

The Anatomy of a Nondual Science Theory

Looking Closer at the Theory of Special Systems

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Introduction

In the previous essays we have advanced the proposition that it is possible that there is a special theory/nontheory that embodies the principle of nonduality within western science which also taps into the core of non-duality at the center of the Western worldview itself. In this essay we will look closer at that theory/nontheory and attempt to understand its anatomy.

There is a whole series of questions being raised here that are not normally thought about in connection with nondual spiritual practices, or in connection with philosophy of science, nor by the specific sciences themselves. It is worth while to start by considering the nature of these issues. Spiritual practice of what ever kind is considered personal and subjective and to not have impact on the society at large, and especially something so intractable as the

scientific tradition which has separated itself from religion long ago and has won the battle against religions domination of the human intellect which would say that some questions are off base and cannot be asked. Yet on the other hand Western Science has its own set of questions that cannot be asked, which are precisely to do with Why things are the way they are and about incorporeal phenomena. On the other hand Science is thought to be objective because it is about external nature and because of the idea that it is based on repeatable experiments that can be confirmed by anyone else that has similar expertise. Thus Science stands across a great divide from the spiritual which it looks down on as epiphenomena. Yet at the same time it has some result that look surprisingly like the descriptions of the world that come out of nondual traditions from other parts of the world which we have come to know about through colonialization and orientalism. And then when we look at the philosophy of Science we see that it cannot ground science, but in fact merely describes the trajectory of science as it makes progress in fits and starts with discontinuous breaks in its development that cannot be explained. Science appears to some philosophers of science like Feyerabend as something that cannot be reduced to a method. Method means “meta hodos” the way after, and is there just to allow us to follow the tracks of the discoverers who advance our knowledge. But how they do it, how they are inspired is lost to the subjective realm beyond science. Whether spiritual concerns play a part in these developments, or whether the unconscious plays a role, or whether it is just a matter of the powers of the ego is all unknown from the point of view of Science itself. The question of what is creativity in science and how it is fostered enters the realm of magic and shamanism. So we have the paradox that objectively verifiable results comes ultimately from the unverifiable subjective source, and there is no method by which we can surely advance science. Rather it appears that the adherence to method is the death knell of scientific creativity. Science is not just something individuals do but today whole

teams work on a single problem and take credit together for the discoveries made. The whole regime of peer review is being questioned in as much as it acts as a filter that stymies scientific development as much as it fosters it. Thus science is an interplay between the role of the individual researcher who is driven to study a certain subject and the social group of the scientists that form an intersubjective cohort that fosters and suppresses different sorts of research and information playing the game of fame and controlling research funds. And ultimately science ends up a social policy and a bureaucratic institutional formation in society which might or might not be spending the taxpayers money wisely.

Into this milieu of the ongoing project of Western Science as a going concern comes an obscure theory. That theory is not like other scientific theories in as much as it is not directed at a specific phenomena which it hopes to dominate in terms of understanding and knowledge, but rather it is a theory that seeks to provide a solution to the morass of paradoxical and competing concerns that arise at the intersection of spirituality, philosophy of Science and Science itself. It is a theory that is based on spirituality and the recognition of the nondual. The nondual has been recognized in many different traditions previously as something very important for human beings to come to terms with, but has played almost no role in the development of the Western tradition, per se, except in little pockets here and there which are mostly ignored by the mainstream of the tradition. But although the nondual is basically something answering to a spiritual question within the individual, it is not a matter of subjective experience and conceptualization, because by definition the nondual cannot be experienced and conceptualized, so it cannot be branded as subjective in spite of the fact that it arises due to a subjective quest for spiritual understanding. On the other hand Science itself is founded on many fundamental dualisms that want to be monisms by the destruction of their Others. But Science studies phenomena which it describes, explains and predicts (proves). In

the course of this study it moves through many phases of understanding which we associate with shifts in facts, theories, paradigms, epistemes and ontologies. But these discontinuous shifts are not under the control of Science. It does not completely understand what causes these shifts and cannot anticipate them within itself. In fact it does not understand the phenomena of emergence that divides Science into its special disciplines, such as the split between Physics and Biology. There is emergence as events in the unfolding of scientific understanding but there is also emergence in the phenomena that divides up the disciplines. But science itself does not explain these emergent discontinuities but rather merely accepts them and does not ask the question Why they exist as they do, and what is their meaning. Our Special Systems Theory is precisely about emergence and especially the gaps between emergent levels of phenomena, finding that like Faganbaum's discovery of the constant in bifurcation on the way to chaos there is a constant of separation between the gaps between layers of emergence for certain types of special systems. So this special theory addresses one of the fundamental features of science and the phenomena that it studies that science itself leaves unstudied, i.e. why the gaps arise where they do and what constitutes the criteria of emergent difference from one level of emergence to the other. Finally, there is the question of grounding of science and the failure of philosophy of science to find a ground which returns us to the position of Nietzsche and Heidegger that contend that there is no ground that can be constructed by philosophy for itself, less well for science in general. In this case, the special theory creates an image of the limit of theory itself in paradox and at the same time suggests the possibility of suprarationality as the alternative to paradox. In other words the theory itself has a form much like those pictures of Escher based on Penrose triangles in which there seems to be a continuity like a perpetual motion machine, but that continuity breaks down if the illusion of the connections between elements vanish, because the figure is itself impossible in

