ADVANCED FACET THEORY FOR FACET ENGINEERS

Chapter 9 of the Anti-thesis

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Summary:

None yet.

Exploring The Facet Schema

If Monads are beyond the pale of the horizon of experience then Facets are even further beyond the pale. So in this essay and those that follow we will essentially be going further and further out on a limb and exploring essentially metaphysical territory. The facet schema is very important because it is what allows us to comprehend as best we can the quantum superposition principle.

This comes out of the theory of Quantum Mechanics, which even though it is hard to understand, it is an extremely highly confirmed theory. Faceting and Superposition both concern the fusion of existence on the microscale. But the concept of faceting extends this discovery of fusion on in relation to the small to all scales. In effect we posit that the whole of experience is quantum mechanical in its core nature. The fact that we do not see this fusion on the higher scales is due to our projection of the world which is Newtonian at higher scales. The reality of existence is quantum mechanical through and through. But by the projection of Being we mediate that fundamental nature of existence to ourselves in a way that is easy for us to comprehend. In this way we create illusory continuities of ideation which organize experience differently from their quantum mechanical substrate. With facets we encounter the quantum mechanical substrate which features fusion by superposition. It is said that when an observer observes a phenomena that the statistical wave collapses into the separation out of one possibility from the others to become an actualization. In effect the truth of the situation is that the observer is not just observing phenomena passively but is instead projecting Being upon Existence. This projection causes the separation out of certain superimposed possibilities into some which are actualized. The process of performing one experiment rather than another is the means of projection upon to the surface of complementarities discovered by Quantum Mechanics. These complementarities have no depth as Bohr has said. This means that there is no *pilot waves* or other deeper phenomena beyond the complementarities. The surface of complementarities is the face of existence. By looking at the experiment, which by Bacon's reckoning is a torture of nature attempting to force her to reveal her secrets, we are artificially forcing some actualities into our experience and excluding the others breaking the fusion or superposition of

possibilities. But the real world beyond our projections is that fusion of possibilities which continues if we do not force it to materialize into actualities, if we refuse the violence of observation in the scientific mode. Thus ambiguousness and vagueness are the fundamental nature of Existence prior to the imposition of Being. But that vagueness and ambiguity is not totally featureless. The features are the superimposed possibilities, i.e. the facets of the monad. That faceting is like a jewel, in other words the facets interlock on the surface of the jewel. The facets are separated inwardly and outwardly. The outward separation comes with the observation, perception, imagination, cognition, memory of the monad which is the expression of the desiring, disseminating, avoiding, or absorbing machine. The inward separation means that there are monads within monads within monads indefinitely. We can think of Nietzsche's will to power in this context. Deleuze thinks of *will to power* as meaning will to the nth power. He thinks that wild being appears at not just the fourth power but the nth power and thus he seems to subsume all the higher powers beyond the forth into wild Being. This I think is an error because it hides the nature of existence. Wild Being is specifically the fourth power where propensity appears, i.e. the propensity to see this actuality or that actuality, rather than all the possibilities that appear in their undecidability at the level of Hyper Being. Higher powers, i.e. the fifth power and higher have the nature of existence, rather than Being. There is a sharp division between Being and Existence which occurs at the transition from the fourth to the fifth power. Deleuze seems to have missed this and thus for him the Univocality of Being includes all higher powers. Rather we think the higher powers belong to Existence. They have the nature of Macro Quantum Mechanics, i.e. Quantum Mechanics is the the nature of Existence, period. These lower level powers have the nature of existence or Being made possible by the algebras that appear at these

lower levels of the hierarchy of meta-levels. This distinction between the philosophy of Deleuze and the one presented here is crucial. For Deleuze it is all projection all the way up the staircase of the meta-levels of Being. Thus there is no place for the Quantum Mechanical nature of existence to reside. Everything is projection. The univocality of the multilith of Being covers everything. Rather, it seems to me that there is a sharp discontinuity in the series between the fourth and fifth meta-level, and there is a practical limit which does not appear in the idealized hierarchy. Deleuze does not recognize this practical limit and thus commits a form of hubris, annexing everything into Being. This of course means that he does not understand the nature of the faceting of existence which is based on the surface of complementarities. If you cannot distinguish between Being and Existence then your abilities to make other distinctions are severely hampered, and the result is the extreme nihilism of the philosophy of the later Deleuze in his collaboration with Guttari. The primary non-nihilistic distinction is to recognize the advent of the non-dual within existence and see existence beyond Being, i.e. at the higher meta-levels of the hierarchy of Being. When you recognize that all the higher meta-levels are unthinkable, unsenseable, unimagineable, unperceptable, then you understand that the four lower meta-levels are just a small part of existence which we warp to our own designs by seeing it as projections of Being. We use the properties of the algebras that occur at this level in order to create these continuities needed to make the projection of Being possible. So we can think of the difference between the facet and the monad as the difference between these two states of Existence and Being. The monad supports radical separation and isolation that is counter to the illusory continuities of Being. This radical separation and isolation is what is needed to counteract the projection of Being. But when we move across the boundary into existence then we find the fusion of the facets reflect the surface of

