative Structure. The same thing can be said for the series of Projective Geometries of higher and higher dimensions, they also are fractal Simplices. Thus the embodiment of Internal and External relations are produced in the same way as the generators of simplices on as normal geometrical figures and the other as particular Matroid Projective Geometries. And this occurs in the Inwardly Mirrored Tetrahedron that is produced by the Octonion mirrorings that is then filled by the Sedenion that is the first three dimensional projective geometry PG(3,2). In this process the fundamental types of Mathematics that are revealed in the Kantian Meta-episteme are all at work, which are Geometry and Algebra which come together in the RS-SS. But also we are dealing with non-orientable topological surfaces in terms of CoGeometry and

we are dealing with Co-Algebras in the splitting of the elements as the Pascal Triangle and Tetrahedron are produced by co-recursion, and as we get the differentiation of the Hyper Complex Algebras, as well as the Fractal structure of the Imaginaries that produce the Projective Geometries.

But there is another ramification of this synthesis around the tetrahedron of the RS-SS that has been interpreted in different ways according to different themes within our research over the years. And this is the fact that has been recently discovered that the Special Systems can find their foundation in the Gödel Incompleteness Theorem. This is a very surprising result. But it is in line with the type of synthesis that we have produced between these various mathematical structures within the context of the SST. If we look at the Incompleteness Theorem of Gödel we see that he uses recursion. I wondered when I read Gödel's paper and various commentaries what would happen if we replaced recursion with co-recursion. It turns out that Gödel himself basically used loops and not real recursion, and the difference between recursion that goes down to zero and co-recursion that goes up toward infinity was not made at the time Gödel did his work. In fact, co-recursion is a recent invention. But the point is that Gödel uses Logic plus Arithmetic in his subversion of Russell's Ramified Higher Logical Type Theory. What if we use co-recursion and instead of building Codes and executing them we built Pascal's Triangle or Tetrahedron? This would mean that Gödel's contamination mechanism for doing his proof by recursion on codings would instead be coopted to become a Dissipative Ordering Special System (DO-SS). And thus, it would mean that the very mechanism that Gödel used to contaminate the clean room that Russell tried to build with Ramified Higher Logical Type Theory in Principia Mathematica⁷² would instead yield a co-recursive tower of the Pascal Triangle or Pascal Tetrahedron which then produces new simplex syntheses at each level. Gödel's Mechanism would be hijacked to do something positive rather than negative. It would be used to build the information infrastructure that all codings are built upon in Computer Science and Information Theory. Once you have one such DO-SS you can conjunct multiple of these to produce the AS-SS and the RS-SS. This basically means that the mechanism by which Gödel destroys the foundations of Logic and Arithmetic is itself when reversed provides the foundation of SST. This caused me to look more closely at the Gödel contamination mechanism and we can see that it is an image of the Emergent Meta-system (EMS). Thus, the fact that an EMS structure produces images of the Special Systems is not surprising. But the result that the SS are grounded in the very mechanism that ungrounds logic and arithmetic is surprising. But we can go further by using what we learn from B. Fuller's Synergetics. What is being built in the Pascal Triangle is the information infrastructure that is a binary progression of a bisection in which each level is a new system 2^n . But also at each level a new simplectic synthesis is produced which are the minimal solids for each geometrical dimension. These are built up using the Groupoid structure at each level to fold together the pieces built at the lower levels. These synthetic simplicies are autopoietic in their structure in as much as they produce themselves out of themselves by co-recursion which is perfectly balanced around the center point in the line of the Triangle, eg 1-3-3-1, 1-4-6-4-1, 1-5-10-10-5-1, etc. But when we go to the Cross and Cubic Polytopes at each dimension which exist in all dimensions like the simplicies we see that

⁷² Whitehead, Alfred N, and Bertrand Russell. *Principia Mathematica*. San Bernardino, CA: Rough Draft Printing, 2011.

these are made up of the combination of two simplicies either by fusion or interpenetration. And thus, there are two ways to combine two of the self-dual minimal solids to produce the cross and cubic varieties of solids that exist in every dimension. The Simplex is like the dissipative ordering special system. There are two ways to combine these together to get Autopoietic Symbiotic Special Systems, which is by fusion or interpenetration. But because there are two ways of combining them that means that there are four in all one pair fused and the other pair interpenetrated and these are duals of each other and thus have a reflexive relation to one another. So, the Simplicies are a model of the DO-SS, and the AS-SS can be modeled one of two ways as interpenetrating or fused, but these two ways are duals of each other depending on how you assign geometrical elements to their asymmetrical lattices and thus the two AS-SS are in a Reflexive relation to each other giving us a model of the RS-SS. Thus, the solids that exist in all dimensions, not counting the extra two in the third dimension and the extra three in the fourth dimension, are a model of the Special Systems (SS) in every dimension. Notice that this works because we have Pascals Triangle and Tetrahedron as a model of Prigogine's 'dissipative structure', which is precisely what we found within the Inwardly Mirrored Tetrahedron. And we could probably do something similar using the Gödel mechanism to produce the Projective Geometries and the Hyper Complex Algebras except it would be more complex. The fundamental point is that the simplicies and the cross/cubic polytopes of each dimension have implicit in their relations the structure of the SS. And this structure is grounded on Gödel's Incompleteness Theorem that is the ungrounding of Logic and Arithmetic as Formal Systems. But we use co-recursion rather than recursion to build the Pascal Triangle which in turn is a DO-SS, and from it we can produce the other holons by conjunction, and these other structures are geometrical solids in each dimension whose relation to each other implicitly bears the traces of the structure of the SS.

This argument calls us back to study Hegel who pointed to the existence of *Internal Relations*, and the importance of the relations between Consciousness, Life and the Social, and used the Groupoids to produce syntheses in his philosophy, and then based most of the structures of his thoughts on trinities even inventing trialectics that went beyond dialectics when he described the vanishing mediator of Work. Hegel's philosophy is the corner stone of this way of looking at Formalism and attempting to make it Structural by paying attention to its content. Thus, Structuralism really gets a boost from Hegel's critique of Kantian formalism. Kant was the one who said that we needed the hypothesis of the System in order to do science. And thus Kant was to the System Schema what Hegel was to the Structural use of the Pattern Schema. Our tradition lost sight of Internal Relations that Harris talks about in Formal, Transcendental and Dialectical Thinking⁷³ when Russell jettisoned them. And this became a blindspot in our tradition like Mass in relation to Sets and Meta-systems in relation to Systems. But Hegel did not realize that Projective Geometries are a way of representing Internal Relations even though his Logic mimicked the structure of the Fano PP because of its continued elaboration in terms of trinities of concepts. There is a reason for that and it is not just because of the trinity in Christianity, although that was a factor. But the trinity is at the top of our model of the Western

⁷³ Harris, Errol E. *Formal, Transcendental, and Dialectical Thinking: Logic and Reality*. New York: State University of New York Press, 1987.

worldview and we can see it as three-way complementarity in the property of triality that appears in the octonion and which underlies the Fano PP structure.

We have explored the advances made recently in SST. Especially we considered the Fano PP as a model of Internal Relations and we have seen the isomorphism between the Octonion and the Fano PP as an emergent mutation at the RS-SS. We also saw how the SS is grounded in the Gödel Incompleteness Theorem and how the polytopes that exist in all dimensions are a model of the SS. This realization fundamentally transforms our understanding of the SST. Each additional mathematical analogy tells us something more about the SST. We need to continually look for new mathematical analogies so we can refine our understanding of the SST. But we must also review and reinterpret the mathematical analogies we already know, as was done in this case. The idea is to follow the lead of the Mathematics where ever it leads in order to discover the nature of these anomalies as they are reflected in SST. Here we did not follow the mathematics closely enough previously and thus we missed an emergent mutation that it was indicating when Fano PP was known to be a nonorientable surface like the Mobius Strip (DO-SS) and the Kleinian Bottle (AS-SS). We instead followed the progression and contemplated a Hyper-Kleinian bottle instead of recognizing that the Fano PP was the next natural unfolding of that progression in the RS-SS.

Tropes

However, all of this does not explain how we are to use the *Internal Relation* that we now have a model of in Projective Geometry. We know that External Relations are of two types which are between components of something, and between different things. Internal Relations proper are between the attributes of a substrate, not its parts or components nor other things. Thus, there are two horizons which Husserl identified which is the internal horizon and the external horizons. But both of these are ‘external’ with respect to the relations between properties of something. And that is why Husserl has the concept of the Noematic Nucleus. It is what holds together the internal and external horizons of the thing and the difference between the mereology and the relations to things elsewhere is spacetime beyond the bound of the object under consideration. So, there is some confusion about what ‘internal’ means, it does not mean relations between parts but rather relations between properties or attributes, their limits of variation of values and their covariances. One way to attempt to solve this problem is to speak of “tropes” which Husserl called “Moments” in Logical Investigations⁷⁴. Tropes⁷⁵ are defined as Abstract Particular Properties. Once we have a theory of what attributes or properties are which is examples of Tropes then we have a means of thinking about them within a well-defined tradition starting from the work of

⁷⁴ Husserl, Edmund. *Shorter Logical Investigations*. Place of publication not identified: Routledge, 2016.

⁷⁵ Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2014. Edwards, Douglas. *Properties*. Cambridge, UK : Polity Press, 2014. Gozzano, Simone, and Francesco Orilia. *Tropes, Universals and the Philosophy of Mind: Essays at the Boundary of Ontology and Philosophical Psychology*. Frankfurt [Germany: Ontos Verlag, 2008. Maurin, Anna-Sofia. *If Tropes*. Dordrecht: Springer Netherlands, 2002. Tooley, Michael. *The Nature of Properties: Nominalism, Realism, and Trope Theory*. New York [u.a.: Garland Publ, 1999. Hoffman, Joshua, and Gary S. Rosenkrantz. *Substance Among Other Categories*. Cambridge, GBR: Cambridge University Press, 2009.