reality. This special theory lies right on the edge between the construction of these Esherlike illusions and the fact that there are certain anomalous structures that do some very strange things which are well excepted in both math and physics. In other words the illusions of paradox and the superrational features of anomalies from math and physics are brought together by the theory to show that there is a possible conjunction between these two limits of the divided line of ratio and doxa. The limit of doxa is in the paradoxical and the limit of ratio is in the superrational. And the theory brings these two limits together to produce an image of these limits which are a picture of the groundless ground, or the abyss that Heidegger and Nietzsche talk about within the Western Tradition. By giving an image of the groundlessness, and showing how beyond that groundlessness of Being is the bedrock of existence, we can then experience the limits of our own worldview within a nontheory that disguises itself as a theory within the Western Scientific Tradition. In other words this theory points beyond what is graspable by theory by using the resources within the Western Scientific Tradition against itself. It sets up a seemingly theoretical formation in order to point beyond theory. But that pointing is not a fabrication, because it is based on the structures of paradox and the anomalies of mathematics and physics themselves. It is as if in this theory Science hits its own internal limits by the formation of a theory of entrenched paradoxes which when elaborated into a general theory then brings meaning into the scientific realm and allows for a unique interpretation that points toward nonduality. The meaning is nondual meaning, it is not dogmatic religions meaning that is predetermined by old and outmoded assumptions about the nature of reality that have been shown to be wrong but have never been released by some segment of the population, like creationism for instance. Rather nonduality when it is indicated by this special theory/nontheory, brings meaning into Science and ground science from an unexpected direction, because beyond the groundless ground there is the bedrock of

existence which can be appealed to as if it were a ground, but it recognizes that the ground is emptiness itself or void itself and that the grounding is a ceasing to attempt to ground the project of projection that is Science.

Spirituality has not thought out clearly the ramifications of nonduality beyond the individual who is meditating and who finds themselves immersed in the nonconceptual and nonexperiential superrational state of the nondual. Science is a refined social product related to our knowledge of the external world. It produces useful knowledge that can be applied by technology to change our relation to the world in which we live. By pushing the limits of what we know about the world beyond what our own projections can sustain it finds out strange things about the world which seem to resonate with what some nondual traditions say about the nature of the world. But it does so in a manner which is not informed in the least by an understanding of nonduality. So when we realize that the quest for ground by philosophy of science is in vain and that the acceptance of existence beyond Being is a necessity, then we are left with the challenge of bringing the nondual results of dualistic science together with the nondual insights of dualistically set of subjectivities that engage in spiritual practices unbounded within various religions traditions. This is as if the nondual were coming toward us from both outside in strange scientific results about the world and from the inside as the fruit of practice of foreign nondual traditions by individuals on a personal level. But when the nondual comes at us from both these directions and also makes us accept the fact of the impossibility of grounding science it is saying something that is very difficult to understand in the form of this special theory.

Existence can be interpreted either as void or emptiness, i.e. in a Taoist or Buddhist fashion depending on the emphasis on consciousness or the physical world. But what this special theory/nontheory tells us is that this void or emptiness has inscribed in it a certain order

that allows things to spring from the void or emptiness *ex nihilo*, in other words phenomena bootstraps itself into existence from out of emptiness or void. This says that emptiness and void are not a pure plenum that is like a *tabula rasa* which are uninscribed by any order. In fact order itself is a nondual and that emptiness and void will express order in the autogenesis of the Emergent Meta-system coming into existence which in turn gives rise to the special systems which in turn give rise to the System/Meta-system split which is the fundamental dichotomy between schemas within our worldview which then is ramified into the other schemas that are projected onto the world as an ontological colonization of the ontic things within our world. The worldview in its differentiation of levels of duality also gives rise to various modifications of nonduality into not just order, but right, good, fate, source and root. The emptiness or void is inscribed with a certain rightness or harmony that we recognize in the golden mean. The emptiness or void is inscribed with a goodness that is the source of variety in the things that appear in the world and their differences as if it were a cornucopia. The emptiness or void is inscribed with a certain fatedness (*wyrd*) that effects the life trajectories of individuals and brings out their destiny. The Emptiness or void is inscribed with sources from which individuals of various species arise and which connect in unexpected and counter intuitive ways things of different origins within the world, so there is an underlying reinforcement of different things that give a coherence to the world that is unexpected. The emptiness or void is inscribed with the roots of things beyond the sources in manifestation which is the deeper nondual beyond emptiness and void. Manifestation is another name for what Deleuze in his analysis of Spinoza and Leibniz philosophies he calls expressionism. Expressionism has to do with the immanent expression of the attributes of God in the interplay between One and Many, thus pointing toward the deeper level of the nondual that is beyond merely subjective individuals with consciousness and objective physical phenomenal. This inscription in the