complementarities within complementarities within complementarities, etc. So the difference between facet and monad is a non-nihilistic distinction which marks the advent of the non-duality of existence vis a vis the projected illusory continuity of Being in the realm of the small. The same is true for the difference between kosmos and the pluriverse at the other end of the spectrum in the realm of the large. The schemas at either end mark the transition out of existence into Being by this transition from fused articulation into discrete isolated pieces of the soul. The fragmentation of the soul is the price we pay for the attempt to establish illusory continuities of Being. In other words the attempt to lay down illusory continuities causes a transcendental fragmentation of the I. This is only remedied by Apollonian process of individuation that allows the wholeness of the Self to reappear, or by the Dionysian revel that allows the unity of life to prevail. In other words by projecting illusory continuity outwardly we reap fragmentation inwardly. If we project illusory continuity inwardly we reap fragmentation outwardly. The monads and kosmos represent this reaped fragmentation that comes from losing the paradise of macro-quantum mechanical fusion. The pluriverse and facets represent the paradise fusion that is the unfallen state, which in fact as Blake reminded us we never left despite all appearances and illusions to the contrary. Experience is at root macro quantum mechanical. What we see of experience that is Newtonian is an illusion that we have projected as Blake warned us. So we need to understand the relation of the facets to the monads and the pluriverse to the kosmos in order to in some way realize that our existence in Being is a strange combination of the two. The surface illusions of Being are Newtonian but the root of our experience is a fusion in which we bathe in ambiguity and vagueness of Existence.

Heuristics

As we did in the last chapter we are going to try to bring the exploration of this schema down to something concrete in our experience. In the last chapter we used the letter as an example of an ipsity. In this chapter we are going to talk about heuristics. Heuristics is a way of seeing the deeper state of Existence though the veil of Being. The tree of the world, i.e. the tree of bisections that displays the dualities of the world such as logos/physus and finite/infinite has been displayed in all its branches previously in this set of essays. But we have not talked about the roots of the tree of the world called Yaddrasil. Those roots are a progressive bisection that gives myriad complementarities. Where the branches only branch in one direction and display a symmetry breaking at each level, the roots on the other hand are not pruned and branch in both directions giving full expression to all the possible complementary possibilities. We can think of what is above ground as the result of the observations of many quantum mechanical experiments, while what is below ground as the ambiguous and vague as well as fused region where all the possibilities are still in force unobserved. All those observations give rise to the Newtonian world of our experience which has been made rigorous and disciplined by the science of specialties. Within the labyrinth of observations appears the branches of the tree maimed by the continual pruning of experience against the advice of Blake. However, below ground the ambiguous, vague and fused superpositional world is always with us. It is the groundless ground of all our experience. Being floats on the sea of Existence. The question though becomes how to look at the world without the rose colored glasses of Being and to see Existence as an alternative way of seeing the world, a catholic way of looking at the world rather than an Olympian view.

For the answer to this quandary we have to take serious other sciences from remote traditions that have developed this way of

looking at things. A good example is the Chinese traditional ways of looking at things associated with Taoism and expressed in Acupuncture. But closer to home we have Alchemy that expresses its way of looking at things in terms of Homeopathy. These are rejected sciences from the point of view of Western Medicine and Science. However, sometimes we have to take seriously the minority opinions and give consideration to alternative ways of looking at phenomena, if only to expand our own horizons to make sure we are not distorting things from our own rigorous and disciplined point of view. Alchemy as an indigenous science to our tradition and Taoism as an exogenous science with regard to our own Western tradition are ways of looking at things and stuff that preserve the macro quantum mechanical bedrock of experience. This is why we need to give them due consideration despite our prejudices against them. We need to consider them as examples of sciences that look at things that are lost in the blindspot of our own worldview reified as science within our tradition. By looking at them carefully we will see that they allow us to get a glimpse of the faceted nature of existence as fused beyond the separation of the monads that are imposed upon us by our projecting illusory continuity of ideation. In effect we are looking below the ground of the tree of Being at its roots in existence though these alternative traditional sciences.

You might object, why bring in these disreputable and archaic subjects into a discussion of the schemas which is meant for consumption of modern systems theory and systems science? The reason is that when we cross the boundary into the facet we have nothing within our tradition at present that adequately addresses these problems of schematization of the fused and interpenetrated. Thus we must cast about for prototypes from other cultures or from earlier stages of our own tradition. It causes

us to look for anomalous traditions that have widely disparate interpretations of the world not dependent on the idea that things are separable and distinct. Since Descartes the goal has been to focus on clear and distinct ideas and to banish the vague, amorphous and the ambiguous. It was Jung's great vision to realize that alchemists have something to tell us moderns about the unconscious which we have lost access to in the intervening centuries. We have forgotten that Newton was primarily an alchemist and that his works that we focus on were a side issue for him. We have the vision of Newton and his contemporaries as purely rationalist and scientific in the modern sense of the word. But in fact for a long time alchemy and science were strange bedfellows and by losing our appreciation of alchemy as a practical science our understanding of its wisdom also faded. In fact, if we did not have Chinese traditional sciences to compare it to we would have a difficult time interpreting it. These are the ancient attempts to found a science on knowledge of the special systems. It is a way of knowledge that we have lost completely, except for occasional images we find in Plato, Leibniz and Kierkegaard. So we need to attempt to understand the way that they looked at the world, in a way that is complementary to our own modern scientific approaches. We follow the approach championed by Paul Feyerabend in Against Method who says "Anything Goes!" In other words if these ancient relics can tell us useful about what a science of special systems might look like, which has been lost in our own day and our own approach to science then so be it. We have to draw from every resource we can manage to bring back some understanding of the way the world looks through the dark glass of the facet schema. So we will purse this course which from the viewpoint of most will be to go off the deep end, in order to see what insights it might bring us.

