

Quantum Games and Meta-systems Theory

The Dangerous Quantum Meta- Games People Play

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Speculations on Quantum Games

In this essay the question of the relation between Quantum Games and Meta-systems will be discussed in detail. There are several introductions to Quantum Games that will be assumed as background information to this discussion. Quantum Game theory is an outgrowth of the concepts of Quantum Computing and Quantum Information Theory as related to Classical Game Theory. Most of the work so far has been on the quantizing of normal games into a quantum form, and the noticing of the unusual effects of such a transformation. But it is an open question whether or not there are purely quantum games beyond the quantization of classical game theory. Here we will explore how the relation between classical and quantum games is similar to the relation between system and meta-system ideas. But with a twist, because the concept of the game itself is a system concept. Both games and languages are

examples we know well of systems. So when we translate these ideas into quantum level phenomena we are still sticking to a system concept and not considering the meta-system concept which is the dual of the system. So we must right from the start realize that the true split is more complicated than currently realized. There is on the one hand the classical game system and the quantum game system and their mixtures, in which quantized classical games yield extraordinary properties. But by rights there should also be the difference between classical meta-games and quantum meta-games and their mixtures which have not been considered as yet because they go beyond the concept of the system into that of the pure meta-system. This says that we must consider the classical/quantum split to be like the system/meta-system split, but that when we apply the classical/quantum split to differentiate system like games, then there should also be a meta-system like meta-game to which the classical/quantum split can also be applied with its own mixtures where we quantize classical meta-games to find their properties as well. What we would like to do here is explore the distinction between games and meta-games and how the system/meta-system and classical/quantum distinctions generate the idea of meta-games. There is no current discipline that looks at meta-games. So it is necessary to define this concept carefully. It also relevant that quantization really has two aspects as well, one is superposition and the other is entanglement, and these two aspects are treated separately in the quantization of classical games. Entanglement is when two particles have become connected by some spooky action at a distance to act somehow as one thing. Superposition on the other hand is when the quantum system is in multiple non-interfering states at the same time. Entanglement is like paradoxicality and Superposition is like supra-rationality. In other words in entanglement two things become fused despite spatial separation. In superposition there are multiple states that remain separate which when measured decohere to give a measurement probability. In a quantum system you can have entanglement

and superposition at the same time for instance in a condensate or other quantum phenomena which is both spread out in space and also superimposed. In quantum game theory sometimes games are altered by entanglement and sometimes by superposition or sometimes both. So this brings another level of complications to the relation between classical games and quantum games, which propagates when we consider meta-systemic meta-games. So all these distinctions give us a rich soup to try to sort out when we try to place classical/quantum games in the perspective of the difference between systems and meta-systems.

Meta-games

First we should try to sort out what meta-games might be. We think the difference between games and meta-games on analogy with the relation between systems and meta-systems. Here the term “meta” is used to mean “beyond”, i.e. what is beyond the game. However, interestingly enough what is immediately beyond most games are the players who are engaged in the game and considered “rational” in most cases. That assumption of rationality of game players is what separates what Bataille calls the “restricted economy” from the “general economy.” Deleuze also would want us to question this assumption, as he says sense arises out of nonsense or paradox as the baseline or ground state. We can think of the meta-game as the environment that supplies players to the game who may be rational. Interestingly enough these players in quantum physics become the observers that do the measurement that breaks the coherence of the quantum system. Deleuze in What is Philosophy? calls these partial observers. Physics is built on the independence of these partial observers. If there is spooky action at a distance between the observers in physics then physics itself may collapse. That is one of the reasons that Extra Sensory Perception of the type described by Jahn and Dunne in Margins of Reality is anathema to science. In Quantum Game Theory this spooky action at a distance between observers is called pseudo-