D.C. Williams⁷⁶ and which has generated a literature on the subject in the Analytical Tradition. What we are calling *Internal Relations* are between Tropes. They are not between component parts of a thing, or between something and another thing. These parts of a substrate or other substrates are all conceived in terms of *External Relations* associated with the internal and external horizons of the noematic nucleus and understood in terms of external constraints on the relation of parts to each other or constraints on the relation between something and other things each with their own substrate. And that is why the Essence is different from the Noematic Nucleus, because it relates properties or attributes to each other within the substrate, or across substrates. Essence answers the question What is the thing and that question begs the a description of the attributes and their internal relations to each other. Those internal relations are mostly expressed in terms of constraints and ranges of possible values and correlations between these values in these different ranges for different attributes. Properties and attributes are Mass-like and not Set-like and that is why there is a problem because our tradition does not handle masses well because that is a blindspot in the tradition. If we talk about Tropes and we hold that Internal Relations are among tropes then that helps to clarify the question that we are asking. And that question now is how does the Projective Geometry Model address the question of Internal Relations between tropes as opposed to the Normal Geometry Model that is generated by Pascal's Triangle or Tetrahedron that appear in the syntheses of the simplices or the cross and cubic polytopes. Tropes are mass-like and may permeate the whole substrata of the thing. Thus, they are described by Venn diagrams that overlap boundaries in a mass like way. They are 2^n rather than n^2 , i.e. qualitative rather than quantitative. Relations may be subsumptive rather than externally articulated between different discrete things and thus vague, ambiguous, amorphous, diffuse and indeterminate. We have already noted how the Projective Geometry model allows points and lines to define each other mutually such that they are completely diacritical in their complementarity. Diacriticality is normally associated with arbitrariness. But this need not be the case. Diacriticality means that something is completely dependent for its definition to those other things in the field to which it is mutually related. Internal Relations between tropes are diacritical in this sense, yet the entire complex has Shi, or a configurational logic or patterning that is specific. And this is the problem with trope theory it does not account for the larger whole field in which the tropes exist. And thus, we will introduce the idea that that larger field is an analogy. And we have already related trope to Facet and analogy to Monad in terms of implicative power where Forms relate to proofs, Patterns relate to explanations, Systems relate to descriptions, and Meta-systems relate to implications. So if Monads are related to analogies and Facets are related to tropes, then we can recognize that master tropes are synecdoche, metaphor, metonymy, and Irony⁷⁷. So, when we look at the projective geometry we see in it an image of Monad and Facet because these are related to Matroids and the Fano PP is a particular matroid. So, tropes as facets are independent of each other within the Matroid of the Monad which is an analogy that contains the tropes. When looked at this way then it is pretty clear that the points are moments or traits and the traces are

⁷⁶ <https://plato.stanford.edu/entries/williams-dc/>

⁷⁷ Burke, Kenneth. *The Philosophy of Literary Form: Studies in Symbolic Action*. New Delhi: Isha Books, 2013. Burke, Kenneth. *A Rethoric of Motives*. Berkeley, Calif: University of California, 1969. Burke, Kenneth. *Language As Symbolic Action*. Saratoga Springs, N.Y. : Empire State College, State University of New York, 1990. Burke, Kenneth. *A Grammar of Motives*. Berkeley, Calif. [u.a.: Univ. of California Press, 2009.

shear lines or rifts as in riftdesign [*riss*] as used by Heidegger⁷⁸ by which the moments are differentiated and connected.

Various modes of saying and the said permeate the rift-design, modes in which what is present or absent says something about itself, affirms or denies itself—shows itself or withdraws. What pervades the rift-design in the essence of language is a richly configured saying [*das vielgestaltige Sagen*], from various provenances. With a view to the concatenations of saying, we shall call the essence of language [*Sprachwesen*, language's unfolding] as a whole *the saying* (*die Sage*). (BW, 409)

Heidegger explains the rift (*Riss*) by reference to a crack in the wall but also to farmers making furrows in the soil, tearing it up, rending, riving, or turning it over: “The rift-design is the totality [*Ganze*] of traits in the kind of drawing [*Zeichnung*] that permeates what is opened up and set free in language. The rift-design is the drawing of the essence of language, the well-joined structure of a showing [*das Gefüge eines Zeigens*] in which what is addressed enjoins the speakers and their speech, enjoins the spoken and its unspoken” (BW,

There is a semiotic interpretation of geometry in which the points and lines are undefined, like the term “concept” for Frege, and we can think of them as signs and traces of a general semiology. We can also say that these signs and traces only become critical when they reach the threshold of the Fano Plane's organization of 7 signs, and 7 traces. Below that threshold there are proto-signs and proto-traces and generally a meta-system of signs and traces that do not achieve closure to become a restricted economy. In other words, the Fano plane acts like a gestalt. It is a critical threshold at which point the order of the Fano Plane produces a tension between the points and lines that is a closed system, or an elliptical space. What is outside that projective space is hyperbolic, i.e. entropic, falling away from the threshold of closure that makes the organization of the viewpoints within the geometry projective, i.e. such that they intertransform. It is as if the Fano PP were “inside” the closed elliptical geometry ball. This is like the idea of the monad in Leibniz's *Monadology*⁷⁹ as developed by Deleuze in *The Fold*⁸⁰. If you take away a line and its points then this geometry collapses into an affine geometry like normal Euclidian geometry. That loses the tension between the elliptical closure and the hyperbolic entropy in which the elements fall away from each other. This means that the projective geometry image of Internal Relations is more like a gestalt threshold at which the essence (*Nerve* of schema) self-organizes. If we see Essences as direct perceptions (eidetic intuitions) as Husserl says then that “seeing” is like the gestalt perception by which we see the noematic nucleus, it is figure on ground

⁷⁸ Ziarek, Krzysztof. *Language After Heidegger*. Bloomington : Indiana University Press, 2013. p. 55.

⁷⁹ Leibniz, Gottfried W, and Nicholas Rescher. *G.w. Leibniz's Monadology: An Edition for Students*. London : Routledge, Taylor & Francis Group, 2015.

⁸⁰ Deleuze, Gilles. *The Fold: Leibniz and the Baroque*. Minneapolis: University of Minnesota Press, 2012.

and there is a generated tension throughout the field of the background that gives rise to the figure. This suggests that just like we have gestalt/proto-gestalt as well as flow/protoflow to talk about the experience of the noematic nucleus of things in experience, we should have a similar vocabulary to talk about the essence and its background and the relations between them when the essence becomes visible. Let's call this a 'proto-essence'. It is the background of the essence which is composed of traits and rifts (*riss*) which has not yet become organized into an essence (nerve). We can call the general case of this the proto-nerve. When the essence (nerve) organizes as a closed projective geometry the proto-nerve becomes hyperbolic, i.e. entropically falls away from the closure of the essence with all its Internal Relations. At that point the proto-nerve or proto-essence becomes the hyperbolic background upon which the monadic elliptical essence or nerve as projective geometry is seen. If a rift/line with its traits/points is taken out of the closure of the essence/nerve then this falls into merely an affine geometry which is flat like Euclidian Geometry and both the hyperbolic background and the concave closure of the projective geometry vanish. Basically, we can see that the tension between the nerve and proto-nerve or essence and proto-essence is stronger than the tension between the gestalt and its proto-gestalt or the flow and its proto-flow. Also we would like to assert that the nerve and proto-nerve is not bifurcated like the duality between the gestalt and flow or the proto-gestalt and proto-flow, but is in fact self-dual like the projective geometries themselves. We like the term 'Lave' for this wave/particle duality realization⁸¹. Essences are Laves in the sense that they are both flowing and stilted, determinate particles and indeterminate blobs at the same time, we call this effervescence or ebullience. But we can think of this in terms of pilot waves of Bohme like droplets that dance on vibrating media waves⁸².

I don't think that anyone noticed this discrepancy before, which is that if we must use Gestalts in our Phenomenology as recognized by Gurwitsch and Merleau-Ponty then the Essences that we directly perceive must have a gestalt like nature as well as the Forms. That means that there is an essential field we call the proto-essence that is the background for the essence that we intuit. It makes sense that the essence is not split into gestalt and flow like the form. Rather the essence must be a nondual Lave pilot wave and particle conglomerate both flowing and static at the same time. Once we realize that *the essence needs a field* then the idea that it is like a Projective Geometry starts to make sense. Everything that does not achieve closure is just part of the proto-essence. But once closure is achieved for which we can use Lawson's descriptions of *materiality*⁸³ as a basis for understanding, then the background falls away as a hyperbolic geometry in relation to the monadic elliptical projective geometry enclave within which the traits and rifts occur as a riftdesign. These are reified into points and lines in geometry, but we can think about these in terms of monads and facets in schemas theory, and in terms of their implications we can think of them as tropes and analogies. We posit that the closure of the essence (nerve) is very strong as seen in the difference between elliptical and hyperbolic geometry as extremes. If one line (rift) is with its points (traits) are taken out of the envelope of the

⁸¹ Wilczek, Frank, and Betsy Devine. *Longing for the Harmonies: Themes and Variations from Modern Physics*. New York: Norton, 1989.

⁸² <https://www.youtube.com/watch?v=WlyTZDHuarQ> Is This What Quantum Mechanics Looks Like? Veritasium

⁸³ Lawson, Hilary. *Closure: A Story of Everything*. London: Routledge, 2002.

projective space then it falls into a merely affine geometry which is like Euclidian Geometry which is flat. The enclave of closure is like the bubble on the vibrating hyperbolic surface and thus together they make a Lave (particle/wave). They are nondual in relation to gestalt/proto-gestalt and flow/proto-flow. These are perceptual equivalents to System/Meta-system and Process/Meta-process. We call the essence (nerve) of a System a *nucleus*, and thus we have its contrast with the meta-nucleus. In keeping with its nonduality it is not necessary to differentiate between percept and concept here as we have in relation to gestalt/flow and proto-gestalt and proto-flow. In other words, there is probably no need for another term like we had for System/Process and Meta-system/Meta-process. The meta-nucleus is basically the same thing as the proto-nucleus with percept and concept intertwined and indistinguishable. This is then related to Solomon Maimon's questioning⁸⁴ of the distinction between intuition and cognition in Kant's Critique of Pure Reason⁸⁵. He wanted to say that they are two aspects of the same thing, and that means that Intuition is Mass-like and thought set-like on the background of the field of the intuition. Kant famously said "Thoughts without content are empty, intuitions without concepts are blind". Thus, for Kant Intuitions (percepts) and Thoughts (cognitions) are tied together but different. For Maimon they are two aspects of the same thing which actually makes more sense, where sense is both sensory and meaning as a lave as treated by Deleuze in Logic of Sense⁸⁶. However, we could use the proto-nucleus for the state prior to closure while we can use the meta-nucleus for what is beyond the nucleus as its horizon. It is not clear if conflating the morass of proto-essence from the background of the closed essence as a meta-essence will be a problem. We will opt for terminological simplicity until we start to get lost. The point is that knowing that the Essence has a geometrical model really helps. Knowing that its tension and differentiation between foreground and background is even more severe than that of the gestalt also helps. It suddenly makes sense of some things that were very unclear. For instance, we see essences directly according to Husserl. But how do we do that, how do we get beyond the noematic nucleus with its internal and external horizons to see (intuit) the Essence (edios). One way that is possible is because the difference between the essence and its essential field is even more pronounced than that between the figure and ground of the gestalt or flow. Essence snap into place for us beyond the presnetation of the gestalts and flows of experience. And they are composed of internal relations reinforced by closure of the Projective Geometry.

Anagogic Logic

Whenever Zizek⁸⁷/Lacan⁸⁸ produce their Symbolic, Imaginary, and Real triangle they place the anamorphic entities on the outside of it and the swirling morass of Jouissance as

⁸⁴ Maimon, Salomon. *Essay on Transcendental Philosophy*. London Continuum, 2010. Buzaglo, Meir. *Solomon Maimon: Monism, Skepticism, and Mathematics*. Pittsburgh, Pa: University of Pittsburgh Press, 2002.