Now the view point of this heuristic view of phenomena is that the world is made up of

complementarities of complementarities of complementarities almost infinitely deep. This is the nature of existence beyond the projections of Being. The way that this is made into a scientific way of looking at things is to posit that there is a hierarchy of these complementary opposites and there is are variables for the opposites. The variables for any set of opposite is called Yin and Yang in the Chinese tradition. Yin stands for the darkside of the opposition and Yang for the lightside. Or more specifically Yin stands for the earthly while Yang stands for the heavenly, where heavenly means non-manifest and earthy means manifest. In China as well as in other traditions there is a concept that these yin/yang complementarities can be stacked in a hierarchy. In China it is by this means that we get the trigrams and hexagrams of the I Ching. The concept is that the yin and yang are variables for other pertinent oppositions and that by stacking these opposition you get a heuristic model of the current configurations of oppositions and that might lead to some idea how these combinations of oppositions might roll over as time passes. If we survey various traditional cultures we find that there are different heuristic approaches developed in different cultures and that these form a progression. For instance, in China you have the yin/yang distinction articulated. Then a combination of two complementarities would be what is called Major and Minor Yin and Yang which is associated with the celestial lights. That is to say that two sets of yin/yang hierarchically arranged give you four heuristic states of combinatoric opposition. The next stage is to arrange three such oppositions which gives you the trigrams of which there are eight possible states. These eight possible states are seen as the different ways that heaven and earth can interpenetrate. In effect this is a simple model of interpenetration within a realm of complementarities of complementarities. Half of the complementarities represent the unmanifest and half represent the manifest. In Leyton's

terminology this would mean symmetries and asymmetries. The next stage of complexity does not appear in the Chinese Tradition, but instead is manifest in the Arab tradition as Ilm al-Raml which means the Science of the Sands. In that case there are sixteen tetragrams that represent the combinations of four sets of complementary opposites. The next stage is that which is most important to Acupuncture in China. That is the stage where five pairs of oppositions are combined hierarchically to produce the Five Hsing (Transformations) which is the key structure in Acupuncture Theory. There are thirty two combinations at this threshold of complexity. This level is related to the organization of the letters specifying the internal differences between the various pentagrams that describe the thirty two possible states that manifest at this level. The next stage is the I Ching which has sixty four hexagrams. After that there is the one hundred and twenty eight septagrams that we see in the African Ifa tradition. Finally there is the two hundred and fifty six octograms that are seen in the Polynesian tradition of Bei. All these are considered oracles, i.e. techniques of inquiring of the future or the unmanifest will of creation, or the unconscious as the case may be. But these are reifications of these heuristic systems. Rather they should be seen as ways of understanding where one is in an environment which is made up of macro quantum mechanical complementarities of complementarities of complementarities to an undefined depth of nesting. What is being represented are natural opposites, but these are metaphors for the interplay of manifest and non-manifest moments of articulation within the play of complementarities. This is important because the non-manifest moments articulate points of symmetry verses points of asymmetry. What we notice is that this progressive bisection is not asymmetrical like that which is above ground and which displays the dualities of the Western Worldview. Below ground the symmetries are still in play between manifest and unmanifest. When we move into the above

ground realm the invisibilities vanish and thus we have an asymmetrical development of dualities. Ancient Science dealt with this situation of nested complementarities and tried to do so in a pseudo mathematical fashion by working out what the important opposites were in any situation and then attempting to get some indication of how the complementarities might roll over in the next moment so that another state of affairs might become manifest. What is interesting is that as the progressive bisection goes deeper that the sets of complementarities in their combinatorics begin to have structure. So at the level of 2^5 there are ten sources while at the level of 2^6 there are twenty sources beyond reversibility and substitution. These sources are recognized as inner pivots around which events turn and they represent archetypes within the field of a specific situation within the net of complementarities manifesting at any one point in time and space. It should also be noted that the 2^n combinatorics of qualities are seen over against the N^2 possible relations between things in a particular situation. In other words all you have to do is count the number of things in the situation and then you use the 2^n heuristic in order to figure out its interpenetrated states of affairs that could manifest. N^2 stands for quantity and 2^n stands for quality. When we look at the Al Al-Ashari atomic theory there is quality in space and quantity in time. Each qualia lasts for a specific period of time before it turns into another qualia from among the combinatorial possibilities. This way of looking at things makes perfect sense if you take as a given that the world is macro quantum mechanical, and that what is contained in the quanta are qualia. In other words what David Chalmers sees as the greatest mystery of consciousness, the qualia, is combined with the great mystery of quantum mechanics, the production of quanta of superposition. In our case we see that superposition means that the probabilities of a state and its opposite are the same until an observation is made. The

oracular practice can be seen as the making of that observation in order to produce the symmetry breaking. As Deleuze says there is a kind of chance in which all the probabilities are at stake with each roll of the dice. In other words there is a kind of chance that is the flip side of Eternal Return and has the same profundity. This chance is the observation that breaks the symmetry of possibilities and introduces the asymmetry in which one state of affairs is actualized. Consulting these oracles could be seen in this light, as the making of an observation in a macro-quantum mechanical world. In this case the heuristic is being used as a way of changing the probabilities by a roll of the dice, or a throw of the divining sticks. What changes is not the physical situation as much as the complementary states of affairs of the qualia which are rolling over as the situation develops. What changes is consciousness itself in as much as it is an adjunct of the quantum mechanical overflow of the physical world at the macro level. If we deny the Copenhagen convention then a natural outcome is the realization that Quantum Mechanics must be operating at the macro level, we just do not see it, it is seen only in our unconscious or subconscious awareness prior to conscious intentional organization of experience. We can see the use of these heuristics as merely accessing the collective unconscious in order to gain access to synchronicities that we might not otherwise be aware of that puts us in tune with what Jung later calls the Psychoid, ie. Physical concomitants of Psychic realities that arise out of uncertainty at the macro quantum mechanical level.

