**Fragment 8**   DEEP TEMPORALITY

The picture which is given of techne arising through emergent events is clear. The socio-technical system unfolds through a series of phases which are the very phases in reverse through which each emergent event goes. With each emergent event the teleonomic filter of the socio-technical system becomes more well defined. It successively locks into its goal which is not predefined, but becomes manifest through the succession of emergent events. Since emergent events cannot be predicted, the ultimate goal of the socio-technical system is deeply hidden. Yet time is not just made up of these emergent events. They are, in fact, rare sporadic occurrences that punctuate normal time which passes within a regime set up by the last emergent event. If we measure all time by what occurs in the passing of normal time, we are restricted to the surface of temporality. Emergent events give us access to a deeper strata of temporal unfolding. Emergent events reveal the underlying foundations of the formal-structural system as gestalt repatterning occurs.

FIGURE 6   Phases of Emergence. {FIGURE 162}
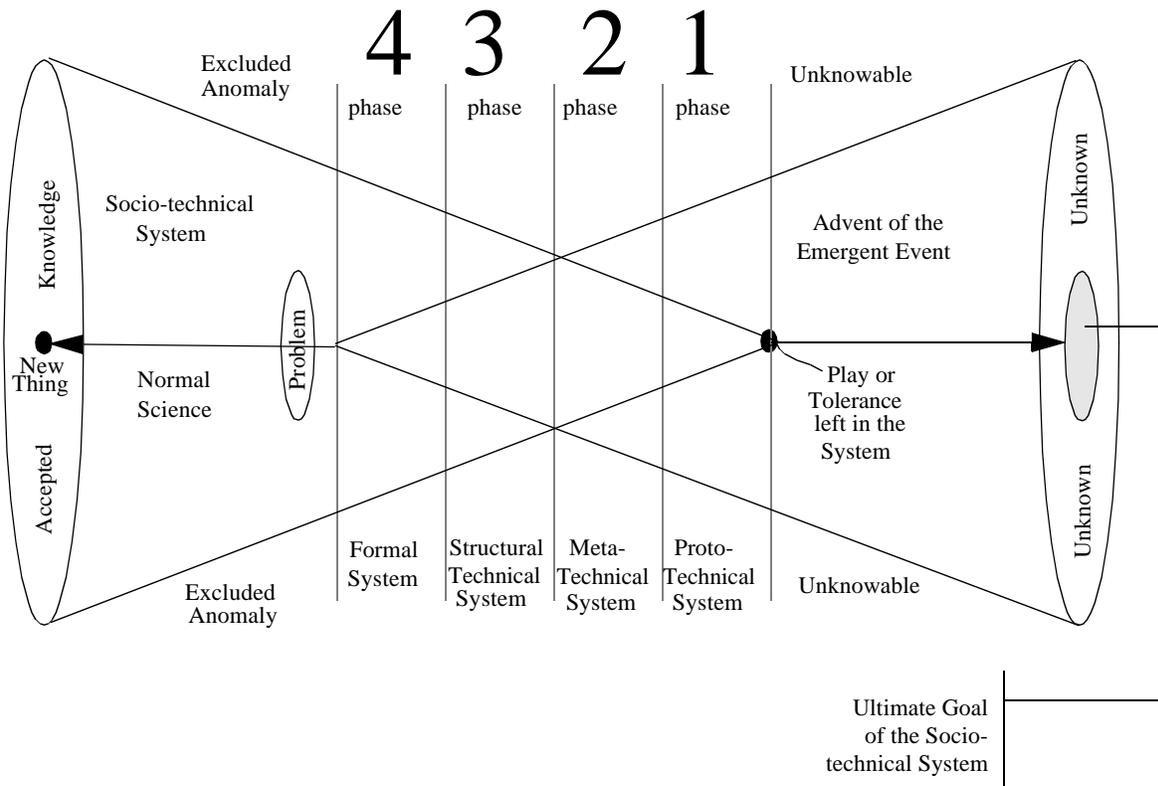
Socio-technical System

- Chiasm, reversibility, overlap, bifurcation points
- Fundamental bifurcations or distinction; binary oppositions
- Teleonomic Filter
- Designated as real forms

Emergent Event

- Anomalies recognized to exist
- Anomalies identified
- Anomalies understood
- Anomolies incorporated

Categories

- Categories have blind spots
- Things that do not fit in categories
- Categories reworked to fit anomalies
- Categories become obvious to everyone

Mathematics

- Propensity -- Chaotic
- Possibility -- Fuzzy
- Probability -- Statistics
- Determinate -- Calculus