emptiness and void which comes from the even deeper levels of manifestation is something unexpected, but which finds images in various nondual traditions. For instance in Mahayana Buddhism there is the concept of the Tathagata Gharba, the womb of thusness coming, or in Taoism there is the Mysterious Female which is the gateway of the unfolding of the myriad things. The point is that this special theory/nontheory is ultimately about the embodiment of these inscriptions which can only be seen in the interplay of the projection of Being and the bedrock of existence. We have to read back into the bedrock of Existence what we observe from the projection process and its relation to the Special Systems, the Emergent Meta-system, and Autogenesis. This is no easy task. Here we are dealing with a very subtle aspect of existence which we have little experience with and is normally hidden from our view. But it is this inscription that the anomalies in Math and Physics and in our theories themselves, in the form of the anomalous special systems theory, that point back toward this inscription at the heart the emptiness and void of existence. Understanding this phenomena from which all phenomena arise is one of the most difficult and subtle tasks. But it is necessary not just for those engaged in nondual practice but also for those engaged in science who appreciate the fact that it is groundless and wish to find another basis on which to found the practice of science that the carpet that has been pulled from under both science and philosophy by the recognition of the intrinsic nature of groundlessness inherent in both. But when the carpet is pulled out from under us there is then the floor itself that is revealed and that is existence beyond the projection of Being.

So this is the background that must be kept in place as we venture to describe this special theory/nontheory that embodies nonduality, and which becomes the center of the theoretical universe once breached, because no other theory adequately embodies nonduality, all other theories are based on monisms and dualisms, and it is only this anomalous theory that can provide such an access to the bedrock

of existence because it manifests the inscription in the void or emptiness that then expresses itself as mathematical, physical and theoretical anomalies that in turn shape the theory itself, but because the theory is pointing beyond itself at the nondual bedrock of existence it is not a theory at all. A theory in the standard sense is something which gives a final description, explanation, or proof of something. It is from the term vision in Greek and thus it gives a final vision of some phenomena. But this theory is a nontheory in the sense that it gives no final vision but only an indication of the invisible which is beyond all vision. But at the same time, it indicates that within the invisible there is a secret patterning of the void or of emptiness that allows schemas to arise from them spontaneously. Everything that pops out of the void or emptiness unbidden is spontaneous, and everything we must construct from shards of what has already arisen is fabricated. The theory is a knife of discrimination between the spontaneous and the fabricated because it cuts down to the bedrock of existence and exposes it beyond the projections of Being.

The theory claims to be unique, an anomaly itself, and simultaneously a theory within the scientific realm, and also a non-theory that merely points to the nondual beyond the scientific realm, i.e. in the realm of Why. It says that what ever the entrenched anomalies are THAT is the structure that points toward the void or emptiness which is the bedrock of existence beyond the projections of Being. So the theory takes its form from the anomalies discovered by science and mathematics and is true to their structure following out their counter intuitive indications in every way possible in order to explore as thoroughly as possible the territory of the nondual. It says that there is an order that is repeated in the anomalies themselves. But that this order is also broken by each anomaly in a different way shedding new light on the nature of the nondual infrastructure of existence. Each anomaly is a different viewpoint on the bedrock of existence beyond Being and thus has its own meaning and gives meaning to the

rest of the field of what is non-anomalous in the process of being unearthed and explored and incorporated into the overall theory. That order describes the gaps between emergent levels and the different organizations of each level as well as the criteria for the difference between these levels. So the theory is about emergence and the relation between different emergent levels of phenomena. It is in that sense a meta-theory and that is another way in which it expresses itself as a nontheory. But the theory also says that the different anomalies from different mathematical categories mutually elucidate each other and fit together in a strange and uncanny way in order to mutually reinforce each other and to make the model presented by the theory more precise and sophisticated. The open horizon of the theory is finding new phenomena and new mathematical categories with anomalies and to incorporate those into the few already connected. The connection between the various anomalies tell us the most about autogenesis, i.e. the bootstrapping of the emergent meta-system out of the void or emptiness itself that gives rise to the separate special systems within a greater cycle of creation and destruction. So anomaly in theory exemplifies and mirrors anomaly in phenomena and in mathematics, and thus guides our theorizing about the nature of the nondual. These recognized anomalies are like the finger pointing at the moon that is talked about in Zen Buddhism, in as much as they point beyond themselves at the nondual basis. They are not that basis but they exemplify it in a concrete and finite form, and thus they distinguish themselves from every other theory which is an end not a means to going beyond theory all together. So understanding the import of this theory is something very difficult and subtle. But the basis of the theory is very straight forward, it says follow the anomalies. But rather than anomalies being something peripheral to a standard theory that need to be deal with and transformed or chased away, here the anomalies are the center of the enterprise of science itself and it is the meaning of the anomalies and how they fit together that is the important thing. That

meaning comes from the fact that the theory has a form of the limits of the divided line itself, it brings together the limits of paradox and suprarationality into close conjunction and that is the way it generates sense and meaning at the same time. As Deleuze says sense arises out of a ground of paradox and for us meaning arises from a nondual ground which is suprarational instead of paradoxical. Suprarationality and Paradox are the opposite limits of the divided line. Within the divided line all the understanding we have takes place, but the segmentation of the divided line gives us access to emptiness and void as well as manifestation from within our capacity to understand the world in terms of ratio and doxa. Both ratio and doxa hit their limit in this anomalous theory which is patterned on the anomalies of math and phenomena discovered by science.