mindreading, which is an effect in quantum games where strategies that are entangled might be modified without any passage of information between the partial observers involved in the quantum game. This pseudo-mindreading reminds us of the type of “mind reading” which is called folk psychology of the mind in which we project a mind onto others and treat them as if they had a mind like our own and consider their actions in relation to what they know. We now know that this ability appears at a certain stage in childhood. To put it in terms of reflexive special systems theory we cut through the multiple distorted images of the mirrorhouse of our mind to posit the mind of the other with the field of the socius. This is a miraculous human ability that allows social interaction to occur. But we do not like in science to admit that this might be the result of some hidden connection between minds isolated in different bodies such as ESP might postulate. What is amazing about Quantum Game Theory is that it shows us how knowledge as strategy can be changed in entangled systems without the passage of information, this means that knowledge is distinct from information as an emergent level and is not dependent on information for its organization, in spite of the fact that it is supervenient on information as lower level emergent level. So one way to think about it is that our social field that produces us as game players as the meta-game to the game. That meta-game is what is beyond the game per se as an operating system for the game application. It is a social “operating system” dependent on society, culture, and psychology of the participants in the game. The meta-game can be considered classically such that the players are seen to be separate rational gamers, or we can consider them in quantum terms by positing that spooky action at a distance also appears between partial observers not just physical quantum systems like pairs of particles that are entangled. But if observers are entangled then their independence is in question and science as something objective collapses because both relativity theory and quantum mechanics are built on the illusion of independent common observers with good

sense and common sense in the Aristotelian tradition. The quantized meta-game would accept spooky action at a distance between observers and thus gives us a vision of the general economy beyond science as we know it today as a restricted economy. We will call this new sort of science of the quantized meta-game: Nondual Science¹. Nondual Science assumes entanglement of partial observers in science, and it also assumes that these partial observers enter into superposed coherent states which is the social field out of which the partial observers arise. The superposed coherent states are called supra-rational and represent states that are Not one! Not two!, i.e. are neither monisms or dualisms but something else. The quantum mechanics of observers and their social interaction via language is covered by this nondual science. It is interesting that language itself is seen as the other system phenomena. So partial observers immersed in the socius interact via a system of language. Over the board game there are exchanges in language that condition the play of the game. The board game, let's say Go (Wei Chi) for instance, is the situation against which linguistic production brings out the new and notable things which are worth talking about and that make sense against the background of nonsense and paradox, or have meaning against the background of the supra-rational. The game is a system, the socius of the players of the game is a meta-game, and the verbal interaction that hovers over the game is also a system. One is a system of irreversible moves and the other of verbal exchanges in the context of those moves or of the broader context of life. All these games are non-commutative systems both at the language level and the game level. These two systems are conjuncted in what Wittgenstein calls a language game. That is to say that the game between the two players can become metaphorical for the behavior and speech use of the players. We can think of the conjunction of these two systems as a meta-system. However, we have learned though Special Systems Theory that a Meta-system is actually

not just two conjuncted systems (system and anti-system), but also a conjunction between a system and a set of partial systems and partial meta-systems called special systems, which are non-systems and non-meta-systems. According to Greimas we can either go in the direction from A to Anti-A or in the direction of A to Non-A. If we go in both directions and cross them then we get to the meta-system proper which is the Anti-Non-A of the meta-system or the Non-Anti-A of the infra-system. Both of these together has been called the openscape which is the next schema up from the system prior to that of the domain. When we use the term meta-system here we mostly mean the openscape and use the term as shorthand for the openscape which is both meta-system and infra-system at the same time. The meta-game is a reification of the socius, in as much as we assume rational players of the games that use normal logic and have their passions under control. The players arise out of the socius as social field, which has its origin in what Sartre calls *the fused group* in Critique of Dialectical Reason and what Cannetti calls *the pack* in Crowds and Power. But the extended meta-game would recognize that the socius is actually embedded in a general economy of society and culture where actors may not be rational, may not have their passions under control, and may not be using standard logic. Case in point Terrorists² who might use Weapons of Mass Destruction or who might using the meta-system view of things think to use our infrastructure against us, i.e. planes as bombs that fly into skyscrapers. As you can see when we begin applying meta-systems theory to game theory, we begin to enlarge our concepts from our normal systems thinking which we are normally stuck within. Our culture has a blind spot with regard to meta-systems and we have no meta-systems theory, but our enemy in the Global War on Terrorism has already made the switch to a meta-systems way of thinking because they hit us in our complex infrastructure to which we ourselves were blind in terms of military strategy and self-protection. They caused an emergent event