Examples

- Mandelbrot Set, Artificial Life, Artificial Intelligence, Cellular Automata, Simulation
- Software, Derrida Grammatology
- Klir Architecture of Systems Problem Solving
- G. Spencer Brown Laws of Form, Axiomatic Mathematical Systems

Problems

- Ultra-complexity
- Non-computability, combinatoric explosion
- Incompleteness, Godel's proof
- Inexact definition, loss of meaning by too much explicit definition

Temporality

- Chiasms of the Gestalt
- Spacetime/Timespace, Process of the Gestalt

  • Temporal Gestalts (Heidegger, Merleau-
  Ponty)
  • Formal Description (Wm James, Hus-
  serl, Mead)

We do not normally see these deeper levels of temporality. The phenomenon of emergence becomes the key which unlocks for us deep temporality. Deep temporality exists below the surface of all temporal experience. But it has a completely different nature than the kind of temporality we are normally used to in our experience. For Western civilization "time" was defined by St. Augustine in his <u>Confessions</u>. It is a time which is broken into there parts: past -> present -> future. It is a time distinguished from the eternity of God. God sees all of time as fully present to Him. Whereas for us, the past does not exist, nor does the future, and the present has no temporal extent. What exists of the past and the future are impressions and expectations embodied in the present. This view was taken up by Kant with little modification. Kant turned space and time into absolute plena which shaped all experience. They were somehow beyond experience as the vessel in which all experiences occurred. As a priori prerequisites, space and time maintained their essential relation to the eternal. The three transcendentals: subject, object, and God replaced the single transcendental of St Augustine. But the fundamental structure remained the same. Future flows

through the present instant into the past. The flux of passing time is contrast to the stasis of eternity which encompasses past, present, and future. In standard philosophical parlance Parmenidies concept of static Being is contrast with Heraclitus' Flux of constantly changing time. Plato's sophist talks of Heraclitus having been initiated into the lesser mysteries while Parmenides' has been initiated into the greater mysteries. But the Sophist says what is really needed is "change and changelessness at the same time." St Augustine's view of the relation between past/present/future to eternity is a way of having both change and changelessness together in the same philosophy at least. In this world is change, and in the next world is stasis in the presence of God. Kant steers us away from theology, but still maintains links to the eternal through his transcendentals.

Not until the beginning of the twentieth century did this basic picture begin to change. One of the landmarks in the development of the philosophy of time is Husserl's study, edited by Martin Heidegger, called <u>The Phenomenology Of Internal-time Consciousness</u>. On the very first page Husserl harkens back to St Augustine's definition of time as the foundation for all previous conceptions of time within the Western tradition. In that study Husserl begins with the work of Brentano, the psychologist, and uses that work by reframing it within

the phenomenological perspective. Phenomenology takes a radically subjectivist stand toward all phenomena. For phenomenology all phenomena are events within the stream of consciousness. Objective events are only secondary artifacts constructed through intersubjective and scientific procedures out of the stuff of consciousness. In this landmark study Husserl lays down a fundamentally new theory of time. In this theory the nihilistic opposite theories of time growing out of the earlier dialectic of philosophy are synthesized. As Augustine says, time is a pure point with no duration. The opposite of this is to say that time has a duration. This duration is called the "specious present." William James, John Dewey, and G.H. Mead took up this position first developed by the European psychologists such as W. Stern (1898).[1] Those who wished to take the objectivist view of time prefer to think of the present as having a temporal interval. Either the present is seen to have no duration or some small duration. If there is no duration, it is difficult to see what reality the present has. For Augustine this was no problem because he wanted to shift all emphasis from this world to the next. But for worldly philosophers this poses big problems. If the present is a pure point with no dimensionality, all the reality is sucked out of the world. If the present has duration, though, no matter how small, then this world

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1. see ITC p41n

suddenly has some reality. Having all reality sucked out of the world is no real problem for idealists. But for those who want to take an objective perspective on the world it presents insurmountable philosophical difficulties. Thus, psychologists and others who wish to study time objectively invented the temporal interval as the objective foundation of all temporal experience.