⁸⁵ Kant, Immanuel, and J M. D. Meiklejohn. *Critique of Pure Reason*. Mineola, New York : Dover Publications, Inc., 2018. Deleuze, Gilles. *Kant's Critical Philosophy: The Doctrine of the Faculties*. London: Continuum, 2008.

⁸⁶ Deleuze, Gilles, Contantin V. Boudas, Mark Lester, and Charles J. Stivale. *Logic of Sense*. London : Bloomsbury Academic., 2015.

⁸⁷ Zizek, Slavoj. *Looking Awry: An Introduction to Jacques Lacan Through Popular Culture*. Cambridge: MIT Press, 1991.

⁸⁸ Pelt, Tamise V. *The Other Side of Desire: Lacan's Theory of the Registers*. New York: State University of New York Press, 2000.

a circle in the middle. The model of the Fano PP can easily model the swirling around its center with the circular path around the central point. But what if the points in the middle of each outside line stood for the Anamorphic entities, rather than having to place them outside the triangle. Suddenly this would solve two problems at once. The first asks why there would be anything outside the closure of the elliptic geometry related to it, i.e. in an external relation too it, and the other is the problem of having too many points inside it so that we have to explain the over abundance of necessary elements as a starting point. If the points on the outside lines in the middle (1,2,3) were anamorphic entities then that would explain a great deal and unify the theory of anamorphic entities which produce anagoric swerves in perspective.

If we assign letters to the Fano PP according to the Žizek/Lacan schema then the three apexes of the triangle would be Symbolic⁸⁹ (S), Imaginary⁹⁰ (I), and Real⁹¹ (R) registers⁹². Opposite each of these would be small letters that indicate their associated anamorphic entities (p) opposite Symbolic viewpoint standing in for the *phallus*, *little piece of the real* (r) opposite the Real viewpoint, *objet petit a* (a) opposite the Imaginary viewpoint. The central node would be associated with Jouissance⁹³ (J). We would just like to mention that the short stories that Žizek associates with each of the anamorphic entities by Patricia Highsmith⁹⁴ in Looking Awry are excellent examples of these various anomalous edicolons that appear as epiphenomena⁹⁵ which means side-effects to the projection of the registers of Lacan within the Transcendental Field of Experience.

⁸⁹ Žižek, Slavoj. *Society, Politics, Ideology*. London: Routledge, 2003.

⁹⁰ Bianchi, Pietro. *Jacques Lacan and Cinema: Imaginary, Gaze, Formalisation*. London: Karnac, 2017.

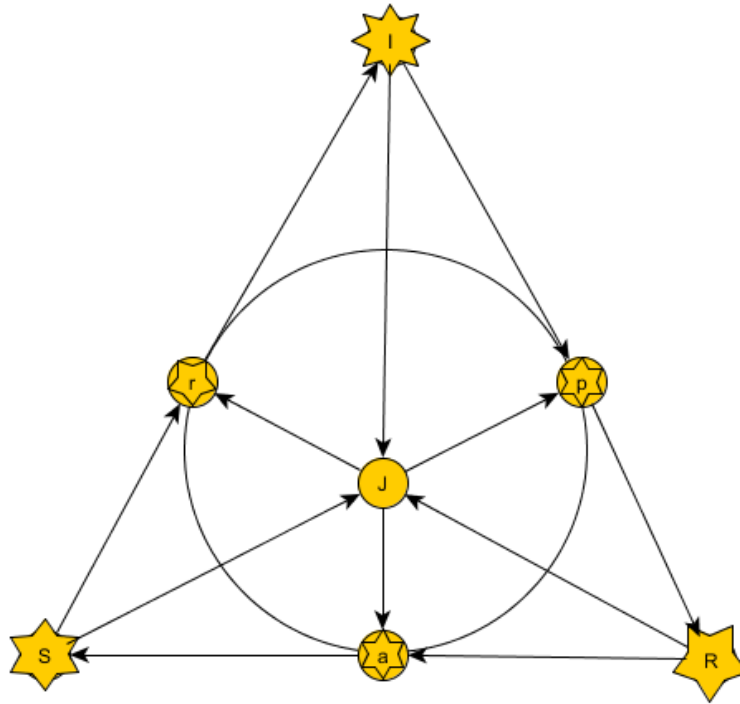
⁹¹ Evers, Tom. *Lacan and the Concept of the 'real'*. Basingstoke: Palgrave Macmillan, 2012.

⁹² Julien, Philippe, and Devra B. Simiu. *Jacques Lacan's Return to Freud: Real, the Symbolic and the Imaginary*. New York University Press, 1996.

⁹³ McGowan, Todd. *The End of Dissatisfaction?: Jacques Lacan and the Emerging Society of Enjoyment*. Albany: State University of New York Press, 2004.

⁹⁴ Highsmith, Patricia. *The Selected Stories of Patricia Highsmith*. New York: W.W. Norton, 2005.

⁹⁵ Ruti, Mari. *The Singularity of Being: Lacan and the Immortal Within*. New York: Fordham University Press, 2012.



This is very satisfying. Suddenly the extra places are explained based on the Žižek's Lacanian insights⁹⁶ into the structure of the Anagoric Field of the Symbolic, Imaginary and Real registers and their triangular relations, and how they generate anamorphic entities opposite each of the major registers on the line parallel to each register. And it also explains the placement Jouissance at the center of the triangle. The Fano Projective Plan (PP) makes these various relations not merely conceptual but suddenly structural. And it appears that although Lacan talked about the Projective Plane he did not use it in this manner to explain the relation between his Registers and the Anamorphisms as Žižek explains them. We have attempted to verify this Anamorphic structure by looking for it in several different Cultural products and find that this structure seems to exist in various Cultural products. For instance, we analyzed the story of the Two Brothers from Egypt that is part of the Osiris myth and found that these anamorphic entities do exist in that story. We analyzed *Gilda* the 1947 film and found them there as well as in Lowry's *Under the Volcano*. We have expanded this structure into the Aspectual Field and analyzed *Inception* and *Prestige* from C. Nolan and found the entire field with all 18 objects to be embodied in those movies⁹⁷. We have analyzed but not written up the *Twin Peaks* TV Series and found the entire

⁹⁶ Žižek, Slavoj. "The Sublime Object of Ideology." London : Verso, (1989). Žižek, Slavoj. *The Invisible Remainder: On Schelling and Related Matters*. London: Verso, 2007. Žižek, Slavoj. *For They Know Not What They Do: Enjoyment As a Political Factor*. London: Verso, 2008. Žižek, Slavoj. *The Most Sublime Hysteric: Hegel with Lacan*. John Wiley & Sons, 2014. Žižek, Slavoj. *Everything You Always Wanted to Know About Lacan: (but Were Afraid to Ask Hitchcock)*. London: Verso, 2010. Žižek, Slavoj. *The Ticklish Subject: The Absent Centre of Political Ontology*. London: Verso, 2009. Žižek, Slavoj. *How to Read Lacan*. New York: W.W. Norton & Co, 2007. Žižek, Slavoj. *Absolute Recoil: Towards a New Foundation of Dialectical Materialism*. London : Verso, 2015. Žižek, Slavoj. *Event*. London: Penguin Books, 2014. Žižek, Slavoj. *Organs Without Bodies: On Deleuze and Consequences : with a New Introduction by the Author*. London: Routledge, 2015. Žižek, Slavoj. "hegel and the Infinite: Religion, Politics, and Dialectic". New York : Columbia University Press, 2011.

⁹⁷ https://www.academia.edu/9913285/Dreamtime_Structure_of_Inception

Aspectual Field within that storyline as the places that are referenced in the series. So, this seems to be a genuine Structural phenomena uncovered by Lacan, elaborated by Zizek and expanded by myself in the development of the Aspectual Field. Basically, there is not just one triangle, or banner, or pennant that Lacan/Zizek note as SIR registers. Rather because there are four aspects of Being this means that there are six pennants or banners and that means there are 18 anamorphic eventities associated with all the banners or pennants. This field is associated with the Roman Surface or Boys Surface which cannot be put back into three dimensional space without warpages and either singularities or self-intersections. It is a model of the Transcendental Field that was first coined by Merleau-Ponty and taken up by Deleuze as part of his Transcendental Empiricism. The Transcendental Field includes invisibilities as part of the field of visibilities. But it is a model of what Heidegger called Dasein (being-in-the-world, being there) and what Husserl called “Monads” following the usage of Leibniz in Cartesian Meditation. It is this Transcendental Field that Deleuze attempts to show is completely immanent in Difference and Repetition as a series of faculties that are explored by Genetic Phenomenology in relation to Existential Time. In The Fold Deleuze contrasts Monads as *being-for-the-world* with Dasein which is *being-in-the-world* and we have shown that these monads are associated with the vanishing points in perspective projection just as the viewpoints on the world are associated with Dasein and thus according to Deleuze these are duals of each other and they can be seen as the source and sinks within the meta-system of the Transcendental Field to which the Mundane Cogito Ego can be seen as the System. It is this mundane Ego that Lacan turns into a paradox by substituting “I am Lying” for “I Think” in order to produce his surrealistic psychoanalytic theory. Zizek takes up this theory and attempts to give it philosophical garb by grounding it in Hegel. In the process he produces a monstrosity which is a chiasmic figure of a Lacan who is Hegel and a Hegel who is Lacan⁹⁸.

It was recently realized that if we follow the series of two dimensional Projective Planes up from PG(2,2) the Fano PP, to PG(2,3) and then to PG(2,4) we find the Aspectual Field structure by doubling the PG(2,4) plane. It was also realized that the PG(2,3) plane can be used to generate the structure of the Acupuncture Meridians when doubled⁹⁹. Acupuncture is a model for the AS-SS when understood from a mathematical perspective. Thus the series 2 x PG(2,2) to 2 x PG(2,3) to 2 x PG(2,4) when doubled seems to give us images of the stages of SST moving from DO-SS. to AS-SS on to RS-SS.. But this series does not stop there. It continues to evolve to higher and higher projective planes of higher and higher complexity¹⁰⁰.

order n	Name = intersection points per line	elementary divisors	Aut. Gp.	Point orbit lengths	Line orbit lengths	Remarks
2	PG₂(2) = 3	$1^4 2^2 6^1$	168	7	7	self-dual
3	PG₂(3) = 4	$1^7 3^5 12^1$	5616	13	13	self-dual

⁹⁸ Zizek, Slavoj. *Less Than Nothing: Hegel and the Shadow of Dialectical Materialism*. London, U.K: Verso, 2013.