Once we understand these traditional sciences as providing heuristic understanding of the membrane of complementarities within the macro world that we face unconsciously but that we hide from ourselves in consciousness, i.e. authorized non-trance states of consciousness, then it is clear that these sciences from traditional society had a way of viewing the interpenetrated world of

existence that we have lost by our hearty imposition of dualism on everything in our worldview. It makes sense of much of Alchemy and shows that Jung was right in that we have much to learn from the Alchemists to the extent they addressed this *prima material* of the facet schema, i.e. the substrate of existence beyond the projections of Being. It makes us understand that the physics of Plato and Aristotle which talked about transformation of earth/air/fire/water qualia was not so naive after all. This concept was taken over and made the basis of alchemy which attempted to understand the transformation of qualia in chemical reactions. This is still a great mystery today. Why do certain combinations of atoms have a particular quality in molecules and how do those qualities change from one molecule to another through the various alchemical operations, like calcinations and sublimation. The alchemical operations came to mean the transformation of qualia into other qualia, especially their transformation into invisibles that re-manifested in other forms though conservation of energy. Alchemy is a much misunderstood and abused traditional science that was aimed at the facet schema i.e. fused and interpenetrating quanta of qualia. It is still something we do not understand but have ceased to wonder about. For alchemists this was the problem, because they were directed by Plato and Aristotle to look at the transformations of qualia not so much at the physical transformations of the underlying chemistry. As chemistry became physical the issue of the qualia became a marginal concern. It goes along with the suppression of subjectivity. Only the subject experience the qualia in his or her consciousness. As we seek to become objective only the primary qualities are seen to matter. The whole question of the transformations of secondary qualities becomes an issue that is not studied. As this occurred Alchemy became the realm for theological speculation that was not legitimate within the intellectual confines of the church. Alchemy became spiritualized as Chemists and Physists focused on problems

that were easier to solve than the problem of the underlying reason for the transformation of qualia. Chemical and Physical transformations that conserved mass and energy could be understood. So alchemy the first experimental science lost its roots in experimentation and became a kind of backhanded theology or the province of charlatans. But before this split took place Alchemy was Physical Science based on Platonic and Aristotelian models of the mechanics of qualia. We can call it a qualitative mechanics of qualia based on the assumption of macro quantum mechanics and the assumption that consciousness was intimately involved in matter. Democritus studies eidolons as well as atoms. It took time for physus to become dead matter. Physus originally meant the unfolding of genetic development of living matter. Just as logos meant the unfolding of thought and speech. Materialism was something that had to be created by disentangling consciousness and dead matter. The dualities of Descartes was crucial to this process. It occurred by the production of an asymmetry in the world tree. But the earth out of which that tree grows is existence in which there is a symmetrical progressive bisection that describes the combinatorics nested of complementary states that follows the rule of Pascal's triangle. Note that Pascal's triangle also describes the unfolding of the organizational thresholds of the schemas. So there is an intimate connection between the combinatorics of complementary states and the production of the autopoietic ring of the schemas. The ring of the schemas show us the moments of unfolding of logos. By projecting the schemas in science we learn how the unfolding of the physus works through the failures of our experiments based on the schemas. We need to understand these archaic sciences of combinations of complementary opposites. They are the key to our understanding of the facets and the way of looking at the universe that assumes what Bells theorem proved which was that the things of the world are interpenetrated

and fused even at a distance if they have ever been together. And of course everything was together in the Big Bang. So even physical science leads us to the conclusion that interpenetration is the ground state of existence. At the level of the facet we are experiencing that ground state which only appears when we stop projecting Being on existence.

In other works I have pursued these heuristics from traditional sciences. This is not the place for a complete description of these heuristic approaches that were developed early in our tradition under the auspices of Alchemy and in other traditions such as the Chinese tradition. We need to draw on these historic examples to attempt to construct a means of dealing with the facet schema which is so far beyond our experience rooted as it is in Existence rather than Being. The Schemas arise from existence with the facet schema and in a ring return to Existence with the Pluriverse schema. It is like a flare on the Sun that produces a great arch away from and back to existence though the highly charged atmosphere of Being. Our current science is giving us the message that this layer of existence is there beyond our kenning though the projections of Being. But we have not yet developed ways of talking about this in a way that implies a relation to macro quantum mechanical phenomena in the form of articulations of qualia in our everyday mundane experience. We live in a non-dual world but all our culture and tradition is based on the denial of that fact. That is why Eastern religious traditions have such an appeal, for instance Tibetan Buddhism which has ways of understanding these macro quantum mechanical qualitative phenomena though Tantric practice. Buddhism in general is much more phenomenological than Western religions and thus can explain qualitative changes in consciousness and the relation between those and the ultimate symmetry of nirvana and enlightenment. Many books have been written explaining the connections between Buddhist and other Eastern religious practices and contemporary physics. The most famous of these is the Tao of Physics. What this brings to our attention is that Schemas are ultimately involved with the nature of consciousness itself and its connection with the universe posited by contemporary physics. That connection is through non-duality of existence which has to be because we are physical creatures who are conscious. There are traditions that have explored this horizon in ways that were denied by our culture due to the doctrine of excluded middle and non-contradiction. Buddhism for example denies the doctrine of exclued middle explicitly and proposes the tetralemma (A, ~A, both, neither). The tetralemma through the work of Nagarjuna was recognized as logically pointing toward emptiness as a possible state, i.e. what we have been calling heaven in the proceeding talk of Yin and Yang. Buddhism assumes emptiness and Taoism assumes void. These are the inward and outward manifestations of non-dual existence respectively associated mathematically with even and odd zero. We need to take seriously the claims of Buddhism and Taoism if we are ever to understand the faceted nature of the fusion of interpenetration beyond the separation of the monads. The monads revolt against the illusory continuity of ideas projected by Being introducing the discontinuity that appears in patterns as flux, structure, value and sign. At the facet level there is a revolt against this extreme of separation and an underlying interpenetration of the sort discussed by Fu Hsi is apprehended. Fu Hsi likens this to a golden haired lion in which each hair reflects the whole lion or a hall of mirrors reflecting each other.