¹ See <http://nondual.net>

² See Anti-terror meta-systems engineering at <http://archonic.net>

in our thinking to which we have not yet fully learned to respond because we did not have a theory of meta-systems to augment our systems thinking which is so engrained that we cannot see beyond it to the next emergent schema. But our enemy has made this conceptual leap and we need to learn to make it ourselves. Fortunately a meta-systems theory now exists which can help us conceive of what the meta-systems thinking might be like. One of the best books on this subject is Arkady Plotnitsky's Complimentarity. He explains the relation between the work of Bataille, Bohr and Derrida and how they together define the meta-system by different means and which taken together gives us a fairly clear idea of the nature of the meta-system. In general the relation between the system and meta-system is analogous to the relation between classical and quantum ways of looking at things. But when we bring in Game theory then that is itself a system concept to which we need to form its meta-systemic inverse dual which is meta-game theory concerning the operating system of agents that play the game, and converse about the game and other things. But even when we quantize meta-game theory by admitting spooky action at a distance between observers like pseudo-mindreading, this is not radical enough because we are still considering the observers to be rational, logical, and passionless. If we realize along with Deleuze that sense takes form in relation to paradox and non-sense, and that beyond that meaning takes form in relation to the supra-rational then we enter the realm of the highest meta-game which is what we are now playing globally with the terrorists in the Global War on Terror. Similarly we can think of standard game theory and its quantization, but still consider the agents playing the game as rational, logical, and passionless. We must contrast this extreme of the general economy of the game and the meta-game with their restricted economies. But also we must realize that there is also the realm of the non-game which is the opposite of the extreme application of the concept of the general economy. Prior to the restricted economy is the non-economy.

Non-system	System	Meta-system	Extreme meta-system
Nongame,	Classical game,	Quantized classical game	Extreme game = Pure quantum game
Non-meta-game	Classical meta-game	Quantized classical meta-game	Extreme meta-game = nonrational, deviant logics, passionate under spell of the production of transcendental value, thinking themselves in terms of the meta-system, e.g. Terrorists.

It is interesting that a full account of the meta-system as general economy leads us to posit the terrorist as the ultimate extreme high stakes player. This player would destroy the world in order to enact transcendental value generated in the meta-system in relation to the systems. In this sense the terrorist is not merely just a deranged individual or a product of a cult or disaffected political group, but a structural element of the global environment. When we build weapons of mass destruction we thought states would own and control them. Now we find that they can fall into the hands of individuals and small disaffected groups who have a terrorist agenda. It is of great interest that with the end of the cold war where one superpower is left to police the world there as arisen an endemic enemy which flourishes in the lawlessness and piracy of the high seas beyond all states, which attempts to bring anarchy to us as a terror campaign of utter destruction to enact transcendental value though waste of human potential and needless destruction of infrastructure, who has the idea of using our own weapons of mass destruction against us, or our own infrastructure against us. If it is true that the terrorist is a product of the global general economy in its interaction with system states, then we are indeed engaged in a twilight struggle with an enemy who is our mirror image in the meta-system. The only way to counter them is to play within the meta-systemic field, and the only way to make that paradigm shift into the meta-systemic field is

by way of a theory of meta-systems. Fortunately such a theory exists in the form of an extension of General Systems Theory of G. Klir as presented in Architecture of Systems Problem Solving. Meta-systems are the dual of Systems. But previously no one has developed this dual from a theoretical point of view. It is in fact a blind spot of our tradition not to be able to see meta-systems and only being able to see systems. Once we identify and define formally this duality of systems and meta-systems then we begin to see the Special Systems that are thresholds of emergence between the system and the meta-system which are called the Dissipative Ordering Special System, Autopoietic Symbiotic Special System, Reflexive Social Special System respectively. When we combine normal systems with special systems we get a model of the Emergent Meta-system. And when we consider how the Emergent Meta-system arises we get the phenomena of Autogenesis. All this is contained in a series of working papers called Reflexive Autopoietic Systems Theory, and summarized in the first chapter called "Reflexive Autopoietic Dissipative Special Systems Theory." We go on to study the relation between Systems and Meta-systems with other Schemas in what is called General Schemas Theory³. From that we move on to a new view of Science called Nondual Science⁴.