⁹⁹ <https://independent.academia.edu/KentPalmer/Holonomic-Medicinal-Theory>

¹⁰⁰ <http://www.uwyo.edu/moorhouse/pub/planes/>

4	PG₂(4) = 5	$1^{10}2^24^820^1$	120960	21	21	self-dual
5	PG₂(5) = 6	$1^{16}5^{14}30^1$	372000	31	31	self-dual
7	PG₂(7) = 8	$1^{29}7^{27}56^1$	5630688	57	57	self-dual
8	PG₂(8) = 9	$1^{28}2^94^98^{26}72^1$	49448448	73	73	self-dual
9	PG₂(9) = 10	$1^{37}3^{18}9^{35}90^1$	84913920	91	91	self-dual
9	Hall(9) = 10	$1^{41}3^{10}9^{39}90^1$	311040	10, 81	1, 90	
9	dual Hall(9) = 10	$1^{41}3^{10}9^{39}90^1$	311040	1, 90	10, 81	
9	Hughes(9) = 10	$1^{41}3^{10}9^{39}90^1$	33696	13, 78	13, 78	self-dual
11	PG₂(11) = 12	$1^{67}11^{65}132^1$	212427600	133	133	self-dual
13	PG₂(13) = 14	$1^{92}13^{90}182^1$	810534816	183	183	self-dual
16	(22 planes) = 17			273	273	G. Royle
17	PG₂(17) = 18	$1^{154}17^{152}306^1$	6950204928	307	307	self-dual
19	PG₂(19) = 20	$1^{191}19^{189}380^1$	16934047920	381	381	self-dual
23	PG₂(23) = 24	$1^{277}23^{275}552^1$	78156525216	553	553	self-dual
25	(193 planes) = 26					
27	(13 planes) = 28					
29	PG₂(29) = 30	$1^{436}29^{434}870^1$	499631102880	871	871	self-dual
31	PG₂(31) = 32	$1^{497}31^{495}992^1$	851974934400	993	993	self-dual
...
49	(hundreds of thousands of planes) = 50					

The asymmetries in this series of PG(2,n) projective planes have not been explored fully yet. Notice that PG(2,6) and PG(2,10) and PG(2,12) are missing completely. These planes model the plateaus of immanence discussed by Deleuze and Guattari in Anti-Oedipus and Thousand Plateaus, and the surfaces of Sense that appears in Deleuze's Logic of Sense. And they are like the Types in the Ramified Higher Logical Type Theory while the hierarchy of Dimensions are like the classes. These together form a grid of Type and Co-type and open up an entire field of structures to be explored which can handle structures of higher and higher complexity in which to model immanent fields like the Aspectual Field which is modeled by $2 \times \text{PG}(2,4)$. On the other hand we have explored the other series of dimensions that go from PG(2,2) to PG(3,2) to PG(4,2) etc. enough to discover that these have an outward structure of the simplicies at each dimensional level. PG(2,2) is the Fano PP with only points and lines that are complementary to each other. PG(3,2) has the overall shape of a tetrahedron. But the projective plane at this level contains points, lines and surfaces but not solids. PG(4,2) has the overall shape of a Pentachora. The projective plane

at this four-dimensional level contains points, lines, planes and solids. These structures are fractal with each plane being a Fano PP. It is unclear what all this complexity and structure mean and not all of it has been explored by mathematicians as yet. But each of these Projective systems is a closed elliptical geometry with a specific structure. And all of it opens up from the Fano Plane PG(2.2) that is isomorphic to the Octonion. Basically, these geometries are built up of the circular structures that appear in Hyper Complex Numbers and track the Hyper Complex Algebras that exist at the level of the Octonion and above in the simplest one of each dimension. And the fact that this emergent structure opened out from the RS-SS was something I had missed for years, not understanding that the Projective Plane was an emergent characteristic of the RS-SS even though I knew about the isomorphism between the Fano Plane and the Octonion Imaginaries. So, there is now a whole field of structures to explore and ruminate over which is vast opening up from the RS-SS and describing the meta-system layers beyond it. And the fact that some of those elements subsume research themes already discovered is gratifying. The key is that each of these Projective Geometries and Projective Planes are purely immanent as Deleuze wishes them to be and they are models of the Transcendental Field of higher and higher complexity with specific geometrical structures supporting perspectival representations as discovered in painting by Bertolucci in the Reissuance and we should keep in mind Adorno's insight that the other art form discovered at that time was polyphonic music. Perspectival Painting and Polyphonic Music have coded into them the Set-like and Mass-like biases which then weave together in the history of the Western worldview.

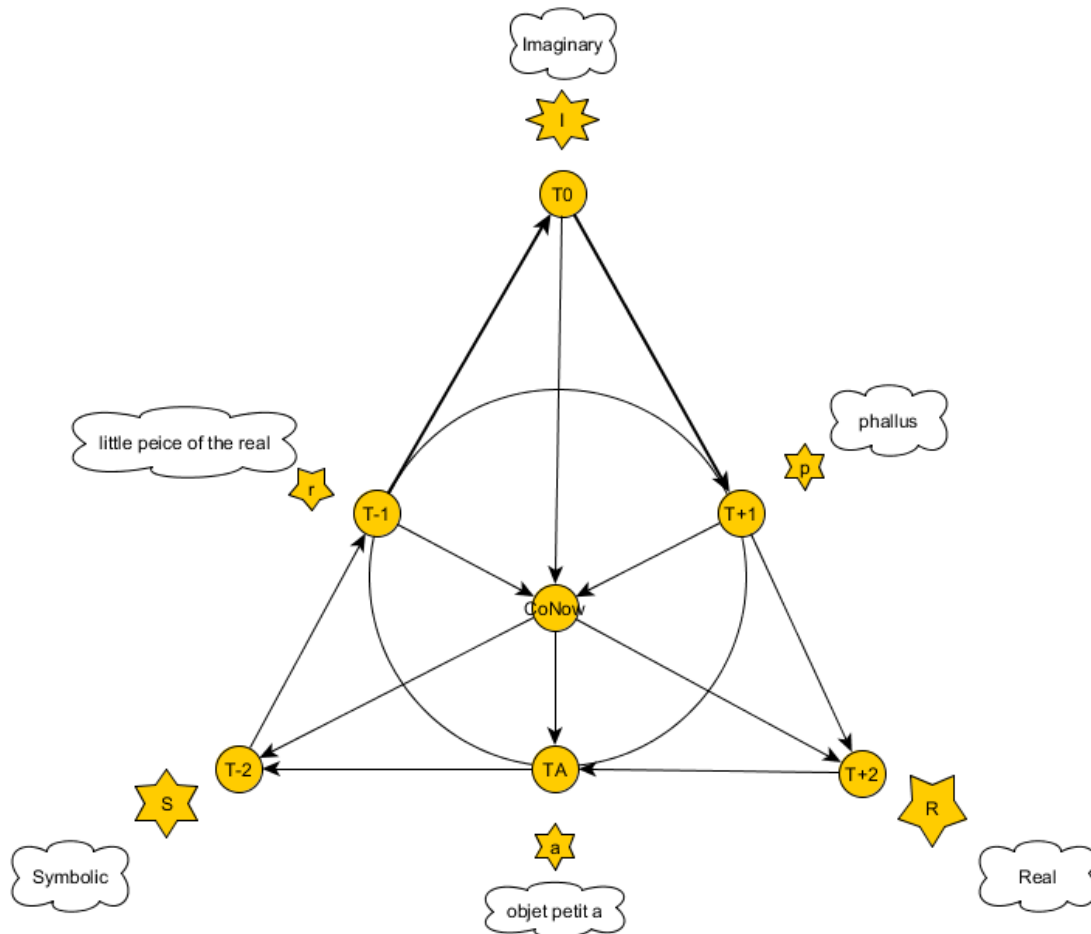
Metaphor Therapy and Time

An instance of this is the idea that the Fano PP is related to temporality, and is a model of time based on the Kantian Episteme and the asymmetrical assignment of moments of time to the existentials of Dasein by Heidegger. This line of inquiry has unearthed a fourth moment of time called the virtual mythic co-now (which Deleuze calls the Absolute Past). In general we can take the Fano PP as a model of temporality that extends Existential Time of Heidegger to a fourth moment of time. And the Fano temporal structure can also explain the structures discovered by Metaphor Therapy¹⁰¹ of David Grove¹⁰² and Cei Davies Linn¹⁰³. The coNow is a way to avoid the blockage at T_{zero} by finding a way outside the Metaphysical timeline in order to move from T_{-1} to T_{+1} .

¹⁰¹ Lawley, James, and Penny Tompkins. *Metaphors in Mind: Transformation Through Symbolic Modelling*. London: The Developing Company Press, 2013.

¹⁰² Pincus, David, and Anees A. Sheikh. "David Grove's Metaphor Therapy." *Imagination, Cognition and Personality*. 30.3 (2011): 259-287. P

¹⁰³ <http://www.davidgroveseminars.com/>



In Metaphor Therapy it has been noticed that patients tend to be stuck at a moment T_{-1} where eternal return of symptoms occurs. And we can see that at tropes that are carried around the cycle from points 1, 2, 3 in a return of the repressed repetition. T_{-1} is point 2. We can assign point 7 to T_0 and point 1 to T_{+1} as in the diagram. We can assign T_{-2} to point 5 and T_{+2} to point 6. T_A is both T_{-3} and T_{+3} . This is the antipode of the Trauma a T_0 . Notice that these points fit into the overall Pennant flag or Banner of the Aspectual Field that relate to the registers of Symbolic, Imaginary and Real with their associated Anamorphic entities. The key point here is that point 4 in the center is associated with the moment of the Co-Now. And that with rotational symmetry the various other points map on to each other exhibiting the structure of triality that is three-way complementarity¹⁰⁴ that appears unique to the Octonion. Thus, Triality gives the normal three-fold structure of time recognized in Genetic Phenomenology. But this does not preclude the fact that there is a fourth moment of time modeled on the Emergent Meta-system structure, the virtual mythic co-now at the center of the cycle that produces the mythic time of return and repetition of symptoms. In Metaphor Therapy various Metaphors are elicited and they flow around the vortex or vicious circle taking them to T_{+1} avoiding the singularity at T_0 and thus producing healing by creating a new analogy at T_{+1} . This new configuration (Shi) of the metaphors (Tropes)

¹⁰⁴ Plotnitsky, Arkady. *Complementarity: Anti-epistemology After Bohr and Derrida*. Durham: Duke University Press, 1994.

in the Analogy of T_{+1} is a surplus like the phallus anamorphic entity. On the other hand at T_{-1} there are triggers of flashbacks that exhibit the efficacy of the little pieces of the real to reinvoke trauma. The object *petit a* is the object of desire and it stands at the antipode T_A to the trauma as resource. These little pieces of the real serve as impediments to the processing of time in a metaphysically linear fashion and thus make it impossible to cope with Reality. The repetitions of symptoms produce affective resonances in the structure of the Symbolic System of the patient (client). And it is this Symbolic configuration (Shi) that needs to be rearranged, which occurs when it is pushed into the fourth dimension by the recognition of the direction of the co-now in the center of the whirlpool of Jouissance that keeps the repetition syndrome going. In essence the *object petit a* is blocked by being pushed to the Antipode by the Trauma. The point is that the Fano PP can be interpreted as the structure of Existential Time discovered by Husserl in his Genetic Phenomenology and made the center piece of the analysis of the temporality of Dasein in Being and Time. The Fano PP becomes the structure of unified existential time. And that structure explains the four-dimensionality of time within a three-fold structure which is traditional. Except that structure is normally seen in terms of straight lines of metaphysical time. Normal time each side of the triangle would be a type of time Present Past and Future. But in Trauma there is a sift so that T_0 is at the apex of the triangle, and thus bent or perverted by the Trauma as Singularity. This is another mode in the experience of time which is unhealthy but difficult to break out of. Metaphor Therapy uses the resources of four-dimensionality to heal this break in the cycle of time that would normally flow around the boundaries of the triangle ruled by triality as a complementary structure in Existential Time. To see that this key structure in Metaphor Therapy is explained by the Fano PP is extremely gratifying after years of trying to understand how it might work in collaboration with Steven Briggs and Cei Davies Linn the foremost practitioners of this fairly obscure type of therapy which antidotally seems to work very well in resolving trauma when practiced in a Clean Language setting by professionals. So here there has been a confluence of the structure of time in Metaphor Therapy and the understanding of the Registers of Lacanian Theory with their Anamorphic objects as interpreted by Zizek. And this is appearing at precisely the level of PG(2,2) in the Fano Plane within the Octonion structure of the RS-SS.