Both of these positions duration/no-duration on temporality are, in fact, nihilistic opposites operating on the same assumptions. Both assume that the present is the most important aspect of time. Only what exists in the present is real. Future and past are not real. For idealists who keep one foot in the realm of eternity, the present can be a dimensionless time point with no duration. This is because all reality is supported by eternity. For materialists, however, the time point must have some dimension so there is a place to hold the impression of the past and expectations of the future. Husserl reassesses the whole question from a phenomenological perspective. This means he forgets about both the claims of the idealists and the materialists, and attempts to look just at what happens in consciousness as time passes. What he sees is that there is a dynamic between presentation, short-term memory, and imagination. In this dynamic the beginning of temporal sequence begins with a grasping which retains

the sensation while modifying it and replacing it with other sensations until the whole temporal presentation is over. Husserl calls the modification of the temporal retained sensation a "shoving back" of the sensation. It is as if the sensations are stacked as they occur to make a whole. Memory allows the stacking, and imagination allows retained sensations to be revivified. This perspective of Husserl concentrates on what actually happens in consciousness freed of any ontological assumptions, and this has the kind of approach toward the actual phenomenon of time that is needed. Husserl's view gives a clear picture of the temporal experience that goes beyond the superficial treatments of naive idealists and materialists.

From the perspective of our looking at the socio-technical formal-structural system, our view of time's passing is very important. This system is normally viewed first as merely a formal system. Formal systems have no temporality at all. Formal systems are static configurations of axioms and theorems used to define the shapes of things in and idealized form of presentation to the pure intellect. As you can see, as far as formal systems are concerned, a present with no duration is fine because formal systems are inherently frozen in time. However, humans do take formal systems and manipulate them. Proofs are worked out step by step by human

problem solvers. Proofs once done are static again, but they are developed in time. As formal systems are worked out, sometimes paradigm changes occur that make new formal systems necessary. An example is the development of non-euclidean geometry out of ordinary geometry. Here, the formal system changed into an opposite formation, and then both were re-encompassed by geometry when they were seen to be two aspects of an overall unified system. Thus, time enters into the formal system not just by the steps of proof, but also by the transformation of the formal system itself. As long as we ignore these aspects of time impinging on the formal system, we can remain comfortable as naive idealists. But as soon as we need to consider the relation of time to our formal system, problems arise.

Physicists and chemists lacking all philosophical compunctions tackled the problems of time straight on. They developed the structural system as an adjunct or extension to formalism which allowed the expression of a relation to time. They were helped by the development of Cartesian coordinates and the real number line which allowed them to picture objects and events in "real" space and time. This allowed them to precisely locate where discontinuities occurred and allowed them to model all continuous systems as functions. Continuous changes were handled through the calculus. Discontinuous

changes were handled by the structural system. The structural system goes into the forms to categorize their content. It then uses content categories to map across the discontinuities. This has been successfully applied to chemical and atomic processes. It has unlocked the deep structure of the atomic and subatomic world. It has also brought some suprises in the form of relativity theory and quantum mechanics. These last developments have changed our concepts of time and space completely. Time and space have become a continuum instead of separate a priories. Events in space/time have become relativistic which means they are not the same for all observers. Also, events have become hard to locate because of quantum effects. Thus, the universe has turned out to have a completely unexpected and counter-intuitive "nature." Space and time have become irrevocably altered from earlier idealistic and materialistic conceptions. And we are still trying to sort out what it all means. However, we do know that the new characteristics of space/time were discovered by applying the structuralist reductionist analysis to understanding discontinuities in nature. Thus, we may be sure that the quantum/relativistic effects are intimately related with the structuralist view of dynamical systems.

Husserl's phenomenology stands at the crossroads between the old idealist and materialist views of time,

and the new spacetime and quantum view of temporality. It was Husserl's student Heidegger who attempted to move into this newly emergent realm and come to grips with time from a structuralist perspective. Prior to Heidegger there was only one kind of Being as a pure plenum -- a frozen world of the idealist. The infinitesimal point of the pure present is like a sheet through which all things pass from future into past. At the moment of passage they have Being for an infinitesimal instant. This moment of Being is frozen because it has no duration itself. This was Kant's concept of time, and Being's intersection derived from St. Augustine, and perhaps ultimately from Parmenides. Heidegger changed this fundamental assumption concerning the relation between Being and Time. He posited that Being and Time had a different non-static mode of interaction. In this different mode they are mixed together. They are no longer static. Being has the meaning of presentation or manifestation. The process of manifestation unfolds in time. Thus, temporality has the meaning of the whole process of unfolding from beginning to end.