Terrorism and Being/Knowledge Meta-levels

We consider Terrorism a form of insanity that overcomes political groups and cults and individuals. In its most extreme form it appears as suicide bombings, which kill lots of innocent people for no reason other than to produce the transcendental value of terror. What we do not realize is that Terrorism is a meta-system phenomena, and is structurally linked to globalization and the concentration of power within a single global power which polices and maintains order throughout the world. Part of that maintenance of order has been support of autocratic non-democratic

regimes abroad which is counter to our own values at home. This has produced a global resentment which has been building all through the twentieth century against us. It has been realized that the only way to destroy autocratic regimes and gain freedom locally around the world is to attack the policing superpower directly and globally. Thus we have put ourselves in the contradictory position of suppressing freedom abroad when enjoying freedom at home. And this was done mostly to support corporate interests abroad, but that global strategy has backfired and created side effects in the global meta-system which we now face as a world wide terrorist threat. In other words, terrorism is our own face staring back at us in the mirror of the global meta-system. They are attacking us because they see our policies as causing specific harm to them through the intermediaries of autocratic regimes we have supported. However, the real danger this enemy, which we have created ourselves by supporting tyrants in local conflicts in many parts of the world, or by overthrowing legitimate regimes to support corporate interests, is that they are thinking meta-systematically, and we are not yet. Thus we have not really entered their playing field, which is the global economy of the extreme quantized meta-system within which our systems, even science, has no foothold. Only a new science, a non-dual science can adapt to this extreme environment to which we were rudely introduced by the 9/11 atrocity. If we admit that Terrorists are not just crazy, but are in fact structural artifacts of our own (and Soviet) inconsistent policy globally over the last century, then we can see the terrorist in his true face as our shadow reflected in the meta-system. As Jung says every ego has a shadow which are the things that they do not want to admit about themselves. Our shadow (along with that of the Soviet Union) in the global mirror is the terrorist. They are a structural element of the extreme meta-system and we are not going to get rid of them easily, because even if we get all the members of Al-Qaeda they have shown how meta-system warfare works and anyone from a disaffected group

³ See <http://holonomic.net>

⁴ See <http://nondual.net>

can come along and do the same thing to us in the future, i.e. use our technological infrastructure against us. So we are vulnerable as long as we do not recognize the meta-system as the battlefield of the twenty-first century. We need to find ways to use the duality of systems and meta-systems for effects based operations. Effects based operations means that we use all our possible assets to get the desired effect in concert and in an integrated fashion. But effects are of different kinds. There are different meta-levels of Being and Knowledge and the nature of cause and effect are different at the various meta-levels.

Beings⁰, entities, stuff, times, events, things

Pure Being¹ and Knowledge

- Determinate and Continuous Cause and Effect

Process Being² (Becoming) and Knowledge

- Probabilistic and Correlated Cause and Effect

Hyper Being³ and Knowledge

- Possibilistic and Fuzzy Cause and Effect

Wild Being⁴ and Knowledge

- Chaotic and Fractal Cause and Effect

Ultra Being⁵ and Knowledge

- Existential and Absurd Cause and Effect
- Non-causal Effects, Non-affectual causes

Existence and Wisdom

- Quantized Meta-system Meta-game

There are steps up the ladder to the “nowhere nowhen⁵” of existence of the meta-levels of Being and Knowledge. These meta-levels were posited by Russell and Whitehead in Principia Mathematica (cf Copi Theory of Higher Logical Types). Bateson discovered that the meta-levels were limited as he compared the meta-levels of movement and learning in Steps to the Ecology of the Mind.

In order to realize effects based operations with respect to both meta-system and system, we need to think in terms of the system/meta-