Acupuncture and Homeopathy as dual exemplars of Essential *Internal Relations* and the Emergent Meta-system in Holonomic Medicinal Practices

Interestingly if we double the next level PG(2,3) then we get the projection of the rudiments of the meridians on the surface of the body. There are 13 lines and 13 points at this level, and when doubled this gives 26 lines and 26 points. And that is the same number as the meridians which have the structure 12-2-12 with two running down the center of the body front and back. Thus, one set which is Yang includes the Governing Vessel and 12 meridians of the right side of the body and the other set is Yin and includes the Conception Vessel and the 12 meridians that run down the left side of the body. As we have said the Acupuncture Theory in general is a model of the AS-SS and needs complex mathematical treatment to explain it properly¹⁰⁵. But here we see one of the fundamental features of Acupuncture Theory which is the projection of the Meridians on the surface of the Body

¹⁰⁵ <https://independent.academia.edu/KentPalmer/Holonomic-Medicinal-Theory>

as being related to the articulation of the $2 \times PG(2,3)$ projective plane which is intriguing to say the least. As we move up to the Aspectual Field which is mapped perfectly into the $2 \times PG(2,4)$ projective plane then we would expect a connection to Homeopathy if the series of medical techniques we have seen so far is to be maintained.

Homeopathy is an image of the DO-SS because it is a dissipative structure which that moves within the water of the body as its trace cancels the coherence of the symptoms that are holding steady as an aliment of the body. But Homeopathy itself comes from seeing an analogy between symptoms induced by substances that are proven and the coherence of symptoms of diseases peculiar to an individual. When you take away the substance from the medicinal remedy, then what is left is the coherence of the traits of that substance as a trace. Succussion induces a chaotic regime within the liquid water that produces the inverse image of that coherence of traits. In a chaotic regime there is bifurcation of states of the medium and then when the third state enters there is utter chaos which is an infinite of possible states being produced out of which just one state appears which then begins bifurcating again. Chaos is thus a filtration process by which from a progressive bifurcation of states an infinite number of states are produced when a third state arises and then after the chaos a single state is produced that starts the process of bifurcation over again. The important things are the progressive bifurcation, the third state (with three you get chaos) and the selected state when there is a break out of chaos again that becomes the root of a new progressive bisection. Notice that the progressive bisection produces the information infrastructure of the Pascal Triangle. The third state that induces the chaotic regime arises out of nowhere to disrupt the progressive bisection. This produces a wall of chaos which is an infinite of possible states. In that infinity of possible states all possible impressions are taken of the molecules of the remedy substance in the water medium as inverse traces of those molecules into the molecular structure of the water. But out of these infinite states of myriad inverse impressions one is selected at random to be broken out of that chaos to be the root of a new progressive bisection, and then the process starts again. Thus essentially we have infinite inverse impressions taken of the molecules into the medium of the water and then one impression selected from that infinity to start the process over. This is an intensification process. But the other process that occurs is titration where 1/10 of that water is taken and then new water added and the process is repeated until the substance itself is gone and all there is left is the inverse image of it in the medium of the water intensified by the chaotic regimes it has gone through and the selection process of states induced by that regime. Lets think about this in terms of the EMS process. We start with a substance in water that is molecules of a medicinal remedy normally a poison of some kind that produces specific symptoms. These molecules are a swarm within the medium of the water. Succussion begins and there is mutual action between the molecules of the remedy within the water molecules. From the point of view of the water all possible views of the molecule in question are had in the succussion process. And in the process of collisions between the water and the molecules of the potential remedy there is by the mutual interaction trace impressions taken which is a schematization, by which the water becomes the inverse trace image of the molecules of the substance. But then a chaotic regime is induced by the third state arising and the number of states of the water becomes infinite producing candidates, i.e. all possible configurations of the molecule in the water which produces traces like a palimpsest. These infinite candidates of states in the chaotic regime

is an infinite intensification of the impressions of the substance. Then there is an annihilation of all those states and just one is selected as the root of a new progressive bisection. That selected state becomes the seed for a new round of progressive bisections of the monads, and thus we go round the EMS cycle again. The monads are actualizations, then comes the mutual action that produces the trace images that are inversions these are real, But this reality is intensified into all possibilities as candidates, and then through annihilation of myriad chaotic states a single state is selected as the root of a new progressive bisection of states and that root is virtual. The succession process going through multiple regimes of chaos is producing virtual seeds which are nothing but as trace impressions that are intensifications of the patterning of the molecules of the remedy in the medium of the water. Thus succession is an Emergent Meta-system model. And then that EMS model is repeated itself over and over again with the water being diluted each time until only water is left. All there is in the water is the intensified trace of the inverse images of the molecules of the remedy. Which is nothing of the substance of the remedy but wholly the substance of the water replete with the inverse image of the substance of the remedy. When this inverse image of the substance is captured in the sugar pill it can be transferred to the mouth of the patient. What then occurs is that the ordering of the inverse trace image goes throughout the water of the body as a Dissipative Ordering contagiously replacing the order of that water in the body with the trace from the remedy. That new regime proliferates through the whole of the body converting it to this inverse trace of the remedy. But this body which is mostly water is also holding the positive coherence of the tropes of the aliments which is the same as that induced by the remedy. Then we say that the inverse trace and the trace of the coherence of the image of the aliment in the body cancel each other out so that the aliment suffers decoherence. The essence of the ailment loses its coherence and if that happens then the symptoms as tropes disperse. As we can see Homeopathy is a model of quasi-causality (indirect causality) which Deleuze is concerned with describing which we see in the Emergent Meta-system model. We should also note that it is the practice of Homeopathy that give us a perfect exemplification of the Emergent Meta-system model. Homeopathy is thus an excellent model for Alchemy¹⁰⁶ and we can see that illuminated in Hypnerotomachia Poliphili¹⁰⁷

The Jing Chi of the body takes over to reorganize the body in its natural balance that the ailment was preventing. And the body returns towards a more healthy balance when the symptoms disperse, which is a change of state in the body. The remedy was given to a normal healthy person in the proving and the induced symptoms were observed. It is precisely the induced symptoms which are the ones being dispersed by the cancellation process. There is identity in the essence of the symptomatic reaction of the body to the substance of the poison which will become remedy (Pharmacon). The regime that is keeping the symptoms in the body of the sick patient in place is seen as the identical essence. If we take the substance that produces the sickness and we put it though an EMS process that selects and amplifies the signal of the substance into the inverse image of the

¹⁰⁶ Jung, C G. *Psychology and Alchemy*. Place of publication not identified: Routledge, 2015. Jung, C G, and R F. C. Hull. *Aion: Researches into the Phenomenology of the Self*. London: Routledge, 2014. Jung, Carl G, and Marie-Louise . Franz. *Mysterium Coniunctionis*. Solothurn: Walter, 1995.

¹⁰⁷ Colonna, Francesco, and Joscelyn Godwin. *Hypnerotomachia Poliphili: The Strife of Love in a Dream*. New York: Thames & Hudson, 2005.

essence of that thing, and then we transfer it to the body of the patient then it is believe that the essence and the anti-essence cancel and when the essence is no longer there to induce coherence of the symptoms in the body then they will decohere and disperse allowing the bodies natural balance to return and thus producing health where there was sickness previously in the patient. Note this is all about Essence. *And it assumes that there is both essence and anti-essence and that they will annihilate each other if instilled in the same body, i.e. our body of water.* And as we now know essences are protection planes, that is entirely closed elliptical systems, on a hyperbolic background. When an essence is broken, i.e. one of its lines with associated points are taken way it loses its closure and becomes affine made up of complementary opposites. The essence is a closed convex state where complementarities are locked together. It is an intensified state whose closure is the opposite of the entropy of a hyperbolic background in which everything is falling away from each other. Illness can be seen as an entropic state where the body cannot assert the proper order of its opposites. Something, the essence of the illness is preventing the proper functioning of the body and that is inducing the illness, which is a move toward entropy within the body. But we know now that the essences made up of traits that are tropes and rifts (*riss*) within a riftdesign, like the facets in a monad. We know that the poison substance that will become a remedy has its form, and its patterning of molecules within it as a substance. If we take that substance from the form, which is its content, then we place that in the water to be succussed then it is the pattern of the molecules in the substance that is being imprinted in the water through the EMS cycle of succussion. But water unlike the poison of the remedy substance is a mass. And as we begin the succussion process we produce a solution where the water mixes with the substance of the remedy material. So in succussion we are moving across the boundary between set-like properties of substances that are structured as complex molecules into the uniform medium of the mass of the water in which the remedy is immersed and mixed into a solution. That mass is like a monad in as much as it is a simple being made up of identical water molecules with singularities of the suspended substance within it that is being titrated. These singularities with their specific molecular structures are being imprinted on the mass of the water that is identical with itself except for the singularities within it of the foreign remedy mixtures. Then we know that water has the possibility of holding traces of what it contains, water becomes tainted by what is within it. The EMS cycle of the succussion then produces the faceted traces within the monad of the water due to the agitation of the singularities in it. Thus, singularities become the monad of the EMS cycle and go through the process of intensification becoming virtual regimes within the water as a substance taking away its uniformity and impressing the trace of the inverse essence of the remedy substance within it. Here we are talking at the trace level. Traces are just as real as anything else as seen by the traces of the weight of glaciers that effect the bottom of the North Sea that can take any weight as long as previously compressed soils are not disturbed. Traces produce real phenomena in existence even though we normally overlook their action. There is nothing to a trace, it is an impression in a substance which is a lack, but that lack can become active in certain circumstances. In this case it is the inverse image of the essence of the substance of the remedy taken from the substance of the remedy itself through succussion and titration. In the inverse image there are traits and rifts that are seen as the monad of the water substance and the facets of the traces of the chaos induced within it that carries the inverse image of the essence of the remedy as poison. This inverse image is then taken and

placed in the mouth of the patient with the same symptoms as are induced by the poison remedy. This person as a whole who is made mostly of water has an ailment with the same symptoms that has taken hold of his entire body. The symptoms are tropes and they are organized in the ailment as a disease specific to that person's bodymind. If the bodymind of the person is considered a monad then they have traits and rifts between those traits in a specific configuration (shi) that appears as recurring symptoms. They are trapped at a T-1 time period which is their now with the recurring symptoms that are endlessly repeated, or perhaps getting worse, or fluctuating between worse and better. The theory is that this monad of the person who is ill is mostly made of water throughout all the cells of its body. When the remedy is given it produces a DO-SS that moves throughout the water of the body and changes its underlying pattern which is perhaps just random to all the same regime that which is the inverse trace image of the poison remedy. Thus the whole of the monad of the body has the inverse essence within it as a whole just as the whole of the body as monad has the positive essence of the ailment that is holding the symptoms in a coherent pattern. These two images of the same essence one positive and the other negative cancel, which is a natural phenomena in substances, for instance between matter and anti-matter, they annihilate each other. Thus we are assuming that essences and anti-essences also annihilate. When they annihilate the symptoms in the body become decoherent and disperse and the natural life energy Jing Chi reasserts itself and moves the body back toward health and balance.