The point is that with regard to the facets we are considering the fundamental Quantum Reality of superposition. Superposition means that a single variable has many possible answers and all these possible answers coexist as potentials until they are measured or observed. The facet level

beyond the monads has to do with the potentials while the monad level has to do with the result of measurement or observation. If we look at the heuristics what we see is given a set of complementarities all possible combinations, all the possibilities of quantized qualia. Due to uncertainty we cannot have more than one of these complementarities at a time, i.e. if you realize one you exclude the other. That is why they are called complementarities. But prior to measurement or observation all these complementarities co-exist in various probablities. So in some sense all the heurisitcs are valid until observation. They merely have different probabilities. When we actualize one then the others are excluded. The difference of this model from the normal one we get in quantum mechanics is that we are considering multiple complementarities at once. We are also considering qualia which we directly experience not just physical phenomena that physics is mostly concerned with. If there is macro quantum mechanics it is a combination of David Chalmers concern with qualia and the quantum mechanical. The Quantum mechanical relations become a framework for understanding the Qualia, i.e it gives a quantized temporality within which the qualia change. There is a probability distribution across the various heuristic combinations but all of them have the potential of actualization. When there is actualization then one of them becomes present and the others recede. But in each case we are already in one quanta of qualia and we are looking forward to the next. That is why the I Ching has a transformation from one Hexagram to the next. That transformation occurs though group operations. But the way we can think of the situation is that the whole I Ching is there as a model of interpenetration and at any one time we are within one qualitative cell of it. That cell has doors though to all the other cells. The doors are other cells, as it were turned sideways. So we are in a hall of mirrors in which each cell is surrounded by mirrors. These mirrors are other hexagrams

which are doors leading to other hexagramal cells which could be the next qualitative state of the inverse of a set of excluded complementarities. In Macro Quantum Qualitative Mechanics we are concerned with multiple exclusions at a time. In Sufism there is a model of this situation called Sufic Snakes and Ladders that has been turned into a game. In that game there is a series of steps from point to point along a path. But there are snakes and ladders which take us backwards and forwards along the path by larger or smaller leaps. What this tells us is that there are two major modes of change with respect to the whole panoply of qualitative cells. One is a progression through the cells as if it were a path, and the other is discontiuous changes that take us forward or backward by leaps. The progression we call the rolling over of opposites because as you traverse the labyrinth of the qualitative cells, like the I Ching, you naturally turn over from one opposite to another like night into day back to night again and so on in a cycle. But there can also be discontinuous jumps forward or backward in the series which are unexpected, this is the equivalent of quantum tunneling. Quantum tunneling is taking an unexpected and unknown path to a state that you should not be able to reach, where there was a low probability of transition to that state which was realized unexpectedly. As we said the connection between monads internally can be seen in terms of this kind of Quantum tunneling effect. We can think of the I Ching or the qualitative quantal labyrinth as the realm of possible realizable paths which the monads traverse. Different monads are in different qualitative cells within the labyrinth. They are all progressing though the labyrinth in cycles but occasionally make discontinuous jumps from one cell to another which has a low probability but was realized. For each monad there is a different probability distribution across the whole of the labyrinth. If two monads jump to the same cell they become indistinguishable and can be thought to cancel. But on the other

hand a monad might split and jump to several different cells. Monads pop in and out of existence within the labyrinth. They are seen externally as a swarm, but internally they are experiencing the quality of the cells they are in. Knowing another monad from within is in effect knowing what it is like to be in the cell they occupy at the current moment. Monads can do that because each monad is itself as swarm of monads that can be seen as a representation of the other monads in the swarm from its own point of view. Externally the swarm of monads is itself seen as a monad. In other words the monad is not a solid object but is in effect swarms within swarms within swarms. Each swarm has its labyrinth of qualitative states made up of excluded complementarites that leave it in a particular qualitative state. The labyrinths themselves give us the facets of the monad because every monad is in a qualitative state for some length of time before it vanishes and is recreated in another cell of the labyrinth. We use the metaphor of the labyrinth because it has a single path into and out of the center. But we realize that in the creation and destruction of monads they may appear anywhere within that path and so may jump around rather than progressing normally from state to state if they actualize a low probability state. But this labyrinth may easily become a maze as it is viewed from any one monad who is realizing some arbitrarily complex path though the labyrinth, because they experience the sudden appearance in some remote part of the labyrinth as hitting a wall and having to turn aside backtracking or finding secret passages through to otherwise unreachable parts of the labyrinth. There is an interesting relation between the facets of the labyrinth or maze and the monads that are actualizing the qualities of the cells in the set of excluded complementarities. It is the labyrinth or maze which holds the swarm together and gives it the fusion of its faceting. Notice that at the single monad level that monad can be seen as a swarm in its own labyrinth. That is how we get the faceting. We can think of this swarm as having some subset of marked monads that signify the ego of the swarm. Dispersion of the ego is measured by how many of these marked monads there are. A unified monad will have one marked monad as its center which we would call the ego. But a swarm might have several marked monads which trade off being the center, in which case the swarm has different persona that serve as independent centers, we call this multiple personality disorder when it is extreme. The whole swarm may be thought of as the self. Between the ego unity and the self totality there are thresholds of organization associated with the archetypes but organized on the form of the special systems thresholds. The entire swarm is the meta-system while the single monad within the swarm that is the center is the system. Between these there are levels of organization within the swarm that partition it into dissipative ordering systems, autopoietic symbinotic systems, and reflexive social systems. These correspond to what Jung calls the shadow, the animas/anima, and the wise old man/chthonic female. Subsets of monads can be seen as dissipative ordering and appear as dissipative practices (desiring, disseminating, avoiding, and absorbing machines), these combine by conjunction into autopoietic symbiotic higher level structures which again combine though conjunction into reflexive social structures. So there are really three different kinds of organization within the monad as swarm. One is the monadic isolation of the elements of the swarm as the fragmented I which represent complete separation. The second is the cells of possible experience within the labyrinth which represent complete fusion. The third is non-dual between these which are thresholds of organization based on the special systems and the conjunction of the sub-monads within the monad swarm. The swarm itself is going though an Emergent Meta-system lifecycle in which the monads in the swarm are turning into views in a constellation which are turning into candidates in a slate which are turning into seeds in a pod. In other words the movement of the monads around the