System and Meta-system

The place to begin is in the distinction between a System and a Meta-system, between gestalt and proto-gestalt. We use as a starting point the General Systems Theory of George Klir as expressed in the Architecture of Systems Problem Solving which is a structural account of systems. This in my view is the most advanced systems theory to date, and so it serves as a good summary of what a System is and how its internal organization or architecture might work at a structural or pattern level of analysis. But in our tradition there is a blindspot in the sense that we do not have a dual of the theory of a system, it is this dual that needs to be developed before we can see the level of the special systems which exist in the interstice and interface between these two duals. I have named in earlier works this dual the meta-system, using the term meta in the sense of beyond, rather than in the other senses of controlling or logically above the system. Unfortunately, after deciding on this term I found that other theorists had used the term in precisely those other senses, so recently I realized that even the meta-system has a dual called the infra-system, and that these two together is the real opposite of the

system, which I now call the openscape. But it must be admitted that the scientific community at large has seemed to settle for want of another term on the word "context" to indicate what is "beyond" the system. Context however is too general and empty a term, because the meta-system or openscape itself has a structure which is a completely different kind of organization than that of the system, it is not just a vacuum without organization that the term context might suggest. So we will use these various terms "meta-system/infra-system," "openscape" and context more or less synonymously in this essay. But it should be made clear from the outset that we are talking about the dual of the system in the sense of what is beyond the system as its context but which is organized as a meta/infra-system which provides an open-scape for the system itself. Our culture is blind to the meta-system and there are almost no books on this subject. On the other hand in our culture almost everything is known as a "system" until the word has almost lost all meaning. So we are trapped in a situation where this duality is difficult to see clearly. It is of course easier in the case of the gestalt and proto-gestalt. Gestalts are figure on ground objects of visual perception. Much experimentation has been done on this in psychology. There is a gestalt school of psychology and we have figures in text books that show us how the gestalt can change from one to another in a quantum leap within processing of the visual field. I am probably alone in adopting the gestalt as the basis for my understanding of a system, except perhaps for Merleau-Ponty in The Phenomenology of Perception. A gestalt a perceptual image of a conceptual system. Many times if we see a series of gestalts we infer a conceptual system is behind that series of gestalts. In that series one figure is pulled out of the background and highlighted, then another, then another in a series, but the background blob or indistinct object is the same in all those cases of gestaltification. Thus a system is inferred from a series of gestalts, but also for us to produce a gestalt in the first place we must have projected before hand the system schema as a basis for separation of

object from the background of the system as a whole, and by making the series of gestalts we are trying to see the different objects and understand their relations within the system. Thus there is a sense that schematization of the system precedes the seeing of a gestalt, and the gestalt itself does not merely appear along without the prior schematization, and also the series of gestalts is merely the exploration within the horizon of the system that is intuited that is the background of the production of the gestalt. But there is another question that is seldom asked, and that is why do we when we orient within an environment pick out different gestalts within the horizon of that environment in a certain order, and that has to be because of our tacit knowledge of the implicate order of that environment. The scanning or glancing around of the environment is different from the looking at a gestalt in the environment. The exploration of a system is systematic, and that produces the series of gestalts that allow us to explore the richness of the system under observation. But the scanning and glancing at an environment is probabilistic and random which allows us to read the general and vague situation without exploring any one system within completely. In a sense we have created a series of system figures on the background of the whole environment within our horizon and that is the proto-gestalt, the next higher schema from the system to which we relate experientially and which has its own organization that is different from that of the system. But there is a conceptual parallel between the proto-gestalt and the openscape which is both meta-system and infra-system. Notice the term meta-goes beyond or above the system and the infra-goes within or underneath the system. Within the openscape we do both. The openscape is what we can see of the panorama of the surrounding environment without moving. As soon as we move we enter the next higher schema called the domain which is to do with the coordination of viewpoints. In the openscape we have a single position within a fixed horizon. But the meta/infra-system of the openscape is organized differently from the system, that is why we can glance at it and infer a general