system duality instead of just in terms of systems. That means we need to think in terms of indirect actions and indications instead of direct actions and symbols. Our action in systemic terms conditions the meta-system but we cannot affect the meta-systems directly because they are quantized games, meta-games, quantized meta-games or extreme meta-systemic quantized games or meta-games. In effect they are of a nature that we have not yet fully imagined in the dream of our systemic sleep. But the enemy of the Global War on Terrorism has woken up to the meta-system possibilities before we have. We need to wake up to the new battle field of the twenty-first century before it becomes impossible to play the policing role as the last superpower and the global community of states are pushed in to chaos by our inability to do the policing we wish to do to maintain global stability. Excellent studies of the Chinese approach to playing in the meta-system environment is Detour and Access and The Propensity of Things by François Jullien. Our conditioning of the global environment over the last century though our inconsistent and nearsighted actions is due to our short planning cycle and due to our having policies abroad which were counter to our basic values at home which we broadcast to the world through our media. The Chinese had a longer planning cycle which they instituted as a form of ancestor worship. So they were more concerned with the higher meta-levels of Being and Knowledge than we. We are trapped with most of our actions and thoughts occurring in the lowest two levels of Being and Knowledge as pointed out by Heidegger in Being and Time. But other Continental Philosophers have given us some access to the characteristics of the higher meta-levels of Being and Knowledge. But culturally this understanding of the structure of our worldview has not filtered down to become common knowledge as yet. However, we need to speed up this process, because emergent events travel through the meta-levels of Being on their way into the world to transform it. If we do not pay attention we will be caught unawares by emergent events when they occur,

⁵ emptiness of time and void of space

like the breakthrough into the meta-system by the Terrorists. From now on we will always be vulnerable to such an attack by someone who has been taught by Al-Qaeda how to hit us with our own infrastructure which can be done cheaply and without much sophistication in planning or execution but which can have a huge impact. If we are brave enough to see the terrorists as our own shadow, as Jung has suggested, then we can fight the terrorists within the meta-system and system realms at the same time and perhaps learn how to achieve global stability without continually fouling our own nest by straightening out our own contradictory national policies toward the global environment. If we have to destroy a whole city, Fallujah, to get rid of about 1200 insurgents, then we have to live with the negativity that this produces on the world stage and within Iraq. The question is whether there are other means of conditioning the environment as meta-system such that we can use indirect means first to make the environment not conducive to terrorist activities supported by the population. We have a global war on terrorism. But our policies have not changed in such a way to decondition the environment which is reacting against us by producing transcendental value by striking the last remaining superpower with terrorist strikes that hit us at home and thwart our intentions in Iraq and other places in the world. So meta-system approaches need to be understood not just at the military level but also at the level of the civilian administration that makes policy. And we need to understand the threat our own short planning cycle that sends mixed messages to the global community from us as we change policies from administration to administration and also as we support corporations by supporting autocracies abroad at the expense of human freedom. Once globalization occurs then the global general economy is the meta-systemic mirror of our super-power system. The interaction between the super-power system and the meta-systemic mirror is not rational, not logical, not sane. If we can understand that the global environment is like the Self in Jung while our super-power status of world

policeman is like the ego, then we can realize that the interval between the ego and self is full of archetypes including our own darkside or shadow as well as other virtual powers that produce transcendental value within the meta-system. We need to admit that we are not completely rational, logical, and impassionate ourselves and that is why we embrace different values abroad than we support at home. Unless we control ourselves and make our global policies coherent with our home values we will continue to foul our own nest within the global meta-systemic environment to which we are bound ever more closely as globalization proceeds. In order to avoid the positive feedback that can destroy all systems within the environment of the meta-system, we need to have negative feedback loops that allow us to maintain stability. Those negative feedback loops do not exist at this time. But Quantum Game theory as applied to Markets and other games like Politics might allow us to achieve some sort of ultra-efficacious stability that would otherwise be impossible based on classical zero sum games where defection is almost always the best strategy unless everyone is defecting. More research into quantized classical games and pure quantum games needs to be done, but this must be done in a context that recognizes the importance of the meta-system and which applies that concept in a radical way so that the terrorist is recognized as a structurally inherent player in the world of globalization with a single superpower as policeman of the world. The terrorist represents the production of transcendental value within the meta-system which is effected back on our state system by attacking the meta-systemic infrastructure of our state system itself. The fear is that the entire global meta-system of states and non-state entities will turn on us so what we cannot perform the policing function effectively sending us into isolationism, which is always the ground state of our political system. This scenario of all against the one would lead to a state of global anarchy of all against the all, i.e. Hobbsian nihilism⁶. Because the terrorist is a

⁶ First posited by Plato in the Republic as a possibility.