labyrinth has a specific lifecycle by which the monads interact with the labyrinth. At first the monads are each in their qualitative cells for a specific quanta of time, i.e. they have actualized these qualitative states out of the myriad possibilities. Then the monads become views by which they view their own situation in relation to all the other views of other monads in the swarm. The monads mutually interact with each other from their own exclusionary states and that produces their views of the situations of all the other monads within the swarm. Then from the viewpoints there is a schematization of the entire swarm. This schematization actualizes one or more of the schemas we have been discussing which are spacetime organizations of the observers as observed objects to themselves. This schematization leads to the projection of the entire set of possibilities within the labyrinth and the postulation of other possible monad positions within the labyrinth. These possibilities cancel or annihilate or contradict each other in such a way to leave only a few seeds as side effects which then become the basis for the creation of a new swarm of monads that are in different places in the labyrinth. So we see that the Emergent Meta-system formation is the means by which the monads move about the labyrinth as the pop in and out of existence actualizing some part of the overall whole labyrinth of qualitative possibilities. Monads can be seen as being different from each other within a mixed swarm as making up the faculties. Monads can be perceivers (observers and participators), cogitators, imaginators, rememberers agents, etc. If we just take one of each of these different kinds of monads then we have a set. But the monads themselves may be seen as non-dual between these two extremes. Monads can be seen as ipsities juxtaposed in a conglomerate. That non-duality has to be somewhere between the extremes of separation of the monads and the fusion of the facets of the labyrinth. The form of that non-duality is the special systems, i.e. these intermediate forms of organization between the ego as system

unity and the self as meta-system totality as a way of organizing the plurality into a whole.

Parmenides and Leibniz

Alan Randall has written a paper called "Quantum Superposition, Necessity and the Identity of Indecernables.[1]" This paper shows that the mysteries of Quantum Mechanics can be derived from some of the philosophical positions of Parmenides and Leibniz. In other words we do not have to discover them in physics but can derive them logically from Parmendeian metaphysics if it is taken seriously. This paper shows that Leibniz had some ideas that were in a similar vein and Randall tries to purify the Leibnizian ideas in order to show there consequences when they are taken to adhere to the Parmedian principle that everything that is possible has Being. In this section I would like to discuss the consequences of Randall's insight for our understanding of Facet Theory. What Randall shows is that Parmenides rationality can be seen to produce a universe of Being that is faceted superpositional possibility. We can go to the core of our own tradition and do not have to invoke alchemy and other esoteric sciences from other cultures to explain quantum superposition of the facets. Facets are the virtual variables behind the actualized variable of the Monad. Facets are created by exclusion of complementaries. When observation takes place they collapse into the actualized variable in a way governed by probabilities. Our point is that this happens via the different kinds of Being. The determinate (pure being) is produced by the combination of probabilities (process being) with possibilities (hyper being) under the influence of propensities (wild being). The kinds of Being are the key to understanding how this collapse of the fused combinatorial labyrinth into a particular actualized excluded qualitative state. This must be set

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[1] http://home.ican.net/~arandall/

against the background of the way that we can see the many worlds hypothesis as a outgrowth of the philosophies of Parmenides and Leibniz. In other words the metaphysical situation is more complex than Randall has described. But the brilliance of his analysis is that it shows that Quantum Mystery has deep roots in our tradition, it is not something that we just learned from nature without any preparation within our own previous thoughts about the nature of things. As we have said Leibniz had some inkling perhaps of Ashari metaphysics taken from the Muslims who were the carriers of the Greek tradition to us. Parmenides also is a mystery to us as to why he held the view he did which he embodied in a poem which we find difficult to understand today. One of the problems is that we know him though fragments. We contrast him with Heraclitus whom we also know though fragments. But we must understand them both in the context of Anaxamander's positing that the Apeiron (the unlimited) is the metaphysical principle in the Metaphysical era. Parmenides said that instead of the Apeiron we should have Being as the metaphysical principal. Parmenides poem is an attempt to establish Being as that principle on the authority of a goddess. This poem has been analyzed in my book The Fragmentation of Being and the Path Beyond the Void within the context of the Indo-European tradition. We won't reprise that analysis here. The key point, however, is that Parmenides establishes what was a key concept from the Indo-European language group as the meta-physical principle tipping the scale towards Logos from the previous tendency of the pre-socrates to investigate and hold up the physus as the more important principle as opposed to the logos centric mythopoietic era. Thus in a sense Parmenides attempted to tip the scales back toward the importance of logos from physus and we must say that he succeeded, as our key discussions of metaphysics within the tradition revolve around attempting to understand what Being might 'be'. We must note that Being itself is a linguistic oddity not