knowledge of the environment without looking at everything in detail, and in fact we are using this means of appraising our situation within our environment all the time, but because of its vague background understanding which is a deeper background than that of the gestalt which is already ambiguous and indistinct we never get around to talking about the openscape at any length in our studies of perception, less well conceptually. However, we project the schema of the openscape just like we project the system conceptually before we perceive it by our scanning. The best discussions of the relations between the system and the meta/infra-system is that of Bataille in Accursed Share and the implications of what his is saying is brought out in the work of Arkady Plotnitsky in his book Complementarities. The basic idea of Bataille is that there are restricted economies like the system, and general economies like the meta/infra-system. These work very differently and he gives several examples in his book which are quite striking of economies that do not make sense from the point of view of the system. They are economies of excess and lack, with singularities that form the strange environment that the system and anti-system must cope with in order to remain viable. They are economies of positive feedback in both the positive and negative directions, while the system to remain viable must implement negative feedback and attain some sort of homeostasis. The general economy is full of singularities which are places where the rules no longer apply which are generally applicable within the environment in question. The best example of what these singularities look like is the Catastrophe theory of Rene Thom. The key to understanding the meta-system is to realize that it is composed of the source, origin, arena and boundary. The source is outside the boundary of the meta-system and is the template from which all the systems in the meta-system are built. The origin is paired with the sink as the places of entry and exit of the system into and out of the arena with the boundary of the meta-system. In our example of the surroundings of the proto-gestalt the horizon is the boundary. Things can appear

from multiple points within the horizon as we orient within it and disappear again at multiple points like doorways for instance. The Arena is the openness that allows us to scan the various systems within the openscape. The source is the places of production from which things that appear within the openscape derive, for instance humans are born from parents based on their given DNA, or cars are made in factories to designs. Each thing that appears has an ultimate source, or a series of sources that stretch back prior to the constitution of the openscape in which they are now appearing. Knowing the source of things in the openscape helps us to understand what is happening in any particular openscape. Tracing back to the source is an act of Genealogy, like that which Nietzsche performs in the Genealogy of Morals. Searching for sources are thought of as an attempt to establish causes for the effects seen in the current openscape. The fact that the meta/infra-system or openscape is organized in terms of positive feedbacks which results in black holes and miracles means that the environment can be very dangerous or very beneficial and everything in between. The fact that the environment can contain singularities where the rules of the environment break down is also very important because that means that situations can change radically and unexpectedly. The openscape is open to all sorts of unexpected phenomena including emergent events. We scan the openscape to watch out for those danger points but also those opportunities that display themselves. The openscape in its fundamental structure sets the limits on what might be expected within the close environment of the individual. We project those limits as a schematization prior to our perception of the environment, the schematization is a way for us to expect anything within our close environment so we can be ready to react. The system schema on the other hand is a way we explore the richness of a particular region of the environment that perhaps is made up of multiple objects in some relation to each other like a flock of birds, or a traffic pattern. The openscape presents us with what Heidegger calls the clearing in Being. It is a place where the earth of objects are made

manifest in the heaven of the open air in broad daylight through which they relate to each other. But in Heidegger the clearing in Being also suggests the dark forest (the Black Forest) of Germany. It suggests the process of showing and hiding as something comes out of the dark forest and then retreats back within it. This is a nihilistic view of too light, too dark which is projected onto the openscape. But we have to be clear that the openness of the scape can vary. Also our way of schematizing the environment can take on multiple different closures in the sense that Hillary Lawson talks about in his book Closure. We can close the environment, i.e. preconceptualize it or make assumptions about it in multiple ways based on our past experience or social norms or all sorts of projections. And what can happen is that in our encounter with the situation in the close environment of the scape we might have to open up those closures and reclude them in different ways as we reconceptualize the situation or make new assumptions or hypothesizes about what is happening in it. Thus another meaning of Openscape is that it has various levels of closure and is always liable to be opened back up for a reclosure in a different direction based on what happens in the scape. The word "Open" in openscape is like a variable which we can fill in with the type of word we need in to describe any particular situation, like landscape, seascape, mindscape, etc. But the key is that we are projecting certain extreme limits of what might happen in any situation on the close environment of the openscape which are preconceptual assumptions which we might call schematization. What happens in the close environment is pre-understood based on those limits, and our understanding organized by that prior to any particular thing happening or prior to our looking at any specific thing, but still while we are scanning and glancing around, say as we enter a new space for the first time. This conceptual organization of the limits we call the meta-system to the extent that it relates to the general economy that surrounds the restricted economy to use Bataille's terms. The infra-system is the limits of the meta-system, in other words the fact that for nested

subsystem, system, and supersystem there are the limits of higher systems below and above the focused on system of interest and relevance, and the fact that there may be holes within the environment between those limits of higher and lower systems that are not part of the meta-system per se, say intrusions of other elements not organized by the meta-system in play at a particular time. These limits beyond and within the system at the next threshold of system abstraction and those holes where the meta-system rules of a particular closure do not apply is the infra-system. Note both the term infra-system and meta-system are rooted in the system itself and is not a description of the openscape on its own as an independent level of emergence. That is why the term openscape was coined. It turns out in our language the word “scape” is the name for this organization of the close environment that is scanned or glanced at from a particular vantage point that is unchanging. But this word needs a modifier in our language and so we have introduced the variable modifier “open” in order to make it general. But it is more specific than the word context which has no implicit order to it at all. So while infra/meta-system is too specifically connected with the next schema down from the openscape, the word context is blank and homogeneous with no implied organization at all and thus really only intends a similar dependence on the system.