The point is that in Homeopathy and Acupuncture we have models of systems of holonomic medicinal care that are based on Essences and can be elucidated by the structures of Projective Geometries. These are complex and worked out systems of therapy with theories that can be used to understand the ramifications of the theory of Essences as Projective Geometries as well as the Emergent Meta-system formation. Going back to the discussion of the larger projective planes, At the PG(2,4) level there are 21 points and 21 lines, and there are 6 intersections per line and 6 crossing lines per intersection. Six is a perfect number and thus this is a special level of structure for the projective planes. Doubling these 21 gives 42 points and lines. Of these 18 are anamorphic objects. That means there are 24 elements at this level that are non-anamorphic in six Fano PP that act as flags or banners that stretch from a pair of Aspects to a confluence of two Anti-aspects. These confluent points indicate the singularity of Ultra Being. It is very clear that Homeopathy is about Essences as Internal Relations¹⁰⁸. Acupuncture also treats Essence as Jing Chi. There is in Homeopathy the Essence of the Disease specific to the particular individual in the concrete case history and there is the Essence of the substance that causes the same symptoms in provings on well individuals. These cancel Essences and Counter-essences cancel. Thus, it is appropriate that it is a Projective Geometry which emulates the structure of Essences to be used to model how Homeopathy works. One point is very important which is that Homeopathy works by cancellation of the trace structure of the healing substance that has undergone titration and the EMS of succussion with the coherence of the set of symptoms plaguing the patient. The sugar pill is placed on the tongue of the patient and a dissipative reordering occurs when the inverted structure of the material that was succussed passing through multiple chaotic regimes moves through the water in the

¹⁰⁸ Lyng, Stephen. *Holistic Health and Biomedical Medicine: A Countersystem Analysis*. Albany, N.Y: State University of New York Press, 1990.

patient's body. We can expect that 40 percent of the effectiveness of the remedy is Placebo effect. Which is a big effect that is rejected as illusion by Allopathic medicine. But like Quantum Phenomena the efficacy of the counter-intuitive placebo effect which is *social* is proven over and over in myriad experiments. Homeopathy uses this placebo effect to bootstrap the patent into the fourth dimension. But we expect that like Metaphor Therapy and Acupuncture the resources of the fourth dimension are being used to effect the cure in some way. Another key point discovered by Hahnemann which irks materialists is that it was found that the higher the levels of titration the more effective the medicine pushing well past Avogadro's number where there is no material substance left to effect to cure. All that is being imprinted in the substance of the water is the inverse image of the molecules pushed through multiple chaotic regimes in the dilution process. Somehow the inverse image of the material in chaotic form when placed in the water of the body produces a DO-SS which then cancels the essence of the particular manifestation of symptoms in the patient. We can believe that inverted essences cancel, because we know of annihilation of particles/waves, and we know about cancellations in mathematics so the idea of cancellation of traces being at work here is not something too strange. However, for materialists who ignore anything that is not substantial this is a problem. They are what Plato called the Men of Earth that only believe what they can hold in their hands. Those initiated into the Greater and Lesser mysteries believe in invisible things. Homeopathy, Acupuncture and Metaphor Therapy work with invisible things and take them seriously as traces like the ones that Derrida talks about in terms of Differance that appear in Hyper Being. And since we know that the Projective Plane is the model of an essence then we can believe that two such projective planes that are inversions of each other could cancel. Thus the double planes at the PG(2,4) level could be inverses of each other. But precisely how this might happen at the PG(2,4) level of the Aspectual Field is a mystery. But we can guess.

There is in the aspectual field a singularity, and it is indicated by the confluences of the anti-aspects which are six. We start off from the Formal Structural System that is a tetrahedron of the Aspects. And between them are the properties of the Formal Structural System which are consistency, completeness, clarity, verifiability, verification and coherence. We are mostly concerned with coherence here. Coherence is the relation between identity and reality. Essences are coherences of attributes and abstract properties (tropes) within an envelope of constraints on the values that the attributes can take in a given substance in order to remain of the same kind, and also the covariance of these values. When we have an essence it is indicating the coherence of the kind in reality of the thing which we view from the vantage point set up by the relation of the Formal System to Reality overall. Essences themselves are not positive phenomena but they are implicit within things as their identity in relation to other things. We infer essences but they are at the same time direct intuitions, so called eidetic intuitions according to Husserl. Thus, when we observe the phenomena we directly see the essence of that phenomena. So, one phenomena could be a disease suffered by an individual. Another phenomena may be the same symptoms induced by proving a remedy in the effects of a poison on the human body. We directly apprehend that these two essences one induced artificially and the other occurring naturally are the same. But Homeopathy goes a step further and says that we can take an photographic negative of the essence of a substance and we can transfer that to the

body and cause this essence of the disease to cancel with the anti-essence of the poison that produces the same symptoms in a healthy person. This idea of taking a negative image of an essence from a substance, and then transferring it to the body to cancel with the positive essence of the ailment is a very subtle and new idea that Hahnemann had which is the basis of Homeopathy. It postulates that essences not only can be directly intuited but there are ways to manipulate them by making these traces cancel. The traces are seen as interferences in spacetime. Like positive and negative waves homeopathy believes that two exactly inverse sets of traces can cancel with each other leaving no waves in their wake after the cancellation. Homeopaths live in a world where you can take inverse images of essences and transfer them between bodies and cause them to cancel with their positive images. It is a kind of reverse photography where we take a negative of a substance, then we give it to a person with an illness who has a positive picture of the ailment, and the two images then cancel to leave just the natural configuration of the person without the ailment. This is no doubt a strange idea that materialists cannot accept. But it is produced by a unique combination of anomalous phenomena that actually do exist in reality. Things have essences which are coherences that relate Identity to Reality and specify their kinds. Actual material things can annihilate so why not Essences and Anti-essences. Traces exist, so why can't we take images of Essences as traces. Like all of SST Homeopathy is a concatenation of anomalies in nature that has a particular configuration (or Shi).

In the Homeopathic Cure symptoms disappear from inside to outside, from top of the body to the bottom, and from present to past. And it was offered as a challenge by a Homeopathic friend of mine that to have a complete theory these asymmetries in the progress of the cure should also be explained. I offer this here as an open problem¹⁰⁹ still to be solved. One point is that this is actually a heuristic. It is a general rule that is meant to make you look for the sequence. But in reality I do not believe it is followed verbatim in every case because actuality is probabilistic not deterministic. Thus, when we are talking about this heuristic we must be aware that it is not a certainty to be applied blindly. Rather it is a generalization meant to call our attention to a phenomena. But, in general, it is believed by Homeopaths that the sign that the remedy was active in the cure is that this general sequence of the leaving of the symptoms was followed.

Certainly there are six Fano Planes in Pairs at this level of the PG(2,4). And we know that there are 24 open elements along with the 18 anamorphic entities at this level. We are tempted to relate this to the 24 cell polytope in four dimensional space. This is the carrier of Jing Chi in Acupuncture Theory. Jing Chi is where Essence and Internal Relations show up in Acupuncture. It is treated directly through the Extraordinary Vessels¹¹⁰. That is the Chi that was given to you as a baby and which is used as a catalyst one's entire life for the transformation of chi in the body. It is what returns your body to balance in illness and maintains it in balance in health. And it is known that the 24 cell polytope made up of Octahedra is a special structure that promotes laminar flow, so the Jing Chi can circulate in the 24 cell polytope without ever encountering any obstacles like solitons in their

¹⁰⁹ I solved this problem and it has to do with four dimensional rotations. See my papers on Homeopathy at <https://independent.academia.edu/KentPalmer/Holonomic-Medicinal-Theory>

¹¹⁰ Hubatch, Gayl. *Fabric of the Soul: 8 Extraordinary Vessels*. Denver, Colorado] : Outskirts Press, 2012. Matsumoto, Kiiko, and Stephen Birch. *Extraordinary Vessels*. Brookline, Mass: Paradigm Publications, 1986.

throughs. This 24 cell polytope is hidden in the center of the fourth dimension and is a unique polytope. If the 24 empty places not taken by anamorphic entities were filled with the points of the 24 cell polytope then we would have a structure directly linked to the core of the fourth dimension which we know carries Jing Chi in a laminar flow. This also is related to the cycle of the Solar Year in Chinese Medicine which is divided into 24 periods and this also appears in the 24 points in the Yin conception vessel that goes down the front of the body from anus to chin. Notice that this is related to a single $PG(2,3)$ projective plane with 13 points and 13 lines that produces the structure of the Yin meridians. One connection between $PG(2,3)$ and $PG(2,4)$ is that there are only 4 points on a line in the former but 5 on the later. And Meridians have 5 control points. Thus there is good reason to believe that the meridian system which is $2 \times PG(2,3)$ is embedded in the aspectual field related to $2 \times PG(2,4)$ so that the meridians can have five control points. But that means that the difference in the two fields are 16 lines. It should be noted that the Sedenion has 84 zero divisors, which appear in 21 pairs which give 42 “assessors” in which two zero divisors cancel. Thus cancellation could be seen as the theme of the $PG(2,4)$ plane and this is probably the connection between it and Homeopathy. Thus, the elements could all be seen as singularities that are undefined zero divisors that cancel with each other. Thus the extended field of $2 \times PG(2,4) = 42$ has an interesting relation to the structure of the Sedenion. [And of course we need to pay homage to this number because it is the answer to Life, the Universe and Everything which is the inverse of Catch 22 which is the number associated with the absurdity of everything. (Joke)] The key thought here is that at this level we can plug into the Aspectual Field a structure from the fourth dimension that has Laminar Flow but the field into which it is plugged has singularities sprinkled throughout it which I think is significant which signify cancelling undefined elements of mathematics, i.e. division by zero. Loss of the division property in general should be seen as a fusion. Thus, there is an underlying fusion of this field brought about by the annihilation of singularities. If symptoms are tropes that combine into analogies as ailments that are associated with the Haecceity of the individual and these are matched up with the inversion of the structure of the substance that causes these ailments in a healthy person that are intensified and embedded and enfolded though chaotic processes and imprinted on water or alcohol as a base then we can imagine these two inverse images of the same essence cancelling each other out. Especially if the opposite essences are brought together as two inverted Fano Planes within the Aspectual Field which had cancelling zero divisors within it as singularities. Remember the Aspectual Field is operating at the level of Wild Being which is tending toward and indicating Ultra Being. Wild Being has the analogy of the Mandelbrot Set with its field of segregated intensities as lines of flight that signifies the edge of Chaos. So, we are talking about a very strange environment which is largely unexplored except for by Deleuze who attempted to improve upon Merleau-Ponty’s characterization of Wild Being from The Visible and the Invisible by developing further the idea of the Transcendental Field. At this level there is a phenomenon called quasi-causality at play and Deleuze talks about the resonance of structural series and the difference between singular points and normal points in these series.