real structurally endemic threat, the only course is to follow him into the meta-systemic field of warfare of the twenty-first century. By adopting the meta-system viewpoint in addition to the system viewpoint we are suddenly playing on the same gameboard with the Terrorist enemy. That game which we are playing runs the gambit from the normal classical game of chicken, to quantized chicken games, to meta-systemic games with non-rational, non-logical, passionate enemies drunk on transcendental value from the meta-system which is just as potent as any drug that might induce delirium. But we must understand that we are not just playing games but also meta-games, quantized meta-games, and meta-systemic meta-games, as well as non-games, and non-meta-games. Thus the entire gambit of possible relations between quantization and classical situations, between games and meta-games and systems and meta-systems is covered in this new global game between the military and government of the last super-power in its twilight struggle with the terrorist of what ever persuasion who is thinking meta-systemicly, and what terrorist has not learned to think meta-systemicly after 9/11. We owe it to ourselves as a people to realize the danger and to enter the playing field, no matter how strange we think it might be on which this global war on terror must be fought, i.e. the field of the meta-system. System effects based operations will not have the desired effects if the meta-system is not considered. And effects must be understood as being of different kinds based on the level of Being or Knowledge that has come into play in a given situation. In other words, there is a multi-level game board, not just a flat single layered game board of traditional games. We are trying to play three dimensional chess or three dimensional Go (Wei Chi) all of a sudden where the game board transforms at each level of Being and Knowledge. That is why Radical Knowledge Discovery beyond Knowledge Management and Knowledge re-discovery is important. Knowledge is the fusion of the aspects of Being which themselves transform at each meta-level of Being. The aspects of Being are truth, reality,

identity and presence. These mean different things at each meta-level and at that meta-level fuse into a different meaning for knowledge. So the game changes at the various meta-levels of Being and Knowledge. For instance, if the Game appears as a manifestation of the System Schema at the level of Pure Being, then what appears at the Process Being level is the Rules of the Game. At the Hyper Being level what appears are the pieces used in the game. At the Wild Being level appears the anomalies of the game, for instance castling moves in Chess or the Ko rule in Go. At the Ultra Being level appears the ultimate goal of the game itself that makes it emergent like binding the King in chess, or dominance of territory in Go. Similarly there are the meta-levels of the meta-system schema as meta-game. The meta-system has a different sort of organization at its various meta-levels of Being and Knowledge and that is what makes the meta-system different from the system intrinsically. At the level of Pure Being the meta-system is just the environment of the system into which it fits though the niches in the meta-system. At the level of Process Being the meta-system has the resources that it gives to the system and its own internal operation as an “operating system” for the applications of the systems. The Meta-system has an arena that the systems interact within and has its own boundary conditions that it enforces on systems as a filter, by denying resources to non-compliant systems. Systems applications cannot run in foreign operating systems. Try to put a Macintosh disk in a Microsoft computer, nothing happens. Changing the meta-system is a very effective way to filter out unwanted systems by shutting off resources to the systems within the meta-system. At the Hyper Being level the meta-system produces the very possibilities of systems within its compass, that is all their possibilities for interaction with each other and with the operating system, just as a computer operating system does. Both the system and the meta-system is defined formally by the turing machine, but the system is a turing machine that runs to completion, while the meta-system is a universal Turing machine that runs other Turing machines and

thus acts as an operating system and never stops. Al-Qaeda attacks the infrastructure in Iraq because it knows that the infrastructure is vulnerable and because as long as the infrastructure is down the society cannot stabilize. It attacks the human infrastructure like reconstruction workers and humanitarian workers. It uses shock techniques like suicide bombings and beheadings because these represent barbarism which is the ultimate expression of transcendental value by waste. It tries to create positive feedback in negative or positive directions (blackholes or miracles) to increase destabilization toward chaos. It tries to destroy possibilities by destroying the infrastructure they depend upon for realization. At the Hyper Being level the nihilistic opposites of positive feedback appear as they grow with the meta-system landscape as Scylla and Charybdis. Then it becomes more and more difficult to maintain stability by negative feedback in story seas of the world meta-system. At the Wild Being level are folds and areas of reversibility in the meta-system's field where the rule of law breaks down completely into contradiction, paradox and absurdity. These are like the catastrophes of Rene Thom produced by folds⁷ in the meta-systemic field. But these folds are merely images of the ultimate singularity beyond the event horizon of Ultra Being. All the systems within the meta-system have their source beyond the timespace of the meta-system. The systems all arise from sources outside the meta-system proper. Ultra Being is the event horizon between the folds of Wild Being and the ultimate source or singularity of existence beyond Ultra Being. Deleuze discusses this in Difference and Repetition. Repetition is of that which does not repeat. What cannot be repeated is the source, but what is repeated within the meta-system arena are images of the source. The source is the transcendental value produced in the meta-system by the mechanism of difference and repetition. Each suicide bombing, attack, or beheading is different, but it repeats the sacrifice that embodies transcendental value for the Wahabi