readily apparent in other languages that concentrate on Existence rather than Being as the primary way to understand things. Heraclitus is a representative of those older presocratics that attempted to find a principle outside of Being as a key to understanding the physus. Heraclitus favored Fire, as Thales favored water. Anaximenes favored Air. Thus grew up the idea that there were four basic elements and that these were the essence of the quality of the physus and were different from Being which was the essence of Indo-European language production. In my paper "Primal Ontology and Archaic Existentiality" I show how this structure shows up in the Roots of Being. I elaborate on this in my manuscript Primal Archetypal Wholeness. There is a differentiation among the positions of the pre-Socratics that must be taken into account whenever trying to understand any one of them which is very interesting. Nietzsche drew our attention to the fact that this differentiation was like a primal differentiation that had more variety to it than subsequent metaphysics. In a way understanding that primal differentiation of views is more important than understanding the differences between later philosopers. For instance we can see in the complementarity between Parmenides and Heraclitus the distinction between Pure and Process Being. Parmenides wants to exclude change as it results in contradiction as Zeno has shown. We can see the transition between the Pure Being in which everything possible has Being and Process Being as analgous to the collapse of the probablity wave function in Quantum Mechanics. Heraclitus Advocates the way that Parmenides warns us against that intimates becoming and appearances. In many ways we can see Plato as attempting to bring these two paths together into a single system as Epidocles did before him. The journey to the non-representable intelligible of the Good is like Parmenides journey to the gates where his Goddess appears to give us guidance. On the other hand the realm of appearance, opinion and faith is the second path advocated by Heraclitus of coming to

terms with the contradiction and strife of change. The fact that Leibniz does not completely accept Parmenides principle is because he is looking for some alternative between these two extremes as all philosophers since Epidocles have done. The fact that Leibniz points to the special systems in the process which are the model of the non-dual is extremely interesting. The only other modern philosopher to do anything remotely similar is Kierkegaard. And this work follows in their tracks attempting to clarify the nature of the non-dual which allows us to make a non-nihilistic distinction between the extremes of Parmenides and Heraclitus.

Now the point that I would like to dwell upon that comes up as a result of Randall's insightful work on showing that Quantum Mechanical strangeness is implied in Parmenides extreme adherence to Being as all imaginable possibilities, i.e. it comes out of the extreme of logos as well as the extreme of physus, is the following. The indistinguishability of indiscernables has two interpretations which allows us to say that there are either two things or one thing when descriptions of identical objects are offered. This is like the reduction to source forms in Plato if we allow descriptions to be vaguely similar rather than precise. It produces a transcendental realm of Being, a metaphysical realm of Platonic forms. When we see that realm as all the possible forms then we get something similar to the universes of possibility of quantum mechanics prior to observation. With metaphyiscs the whole question becomes how do these metaphysical forms come into actuality, i.e. how does the wave function collapse into actual embodiments. Parmenides says that everything is the transcendental forms and their is no change and the forms never have content. Heraclitus says that there is only change and content, i.e. actualities, and that the forms are nothing but contradictions. What I would like to point out here is that this transition is a lot

like the transition between the form schema and the pattern schema. Could it be that the next higher schema is like the unobserved wave function and that the lower level schema is like the collapsed wave function in all cases? In other words are we looking at another way of moving up and down the hierarchy of schemas? Could it be that systems always look transcendental to forms, or that meta-systems always look transcendental to systems. I think that might be the case, in which case it combines with Leyton's idea of transforming symmetries into traces as a way of moving from the transcendent to the immanent. In other words, as we move between monad and facet or kosmos and pluriverse there is a phase transition from immanent to transcendent. But that we can make that phase transition more gradually by going through the other schemas which make up a mandala of gradual transitions rather than the abrupt all at once transition that comes from looping the loop by moving from facet to pluriverse or vice versa.

Another point of interest is the fact that schemas always cover two dimensions and thus provide transitions between dimensions. Form can be two and three dimensional while patterns can be two or one dimensional. Monads can be one or zero dimensional etc. It is interesting to try to project this structure up through the series of schema. It explains some anomalies that occur with regard to the schemas. For instance, the form schema can either be two or three dimensional. If it is two dimensional then there is an outline of the form that gives a boundary. But if it is three dimensional then there is a shape. The outline is a representation of the shape. It is as if the mass of the form were arranged against the representation of the form, i.e. there was a mass/set dichotomy against the two incarnations of the schema. Let us look at pattern. It can either be two dimensional or one dimensional, i.e. the patterning of a thread or a woven pattern of the cloth. Pure pattern is one dimensional but that becomes a

complex pattern when arranged as a two dimensional pattern on cloth. It is as if what the generator of the pattern produces was the thread with its different colors in series, but that there is an different effort of weaving the cloth into a tartan or some other pattern in a two dimensional array that can be viewed. The two dimensional surface can either be a representation of a form or a repeated pattern. Pattern reaches up from one dimension toward the two dimensional. Form reaches down from the three dimensional to the two dimensional. They intersect to produce the possibility of either representation or repetition at the two dimensional interface. We see in the Primitive Prehistoric cave paintings that they have found in Spain and France both kinds of treatment of the two dimensional surface, sometimes overlaid on each other, sometimes separate. Thus we can see that these two treatments of the two dimensional surface is very ancient with our species.

However, let us move down to the level of the monad. The monad can be zero or one dimensional. The monad starts as a point but then it moves in space and time to become a line. On the other hand the line can be made up of different qualia to become a pattern. This is either seen as the changing aspect of a single monad or the grouping of a series of monads of different color. Ultimately these lines are woven together to make up a two dimensional fabric pattern, i.e. an arrayed matrix of qualia. Pattern and Content meet in the line. Content itself is dimensionless, but it gets manifest in the moving monad that produces the line trace, or the grouping of monads contained in a line of space. We only see the content within context of other content, or qualia. Content actually appears only in situations of configuration with other content. But we know it comes from the dimensionless point beyond our perception. Perception is a field prior to the content that appears on the field. The isolates of the qualia itself never appears, only the differentials with other qualia. That is why

we say that monads are beyond experience.