Special Systems

Once we have understood the difference between system and openscape as duals then it is possible to ask the key question that leads us to understand the Special Systems on the basis of this nonnihilistic distinction between the two dual schemas. A gestalt is a whole greater than the sum of its parts. Similarly a system has emergent elements that make it more than a sum of its objects and their relations. On the other hand a proto-gestalt and an openscape is a whole less than the sum of its parts. In other words environments have niches for systems, is openness is the very absence of systems in those niches within the environment. As systems come in and take up those niches the

environment become closed in another sense, it become populated, like an auditorium with every seat occupied, or a parking lot with every space filled. The openscape is the set of open slots or seats or niches for systems. When the openscape is full then it is working at full capacity to fulfill the needs of the various systems that are present within it providing resources, enforcing rules of engagement between systems, and proving other things that the systems require in order to maintain their viability within the environment. So an openscape is a whole full of holes, like a sponge, and the system is a whole too full of itself, i.e. with its own emergent properties, such as the water that fills the sponge. So these duals fit together and the voids in the openscape are useful to the systems that fill it.

But the question now becomes once we realize that lacks of openscapes and excesses of systems fit together in a complementary fashion whether there is such a thing as a whole exactly equal to the sum of its parts, without excess or lack. This is the key question which when answered in the affirmative leads to the anomaly of the existence of Special Systems. Special Systems have parts that exactly partition their wholeness with nothing missing or left over, i.e. with neither emergent nor de-emergent properties. These are called special systems because they are very rare anomalies, but they do in fact exist. We could call them special openscapes as well, because they are partial systems and partial openscapes at the same time. The strangely exist between and before the distinction between the system and the openscape.

We will use a mathematical analogy to begin to understand the nature of the special systems. That analogy is the simplest one I know of that makes the crucial point. Most numbers when you sum their divisors end up with a number that is either more or less than the number itself. But there are some numbers where the divisor is exactly equal to the sum of the parts which is called the perfect number. Take all the divisors including one and add them and you get the number itself, for instance in the

number 6 or 28 or 496. There are only about 35 such numbers known to exist so far. They are very rare and difficult to find, but they exist and number theory in mathematics is built around their existence. So this shows that at least in mathematics there is such a thing as a whole exactly equal to the sum of its parts and it was known since antiquity that such a thing existed in math. But it was only Arthur Koestler who defined the same concept for things in nature and called them holons. A holon is something that is both a whole and a part at the same time, and by being both like the organs in our bodies they allow the higher whole to exist without exceeding it or without furnishing it with a lack. It is an open question whether there are holons in existence. But we can think of the synergies of organic things as a good example of what might be a holon. In fact, our concept of the system and the whole come from our observation of animate organic things, i.e. animals for the most part in nature. The precise fitting of the animals in their ecological niches can be seen as them realizing their nature as holons. The organs in the body is another example within the healthy animal. Excess in an organ is cancer. Lack is a wasting away. Health exists when there is neither wasting/lack away or excess in any of the organs of the body. So we can see that there are good candidates for holons in nature which have an analogous structure to the perfect numbers of mathematics.

But here is the interesting thing. There are also numbers called amicable which are two numbers whose divisors add up to the other number, and beyond that there are sociable numbers which are a series of numbers in a cycle where each one's divisors add up to the next number in the series all the way around the cycle of numbers. These are like perfect numbers only with the perfection delayed and deferred. Each number defers to the next and the completion is delayed until one has completed the cycle. Thus there are actually three kinds of numbers discovered by number theory that have the quality of being wholes exactly equal to the sum of their parts. These three types of number are an anomaly within

the infinity of numbers. Perfect numbers are very rare, then sociable numbers are less rare, and amicable numbers are relatively abundant, but nothing like the abundance of the infinity of numbers. So all are relatively rare. This anomaly is entrenched, no other discovery is going to make it otherwise. We may find some other kind of number that does the same thing, if we leave our computers running long enough, but at the moment there are only these special numbers and normal numbers that suffer from either excess or lack with respect to their parts, the divisors. So if we consider these types of numbers we have what is a very good image of the special systems. There are three special systems called autopoietic symbiotic, dissipative ordering and reflexive social. Each type of perfect or semiperfect number relates to one of these types of special system. Of course, the autopoietic special system is like the perfect number. The sociable number is like the reflexive special system. And the amicable number is like the dissipative special system.