We might think about the situation of Homeopathy in this environment in this way. There are a series of remedies that produce very similar symptoms. The Homeopath is looking for the remedy that has the key symptoms which are often odd or extreme to indicate the

right remedy. Once the remedy has been chosen then it is succussed and titrated to produce an inverse image of its structure in a chaotic medium, being forced through these chaotic regimes over and over in an EMS cycle. We would expect that to leave a trace in the water which has every permutation of the inverted structure of the substances imprinted in the medium that is turned into the sugar pill. Since the candidates that are produced in the chaotic regimes are at the level of possibility then we have moved from either the actual world or the real world to the possible world and then on to the virtual world through the EMS of the succussion process. This pill is placed under the tongue and its trace pattern moves throughout the body via the water in the body. Now we don't know how the essence of the ailment producing the symptoms is held in the body disturbing its equilibrium. But we will assume that that trace is a positive image of the same kind as the substance that would produce the same symptoms in a healthy person. When the positive and negative images of the coherence of the symptoms meet they cancel. And if that works then the symptoms leave from top of the body going down the body, from inside to outside and from past to future. This sequence in the leaving of the symptoms is the sign that the remedy actually worked. Now we think the progression of the leaving of the symptoms is an image of the fact that a transformation is occurring in four-dimensional space. The coming on of the symptoms generally appear from outside to inside, bottom to top, and past to present by this heuristic. In four-dimensional space a rotation in the fourth dimension causes something to turn inside out. The leaving of the symptoms from inside to outside is a sign that the essence of the ailment is being turned inside out. We would add that there is also probably another axis which is determined by the fact that the back of the body is Yang and the front is yin. Things pass into the body from the back and pass out normally through the front either out through the throat, out from the center of the body, or down through the anus in Metaphor Therapy. Thus, the symptoms should leave from the front of the body, just as the Yang causes enter into the back of the body, not vice versa. Nothing ever leaves from the back of the body and only traumatic injections of foreign substances ever enter into the body from the front. The front is Yin and the back of the body is Yang. Celestial Causes enter the back of the body and then manifest in the front of the body. Of you have child fragments they step into the back of the body in order to reintegrate in Metaphor Therapy. The Yang and Yin axis which is from the back to the front of the body does not reverse. But in relation to it the other three axis may reverse on cure. Homeopathy does not talk about the Yang/Yin axis. But Merleau-Ponty talks about it in his Phenomenology of Perception and in The Visible and the Invisible as the Verticality of the world. We face the world head on in a vertical position with our body standing before it, and it standing before us, and thus a characteristic feature of our interface with the world is its verticality with respect to us and our standing in relation to it. Thus, this verticality is the reference axis indicating the Co-now that does not change its direction. In relation to the Yang/Yin axis that does not reverse there are three different axis that are reversed at the same time as the symptoms leave, and this suggests that there is a transformation in relation to four-dimensional space occurring. This has exactly the same structure as the quaternion in which one number is real and the other three are imaginary. Quaternions can produce trace movements with no singularities in them, and are thus used to calculate the motions of robot arms. Thus, the progression of the healing and the leaving of the symptoms suggest that the healing is occurring through a four-dimensional space transformation based on the quaternion asymmetry between imaginary and real axis which is four dimensional, and in

fact the core group of four-dimensional space. We believe that this transformation is kicked off using the Placebo Effect which is 40% effective. But then once the person is pushed into the fourth dimension by the cancellation of the traces holding them stationary in spacetime by the essence of the disease then they use the resources of the fourth dimension to complete the healing process. It turns out that the fourth dimension has the resources to resolve singularities of zero, one, two, and three dimensions. We know that the $PG(2,4)$ projective plane is non-orientable. And that means that you can have something on either side of it. That means that the doubling of the plane could just be the use of both sides of the non-orientable surface as a field. And we can see that there are thus 21 two sided elements that give us the 42 elements of the double field. We know that 18 of these are anamorphic objects. 24 of them are open objects that could be filled by the points of the 24 cell polytope in the fourth dimension as a catalyst of Jing Chi. Six of these elements are confluences of anti-aspects. Twelve of them are Aspects. This leaves six which are probably the center points of the Flag or Banner which are points at the center of the Fano planes associated with Jouissance or the coNows. When we think about the situation there is the series of the symptoms from the proving, and on the patients side there is the series of the symptoms that they carry pervading their body. And these symptoms are arranged in the fourth dimension in as much as they have a series of stages of manifestation which we mentioned related to temporal orientation, vertical orientation, front to back orientation, and inside to outside orientation. According to Deleuze structure requires two series. In this case the both series are the same trope, which are symptoms. He speaks of the resonance between the two series. In the case of homeopathy this resonance leads to an alignment that allows cancellation because one is the inverse image of the material that causes the symptoms, while the other is the positive image of that coherence. Homeopathy is based ultimately on the observation that Quinine that cures Malaria also in certain doses produces the same symptoms. This is called the paradoxical effect of drugs. It is well known and applies to other drugs as well. Homeopathy is an empirical attempt to use that paradoxical effect more generally to produce healing that does not cause suffering in the patient as allelopathic medicine often does. In fact, the use of positive doses of medicine normally causes side effects that are expected. Patients of Allelopathic medicine are continually proving various substances produced by Pharmaceutical companies. Homeopathy does not believe in general diseases, but only in specific configurations (shi) of symptoms in a particular person at a particular time that appear in a particular order in terms of spacetime from the point of view of the body. The symptoms are seen as an imbalanced regime within the body that produces the symptoms as a sign of that imbalance. In this sense it is like the symptoms of trauma that repeat which the patient is told are all in their head. But this is hard to believe because they can be manifesting in various parts of the body, normally different symptoms in different parts of the body. Thus, the homeopathic patient is in a T_{-1} type situation in which symptoms are repeating just like the traumatized person who submits to Metaphor Therapy. The homeopathic remedy causes the patient to take a detour around T_0 which is the blockage in their bodies natural ability to return to balance and to heal itself and to take them to T_{+1} which is the healing state where the Jing Chi kicks in to return to patient's bodymind to balance. In Metaphor Therapy the client is asked to find something that their symptom is like and that trope is normally something imaginary related to something they know in their own world. Thus, metaphors are like the remedies that produce the same symptoms in nature when they are

proved. In Metaphor Therapy by introducing the Co-now we lure the client into the fourth dimension and then use its resources to reconfigure their metaphors at T_{+1} in a new analogy avoiding T_0 . In Homeopathy rather than drawing the metaphor out, a trace of a substance is introduced into the body to induce a new DO-SS. The inverted trace of the coherence of the symptoms induced by the titrated material substance goes into the body to produce a different dissipative structure within the person, while in Metaphor Therapy the tropes come out and travel around the ring of the vortex of return of the symptoms to reconvene at T_{+1} to become a new synthetic analogy produced by the person themselves. Thus, there is a definite inversion in the technique of Metaphor Therapy in Homeopathy. Both use things from the outside of the body to effect changes in the psyche or soma but the direction that the metaphors flow is opposite the direction that the homeopathic medicine flows into the body via the pill given to the patient. In Metaphor Therapy objects that are inside the body that should not be there introduced by the trauma are allowed to work their way back out of the body. Homeopathy could be thought of as the concrete inversion of Metaphor Therapy.

Exactly how the fourth dimension is activated in Homeopathy is unknown. But we can guess that the body is like a Bose-Einstein Condensate. In such a condensate it is possible to have singularities of different dimensions as points, lines, surfaces, and solids. The fourth dimension has the ability to disperse all these various dimensional singularities. But the interesting thing is that the line singularities are vortices with wrapping numbers. They are vortices yet they do not move. This is an excellent analogy for the essence of a disease. The vortex with its line singularity is holding the wrapping of the symptoms of the disease in place and causing them to repeat over and over. We¹¹¹ postulate that when the inverse image of the remedy comes into the water content of the body it releases this singular vortex holding the symptoms in place and allows it to go back to a natural flow. And thus the unwinding of the four-dimensional rotation is unleashed as a cascade returning to lower energy in the body overall that is closer to health. Notice that the dissipative ordering flow starts at the top of the body and goes down which is the same direction that the symptoms should ideally leave the body. It could be that by forcing the cancellation of the coherence of the symptoms in the body by applying its inverse dual in the form of the essence of the remedy this starts a dissipative cascade running from the top to the bottom of the body, and because the knot of the symptoms in their entanglement is four-dimensional this by quasi-causation produces the other rotations from present to past, from inside to outside but not from front to back to give a complete four-dimensional quaternion rotation of the unknotting of the knots of entanglement that are holding the symptoms together so that they persist. It could be that the line singularity that holds the vortex together is vertical and that the cancellation process follows that line vortex down the body and thus undoes the singularity holding the symptoms in place releasing them from their winding number and allowing the essence of the disease to disperse and its symptoms to wane. Once this line singularity that holds the disease as a static vortex together is undone then the Jing Chi will bring the body back to balance by flowing as a catalyst at the fourth dimensional core of the bodymind. Metaphor therapy does not claim to operate on the body, except

¹¹¹ This suggestion comes from Steven Briggs, Ph.D, an Metaphor Therapist and colleague.