If we extend this line of reasoning we would say that the facet appears either as dimensionless or as negative dimensional. What ever is negative dimensional must be fused. The facet appears as part of the dimensionaless point or it appears in a negative dimension as the equivalent of a 'line,' i.e. a series of facets yet superpositioned because there is no positive dimension to spread out in. But the dimensionlessness point is the interface between the monad and the facet. Monads move though spacetime to produce lines or are grouped into sets of lines. Facets are the anti-lines in negative dimensional space that are superpositioned, as possible qualia that the monad might manifest.

It would be interesting to take this insight and apply it to higher level schemas as well. For instance the Form appears both as two and three dimensional while the system appears as three and four dimensional. The static synchronic view of the system is three dimensional articulation of parts with abstract relations between those parts. But a dynamic system is four dimensional. Both a system and a form are three dimensional. The form is the figure in the gestalt of the system. We see the system from different viewpoints and from that a series of gestalts are generated which allows each figure to appear within the system. These multiple viewpoints on the system adds a fourth dimension to the three dimensional configuration of the system as well.

When we come to talk about the meta-system we should then know that it is four and five dimensional and it overlaps in the fourth dimension with the system that also touches the third dimension. The interface of the system and meta-system is in the fourth dimension. Our world is four dimensional on its surface with three space dimensions and one time dimension. The fifth dimension that appears in the meta-system is its ability to

nest systems into it. A meta-system can contain many systems and anti-systems in a nested fashion. The meta-system also contains templates from which it incarnates systems, like object templates in object-oriented programming. There is a dimension to the meta-system that is outside the space and time that the systems experience within the "operating system" of the meta-system. In the universal Turing machine this is the tape that contains all the different turing machine copies. They form a set on the tape even though they might have many incarnations in the mass of executing turing machines.

With the domain there is an appearance in dimensions six and five as opposed to the appearance in the meta-system of five and three dimensions. The interface dimension between domain and meta-system is the fifth dimension. Just as meta-systems exceed systems so domains exceed meta-systems. But now there are two dimensions outside the preview of the system. It is as if we had room for two computers. Multitasking becomes possible at the domain level. Each universal Turing machine runs a Turing machine in each partition. The sixth dimension makes it possible to differentiate meta-systems and control them, which is like having multiple parallel computers running at the same time. At the world level we network those computers.

When we talk about the world we are talking about the seventh and sixth dimensions as opposed to the sixth and fifth dimensions of the domain. Worlds contain multiple domains. The internet is a world. It is the space in which all the separate computers are linked together. We sometimes use the term world as if we meant a domain, as in the term Art World, World of Finance, etc. This is the fifth dimension of the world as a super domain. But the world itself is all the possible domains together. Domains may be also used in a degenerate meaning to indicate meta-systems. But in the sixth dimension we can have both domains and worlds where the domain points to specialization, discipline and rigor, while the world points to all inclusiveness.

As we go to higher and higher dimensions this series becomes more difficult to know what it might mean. The Kosmos are at the eight and seventh dimension as opposed to the seventh and sixth dimension of the World. The Pluriverse is at the ninth and eight dimension as opposed to the eighth and seventh of the Kosmos. So the Kosmos meets the world in the seventh dimension and the pluriverse meets the kosmos in the eighth dimension. That means the facet meets the pluriverse in the ninth dimension. Facets are ten and nine dimensional which is zero and negative one at one higher decimal point. It turns out that this tenth dimension is very auspicious for superstring theory as well because of its rootedness in the mathematics of the octonions. There seems to be some sort of cycle between pluriverse and facet rather than further expansion in to more complex types of schemas beyond the pluriverse, which is good because if there were more complex kinds of schemas we would not know what they are as they would be too far beyond our experience. Our schemas some how fit into the Tetrakys of the Multiverse. That tetrakys is organized around the tenth dimension which uses the dimensions of the octonions to which it adds the two dimensional string as a basis for membrane and string theory. We see this cycle also in Schemas theory because we loop the loop back to the facets at this point of the ninth dimension which is just as far beyond experience in relation to the Small as the pluriverse is in relation to the Large. When we move from the facet to the pluriverse, i.e. the realm of Being were everything conceivable exists that Parmenides taught us about, then it is through the ninth dimensional interface that we pass. As B. Fuller in Synergetics would tell us our base ten really has nine numbers and zero so that the numerology works out. Thus in these chapters we also find that the pluriverse is

the next subject as we loop the loop and return from Small to Large in one fell swoop which is the opposite of the movement from schema to schema through the dimensional interfaces between them. Why this loop occurs at the ninth dimension within ten dimensions is unknown. Pythagorous presented us with the tenth dimension as the key to the harmonies of things which he called the Tetrakys. We have since learned that the Multilith has twenty four modes that come from the multiplication of the numbers in the Tetrakys. The tetrakys is chosen because it is the levels of the Pascal Triangle in which the Special Systems are embodied. In String Theory it is also because of the special properties of the octonion that make the tenth dimension the best candidate for the creation of a unified theory of physics. We don't know how to do that yet. But it is the goal of a lot of physicists. But they would perhaps gain some insight if they were more familiar with General Schemas theory and found out that it confirms their suspicion about the importance of the tenth dimension as the context for the looping the loop between Large and Small that occurs in the ring of the schmas between Pluriverse and Facet or vice versa.