Now this analogy is not exactly straight forward because the three types of numbers have a kind of relation to each other that is interesting. You would think that the autopoietic would be related to the amicable and the dissipative would be related to the perfect. But in actuality we must stay that the amicable is related to the dissipative because the two numbers need each other to complete each other and their symbiosis does give an image of the structural level of the autopoietic system, however the organizational level of the autopoietic system is more like the perfect number in which parts are reconciled and nothing further is needed from outside. So the imbalance of the amicable numbers toward completeing each other is what causes the dissipative movement toward each other. On the other hand the perfect number is self producing in its organization, even though it is within itself not symbiotic, the symbiosis is at the structural level, and appears in the autopoietic number in the relation between the numbers used as divisors and those not used as divisors within the perfect number. Nondivisor

numbers 4 and 5 add up to 9 which is an excess over 6¹. Thus in the perfect number there is a compensatory organization that is different from the symbiosis of the amicable numbers at the structural level of the autopoietic system. Two dissipative systems make up an autopoietic systems. But also four dissipative systems make up the reflexive system. And it is interesting that the vast majority of sociable numbers are in sets of four. The greatest set we know of at this time is 28. There is variety among them but the predominance is to have fourfold sociable numbers which is like doubling the amicable numbers. Also in terms of abundance you have the series amicable, sociable and perfect. This means that cities like the Republic/Ancient Athens, i.e. cities that are hell on earth because of the separation of mind from body (placed right on the edge between land and sea) are most abundant, then cities like Atlantis that has a perfect outward form but are most changeable are less rare, and then cities like Magnesia of the Laws are the most rare which are long lasting because isolated from the changeable sea. The order of the immersion in change is different from the order of abundance of the cities. But least changeable and least abundance coincide.

What this analogy with holonic numbers shows us is that at least notionally special systems could exist. This is no proof that they do exist or play a role in the world in which we live. Many mathematical patterns exist and have nothing to do with the world in which we live. In fact, today perfect numbers are just considered an oddity with no intrinsic meaning. But when you relate them to special systems theory you see that they are the simplest known example that shows that wholes equal to the sum of their parts can exist and also they show that there are at least three of them. The three types of number show that when taken together there is a kind of interesting relation between the numbers that tells us something about special systems, they tell us something about abundance where

¹ See lines called 9 yang and 6 yin in I Ching for a complete view of the compensation.

before we only knew about their relation to changeability. So this gives us some basis to move forward in trying to find out more about special systems by looking for more entrenched anomalies that might tell us more about the nature of these strange anomalous partial systems or partial openscapes. In fact, it is interesting how much the holonic numbers actually tell us about them, especially about the fact that there is a difference between the structural and organizational level of the autopoietic system that cause us to reverse the relation between the amicable and the perfect numbers. Another point in this regard is that one of the sociable number chains have five members, one has nine, and another twenty eight, and there are others. What the reflexive special system tells us about is the imaginary level of the autopoietic system that controls its organization through hypercycles. Sociable numbers are images of hypercycles and the sociable numbers tell us that these hypercycles are merely images of perfection delayed and deferred over longer periods of time. While on the other hand the amicable numbers true to the structuralist paradigm says that the symbiotic structure of the autopoietic system are made up of pairs of such numbers that are holonic. Thus we get by combining these various images a more full picture of the autopoietic special system as having amicable numbers defining the structural level, perfect numbers defining the organizational level, and hypercycle like sociable numbers defining the control level that is the source of organization within the autopoietic system. That means that the three levels of the autopoietic system are all holonomic. What is different is the length of the timespace of differing and deferring of perfection in each case. At the organizational level the entire autopoietic system is made of holons. But at the structural level these holons are in structural pairs, while at the control level these holons stretch out timespace even further into an hypercycle that allows multiple variables to maintain synchronized homeostasis. So not only do these numbers tell us something about the differences between the kinds of special systems, but taken together we can see them as a rather precise image of

the autopoietic special system which is quite unexpected. All this takes place in a sea of numbers that have excess in their parts or a lack in their parts which mimics the relation of the system to the openscape. Out of that infinity of numbers appear these probably finite sets of numbers which exhibit these strange characteristics that just happen to be like the differences between the special systems or just happen to give us an image of the layers of the autopoietic system.

Approaching Special Systems

We will continue to approach special systems step by step with a series of analogies like this one. Each analogy will tell us something different and more about the special systems. But each analogy will be based on knowledge of a particular entrenched anomaly from some category of mathematics, or eventually from physics as well. It is believed that there are myriad such anomalies and that the author only knows a few which have been used to build the essential structure of the theory. What is strange is that the various anomalies do not contradict each other but reinforce each other and allow the mutual elucidation of each other so we can focus in to get a clearer and clearer picture of these strange partial systems and partial openscapes. But all the analogies no matter how complex will work exactly as this one does. An entrenched anomaly is found in a particular domain. We look to see if it tells us something about special systems and attempt to find its fit with the other anomalies that are known. This sometimes takes quite a bit of contemplation of the new anomaly and the theory as it is known today. But in each case so far that fit eventually surfaces, and then the mutual elucidation begins which causes a hermeneutic circle to advance as we revisit the meaning of each of these other anomalies in relation to the new one. This is much like N. Rescher talks about in *Cognitive Systemization*, where he describes how we must continually revisit our axioms in a kind of hermeneutic circle that takes the place of first principles and grounding. In this work the equivalent to the axioms are the entrenched