incidentally. Acupuncture is targeted mostly at curing bodily ills. Homeopathy claims to cure the ills of both mind and body. Acupuncture is a part of Traditional Chinese Medicine which also includes Herbalism and Acupressure. All of TCM is based on the Yellow Empowers Classic. It's Herbal Recipes and the Acupuncture Treatments have been used for hundreds, and perhaps thousands, of years. And the fundamental Theory is the same for all of TCM and it relates to the AS-SS. However, most of Acupuncture Theory¹¹² is based on mathematics which has just been discovered in the last century or so in the West. It is a highly mathematical theory whose roots in mathematics have just been rediscovered and have been described in recent papers by the author based on advances in SST. The problem in Acupuncture is that its practice has become disconnected from its theory. Homeopathy on the other hand has almost no theory per se. It is a largely empirical science base on provings and the idea of the annihilation of essences. Theoretical texts such as those of Kent do not recognize that its efficacy comes from annihilation of essence of the symptoms of the ailment and the inverse trace in the chaotic medium of water that is captured and then acts as a DO-SS on the water of the body producing a cancellation. Homeopathy deals with a wide array of substances on which provings have been done. And it is the codification of the results of those empirical study and their collation of multiple provings that is the basis for treatment. No one knows how it might work, and because there is no good theory Homeopathy has lost its standing in the USA and is no longer considered a scientific medical treatment. The thing about Homeopathy is that there are a large number of medicinal substances and a history of provings that are codified in various textbooks on Homeopathy. The G. Vithoulkas¹¹³ approach is the most popular at this time. However, for our studies it is the works by J.T. Kent¹¹⁴ that are considered the classic references in the subject besides that of C.F.S. Hahnemann¹¹⁵ himself. However, we do not accept any of the classical theories of how Homeopathy is supposed to work. Rather we base our interpretation of it on the concept of annihilation and chaos theory and the unique properties of water to hold the impression of the successes molecules of the remedy material. Annihilation takes us into the fourth dimension, and this is because the Euler number of the fourth dimension is zero while the Euler number of the third dimension is 2. But emptiness and void have a structure which is specified mathematically by the Hyper Complex Algebras as seen in SST. That structure has to do with the interpretation of emptiness as interpenetration and intra-inclusion as we see in Hua Yen Buddhism of Fa Tsang and his interpretation of the Awakening of Faith which is a self-conscious picture of the workings of the Emergent Meta-system which embodies partial or quasi-causality seen as the way Karma works in Buddhism. The fourth dimension has a special relation with nonduality of emptiness or void. However, we admit that this is not as well understood as Acupuncture. Acupuncture on the other hand has been shown to work in demonstrations such as in surgery without and thus is licensed even though no one knows how it works. For us these two medical treatments are a test cases for blindspots in the Western scientific tradition and medical traditions. They are useful in our Philosophy of Science research attempting to uncover different biases within the Scientific tradition that may keep it from

¹¹² https://www.academia.edu/35789569/Perfect_Ideas

¹¹³ https://www.wikiwand.com/en/George_Vithoulkas

¹¹⁴ https://www.wikiwand.com/en/James_Tyler_Kent

¹¹⁵ https://www.wikiwand.com/en/Samuel_Hahnemann

fully understanding phenomena. Acupuncture is the best example in this regard because it is accepted even though no one, not even the acupuncturists know how it works. Homeopathy has only over the last hundred years lost its standing as a medical science in the USA. The AMA has been waging war against it for a long time and has won that war, because Homeopathy also could not show how it achieves whatever efficacy it might have. However, we know that it has, if respected, at least the efficacy of 40% which is from the Placebo effect. And even if it does nothing, at least it does not harm unlike many Allelopathic interventions which may be said to cause more harm than it gives cures. By getting rid of Homeopathy a 40 percent cure rate has been abandoned at a cost much less than Allopathic medicine in a country in Medical crisis. This is an insane decision much like the conspiracy by which the Car companies colluded to get mass transit in LA destroyed to they can sell more cars. Allelopathic medicine with Big Pharma produce more and more costly treatments in order to sell expensive medical services to the public. Homeopathy is cheap and remedies easy to produce and it does not produce side effects. Yet this 40 percent cure rate by Placebo has been eradicated when many times Allelopathic medicine cannot cure diseases by what it considers scientific means. But we continue using Homeopathy as a Holonomic Alchemical exemplar because it is such an excellent example of a DO-SS, and it is complementary to the AS-SS of Acupuncture. But this means that there a type of medical practice related to the RS-SS that is missing. We give Metaphor Therapy as an example of such a practice. Homeopathy seems to be a kind of inversion of Metaphor Therapy which is our example of a RS-SS related medical treatment. It is one of three different therapies that we find interesting and believe are effective which is Somatic Experiencing of P. Levine¹¹⁶ and Bosnak's Dreamwork¹¹⁷ that together appear to cover the entire DSIBAMS¹¹⁸ spectrum. All of these disparate techniques seem to make use of four dimensional resources as part of their healing process. It seems like there are various ways in which the fourth dimension can be invoked to unlock its healing potential. Thus, it behooves us to study all these various techniques together in order to try to understand them and their variation in the way that the fourth dimension is accessed. All of those ways of unlocking the fourth dimension revolve around the Special Systems (SS) because they are rooted in the fourth dimension through the quaternion group that specifies the structure of the AS-SS. But now we see that these various medical approaches not only are related to the different Special Systems (SS) but also apparently somehow related to the various Projective Planes (PPs) PG(2,2) for Metaphor Therapy Traumatic Temporality, PG(2,3) for Acupuncture Meridians, and perhaps PG(2,4) for Homeopathy although we are not sure how yet. Having these models for the Special Systems (SS) in traditional medical practice is extremely helpful. Both Acupuncture and Homeopathy are also both related to Emergent Meta-system. Thus these various holonomic medicinal treatments are examples of how the Essence and its internal relations can be related to the open transformational formation of the Emergent Meta-system.

¹¹⁶ https://www.wikiwand.com/en/Somatic_experiencing

¹¹⁷ <http://cyberdreamwork.com>

¹¹⁸ Dream, Sense, Image, Behavior(Mind), Affect, Meaning, Spirituality. Adding D and S to SIBAM which is an acronym from Somatic Experiencing. See <https://independent.academia.edu/KentPalmer/Emergent-Worlds:-Being.-Existence.-Manifestation>

The strange thing here is that the relation of the various types of traditional medicine to the Projective Geometry levels doubled is the opposite of their assignment to the Special Systems and we think that this peculiarity is significant for understanding how these various techniques work. Major advances have been made recorded in separate papers concerning how Acupuncture itself probably works¹¹⁹. And those ideas have been applied with some success to try to understand Metaphor Therapy and Homeopathy which currently have no accepted theory. The idea that by accessing the fourth dimension, which physically we are already in, as a healing resource is I believe a new idea that needs to be explored further. And we accept that it is the Placebo effect that allows us to bootstrap into the fourth dimension by dispelling the illusion that are caught in what appears to be a three-dimensional world that can have knots which then unfold once we are stable in the Fourth Dimension. We take advantage of the idea that a 720 degree spin will place us motionless in a frame of reference in the fourth dimension. But 720 degrees of angular change can be emulated various ways. The Tetrahedron, Torus, Mobius Strip and Knot all have 720 degrees of angular change embodied within them. These are the different modalities of the minimal system of B. Fuller. By thinking through the mathematics related to the structure of the fourth dimension it is possible to understand at least in the case of Acupuncture because it is a refined theory, how it accesses the fourth dimension and thus we can attempt to apply those same ideas to the other healing techniques. Since Homeopathy has no proper modern theory of its operation, it is the most difficult case. But since the way that the symptoms leave the body indicates the triggering of a four-dimensional rotation, it is just a matter of trying to understand how the traces cancel and how that moves the body into a four-dimensional state where a quaternionic rotation back to a balanced healthy state is possible.

Our main interest is in developing SST, but it helps to have models of it that are used in practice within traditional medicine as a baseline and a touchstone for our research. The research is very broad in its application, and the main emphasis is to provide a framework for understanding the conditions for the possibility of Consciousness, Life and the Social. But as a spin off it is gratifying if it helps us to understand traditional medical practices from a theoretical perspective as well. These practices are not well understood even by their practitioners. Western science and Allopathic medicine believe that they are just superstitious quackery. And like Homeopathy which had no scientifically acceptable theory it was sidelined by the AMA's attack and almost completely eliminated in the USA. Fortunately, there are still many practitioners around the world who keep this tradition alive. Chinese medicine is practiced in the USA but mostly the Acupuncture component, and Herbalism is less well understood and only practiced by those trained in China as far as I can tell. But even though it has a sophisticated theory this theory has become disconnected from practice in many ways and Acupuncturists for the most part are technicians with very few scientists who are trying to develop and understand the theory. Metaphor Therapy was dealt a blow by the sickness and death of its founder David Grove. However, there are still a few practitioners and we have been actively researching how it might work for many years since the death of David Grove. This year since I have been retired and have devoted myself full time to this research quite a bit of progress has been

¹¹⁹ <https://independent.academia.edu/KentPalmer/Holonomic-Medicinal-Theory>

made on multiple fronts and especially in the attempt to understand better acupuncture. This step of linking the meridians to the doubled $PG(2,3)$ projective plane is a major advance since it makes clear that the RS-SS embodies an emergent mutation signified by the fact that the Octonion Hyper Complex Algebra is isomorphic with the Fano PP. This is a major advance in our understanding of the Special Systems. And also, the grounding of the SS in the Gödel Incompleteness Theorem is another fundamental advance. This paper has the purpose of reporting these advances and setting the agenda for the further development of SST.

Further work needs to be done attempting to use the theory to understand the traditional medicines such as TCM including Acupuncture and Homeopathy and also the other psychotherapies that deal with trauma such as Metaphor Therapy and Somatic Experiencing. Now a major emphasis needs to be on understanding the role of projective geometry in relation to the Hyper Complex Algebras and thus taking advantage of the recognition of this emergent mutation at the level of RS-SS. More work needs to be done on understanding the role of Hegel and the historical underpinnings of his philosophy that brings together so many elements that are pertinent to the understanding of SS, for instance Internal Relations, Groupoids, and his views of Consciousness, Life and Society. There are many avenues to be pursued in this research. One of the most important is the recent understanding that Herodotus in his description of Babylon also has structures that are similar to the imaginary cities of Plato. Also, we need to further understand the roots of these theories in Sumeria and Egypt. Also, more work needs to be done to connect these ideas to the Chinese tradition. Also work needs to be done isolating other instances of SST in the dialogues of Plato and other Neo-Platonists. This connection between Contemporary Mathematics and Traditional embodiments of SST and nonduality (see <http://nondual.net>) has been very fruitful as a research area especially in the last year. But SST also relates to a broader research into Design through Schemas Theory and to the understanding of the Western worldview through Emergent Worlds Theory. All of these threads are being followed up particularly the connection to the theme of Genetic Phenomenology and its relation to the Foundational Mathematical Categories, the Five Worlds and the Schemas which lead to the understanding of the Schematic Nerves recently. All this research is breaking new ground by exploring the blindspots in the Western Tradition toward Mass rather than Set theory, Meta-systems rather than Systems, and now Internal Relations rather than External Relations. We develop Systems Science models of contemporary mathematical ideas and then attempt to match them to phenomena in order to test those models to learn more about the nature of the Western worldview and its scientific tradition. The spinoffs from this fundamental research has impacts in many different Special Sciences only a few of which we can pursue because the emphasis is on developing the General Theory of Special Systems (SST).