⁷ See Deleuze The Fold on Leibniz

Islamist Ideology (which is a heretical perversion of the Islamic Religion) of Al-Qaeda. However, the transcendental value of the source cannot be repeated in time and space so the atrocities have to go on indefinitely, and this when mismanaged becomes a twilight struggle with an adversary operating in the meta-system and attacking the system. Each system projects an origin within the meta-system, it has its origin where it appears in the meta-system and sink where it disappears in the meta-system. The relativity of systems within the meta-system comes from this projection of different reference points and origins.

As you can see, the meta-system is organized in terms of boundary, arena, origin and source with resources, positive feedback and singularities. That is completely different from the system that is organized in terms of rules, pieces, and anomalies. Both Systems and Meta-systems have their own inherent organizations which are duals of each other. If we want to fight Al-Qaeda we will need to enter the new battlespace of the meta-system that they have moved into to attack us. This is not the global information battlespace of the GIG. Rather this is a knowledge space defined by the meta-levels of Knowledge and Being which define the meta-levels of cause and effect and the meta-systemic approach. In knowledge discovery we lean out toward emergent events that must pass through the meta-levels of Being in order to come into our world. It is these emergent events, such as moving from the system to the meta-system by the terrorist enemy, that transform our world in the way the 9/11 attacks did. We need to be ready for the next transformation of the battlespace like the last one from an information grid to knowledge plateaus where the enemy has found ways of moving against us on game boards we did not know existed previously. We have to stop creating our own enemies as we did with Saddam Hussain and Bin Ladin by funding them in local battles that do not seem to have anything to do with us because they are overseas. In the new global general economy everything affects everything else, and there is not any action that does not

condition the meta-system. All systemic actions based on effects based operations must take into account system/meta-system duality in the future so that the side effects of our actions stop bouncing back and hitting us unawares. This is a crucial lesson we need to painfully learn, but we cannot learn it unless we have a solid theory of the meta-system to complement our theories of the system, and so that we understand the effects and side-effects of our actions more clearly by an analysis of not just force on force symmetries of systems but also the cumulative indirect effects in the meta-system at what ever level we need to understand them. This is the promise of meta-systems theory in combination with quantum game theory and meta-game theory. It gives us a formal model of the meta-system so we can reason about it and thus confront an adversary, who is using non-standard logics, is irrational and driven by a passion derived from the production of transcendental value. From a Jungian perspective the terrorist is our enemy because it is the reflection of our shadow side of our ego in the self, which unleashes archetypal forces of the meta-systemic general economy onto the restricted economy of the system as super-power. Once the meta-system level has been breached and all terrorists have learned the lesson of using the infrastructure against the infrastructure as a weapon then there is no going back from the meta-systemic battlefield into the systemic battlefield, there is no going back to information spacetime from knowledge spacetime. It is only a question of whether we can adapt soon enough to the meta-systemic environment which is the dual of the system, which our enemy has entered to attack us in places of which we were hither to unaware. This is a test of our robustness and adaptability. The only question is how long it will take us to realize that the battlespace has been transformed fundamentally by the enemy entering the meta-system while we remain within the system mindset and assumptions which make it difficult for us to respond with indirect effects based operations when we only think in terms of direct effect based operations. We need to think in terms of both, as duals of each other, and then we will have the

advantage because we have overt organization on our side that will allow us to operate in both realms simultaneously. Our enemy on the other hand must operate in a hidden way and thus cannot marshal forces either in the meta-system or at the system level. However, by remaining hidden our enemy only becomes present to us when they strike us or when they issue statements to the world or take credit for atrocities. We will never know when our enemy is finally gone. We are vulnerable as long as they are other disaffected groups to step into the shoes of Al-Qaeda and who might make use of meta-systemic thinking to attack our infrastructure using our own technological infrastructure against us.

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