anomalies themselves. We build a theory that follows out their consequences as far as possible without preconceptions. Sometimes what we see is extremely counter intuitive given our tradition in science. But if we follow out those counter intuitive consequences, like A. Stern does in his creation of Matrix Logic, then we find that there are resonances which makes us appreciate the possibilities opened up for our understanding of things based on the odd, strange, anomalous, counter intuitive features that appear from the analogies. Each analogy is an image of the special system built into an anomaly in mathematics or physics. The theory that we build up by bringing these analogies together is called the model of the special systems, which generalizes the mathematical structures into principles that apply to a certain special class of systems, i.e. that are not universal. The model is the part of the special systems elaboration that is like a theory. But the part that is not like a theory is the pointing to the bedrock of existence which is ultimately nondual. The anomalies taken as analogies and taken together in a sort of cognitive systematization exercise point toward that groundless ground which turns out covers over existence in our tradition. We need to keep from reifying the model and looking where that finger of the anomalous is pointing in all cases. We don't need to stare at the finger but we need to glance at and scan the background which that finger is pointing at as best we can. We will only catch the nondual out of the corner of our eye. But the finger of the entrenched anomalies that point at it are pretty substantial once we learn to focus on them and to make them the center of our Trojan horse by which nonduality enters into the well defended and beleaguered city of Western Science within the country of the Western Tradition as a whole. Special Systems theory is not as it seems, it is not a normal theory, that may just be exchanged for others. Rather it is a finger pointing at the meaning that upwells from the bedrock of existence called by us the nondual. Meaning overflows from the bedrock which is empty or void or manifest (expressive) and fills our scientific world from this wellhead. The meaning is not

what you might expect. It is not a specific answer to the question Why, that most religions try to give. Rather it is a general answer that Why is an impossible place to go with our reason, or with our experiences. There is no Why, but on the other hand that is Why. Science does not ask the question Why. Nondual practices do not answer the question Why. And that is why the two traditions are like two sides of the same coin. Neither knows Why. But strangely not knowing Why is the answer to that question. You only find this out with practice. But the results of practice can be used to break open the well head of the nondual and allow meaning to suffuse the meaninglessness of science. We don't just say that there are these different types of numbers but we give them meaning and relate them to other entrenched anomalies which also have meaning as singularities that relate to each other across the surface of existence, just as Deleuze says sense comes from the singularities that are strewn across the tablecloth of paradox. The surface of the table is between the depth of the unconscious under the table and the tablecloth that Deleuze says folds and unfolds in the Logic of Sense. There is a moment that Deleuze misses, the interspace between surface and depth where nonduality exists. Surface is too near and depth/height is too distant. The existence of the bedrock is an interface between and before either of these alternatives that Deleuze portrays. But there is an interplay between sense and meaning in our lives. Sense comes from the surface of things as it folds and unfolds like a table cloth. Meaning comes from the emptiness/void between the table cloth and the table. The depth below the table or the height above the table of the crazy tea party of the Mad Hatter are nihilistic opposites that are generated by nihilism. Sense is the interface between the height and depth. But meaning is the relation to the nondual orthogonal to height and depth as duals.

What this means is that there are different orthogonalities of nonduality. Thus if we just take height and depth as in the Deleuzian case, then orthogonal to them is the nondual.

Monism is the dominance to extinction of one dual over the other, or the smothering of them both by a higher level synthesis. Deleuze defines expressivity as the relation between monism and dualism (or many). There is an infolding and unfolding between them which he calls expressivity or manifestation. Expressivity is orthogonal to the nihilistic duals themselves. It talks about their coming from the source and returning to the source, and thus their interaction with the meta-system. But there is a deeper form of expressivity or manifestation that is the nondual that is orthogonal to the one many continuum that was orthogonal to the high/deep continuum. And so that is what we are calling the nondual, an alternative to one and many that is something different. But this is clearly an infinite regress and so we can have many deeper and deeper levels of nonduality in this model. For instance, what we called manifestation between emptiness and void at the fifth meta-level of Being where Ultra Being also shows up. That is seen as a deeper form of nonduality. We can expect that this series goes on indefinitely, and in fact we have a model of it that will be discussed in due time if we can get there. But it is clear that if it is an infinite regress then between finite and infinite there must be something else that is nondual, and that is the Right (Rta, Arte) in our scheme which is the nondual between finite and infinite, i.e. what is just right like the golden mean from the Fibonacci series. What we see here is that as we trace out the various impasses between generated duals then what appears are the nonduals that we have noted arise at the various levels of the Western Tradition like order, right, good, fate, source, and root. The fact that there is a right amount between finite and infinite upsets the apple cart and throws our mere invention of multiple layers of nonduality for a loop. A similar thing happens when we ask whether something has or does not have a nondual character, we find that this brings out the character of the nondual as the Good, the cornucopia of variety in existence. And when we ask whether the nondual exists or does not exist then we enter the realm of fate, wyrd and destiny. And when

we ask the question whether or not the nondual is actualized or not then that brings out a focus on the sources that underlie manifestation that are suprarational and both exist and do not exist at the same time. And when we ask whether or not the nondual is manifest or not that points to the root of things where the question Why goes unanswered.