FIGURE 7   Process Being and the Temporal Gestalt. {FIGURE 172}

STATIC BEING

Process

Process

Process

Process

Process

PROCESS BEING

TEMPORAL GESTALT

Manifestation

FUTURE

PAST

Retention

INFINITESIMAL PRESENT
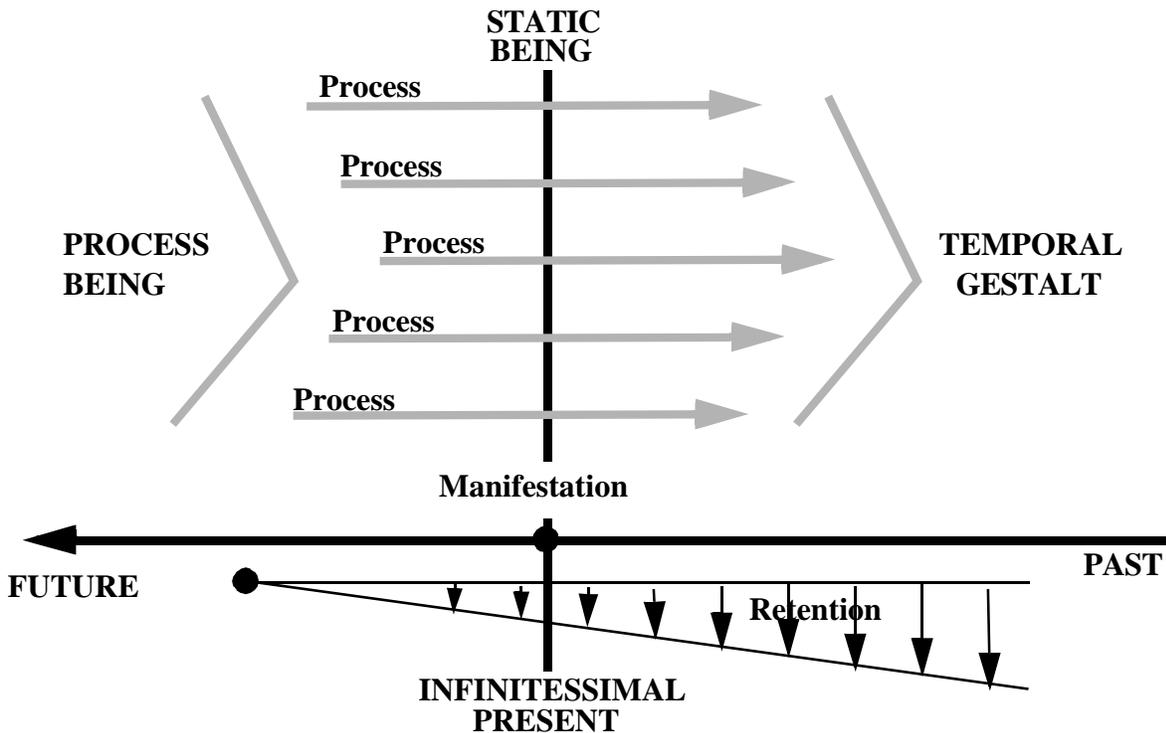
This is a fundamentally different dimension of time than had been considered before. Heidegger uses Husserl's concept of time as "pushing back" or retention in order to be able to hold the unfolding of manifestation. Then Heidegger departs form his master to explore this metaphysically new territory.

Heidegger looked at temporal unfoldings as whole gestalts. The infinitesimal point of pure presence is just part of that whole unfolding. The whole gestalt has a different type of Being from the Being of the moment of pure presence. From Heidegger's point of view, relativity theory and quantum mechanics are merely part of the

discovered counter-intuitive structuring of the temporal gestalt. The timespace continuum is the substrate for all manifestation and becomes the very interval structure of Process Being itself. Quantum mechanics becomes the proof that the whole gestalt has priority over any individual element of the gestalt. In fact, there is a strange duality between the container (spacetime continuum) and the contained quanta. Everything from the point of view of quantum mechanics is BOTH particle and wave, but can only be viewed as one or the other in any one observation. Some call the single reality which is either viewed as particle or wave a "wavicle," Frank Wilczek suggests the term "lave."[2] I suggest the use of the term "eventity." The event/entity is ultimately a single eventity. From one aspect it is an event, while from another aspect it is an entity. The eventity embodies the dual aspects of wave-like and particle-like properties. It is equivalent to what Whitehead, for lack of a better terminology, called an "organism" in his process philosophy. For us it is a whole temporal gestalt with a specific temporal interval. Its inherent dual nature comes from the fact that it has both static Being and process Being simultaneously.

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2. LONGING FOR THE HARMONIES

FIGURE 8

The relation between Process Being and Static Being. {FIGURE 173}

STATIC BEING

PARTICLE

PROCESS BEING

WAVE
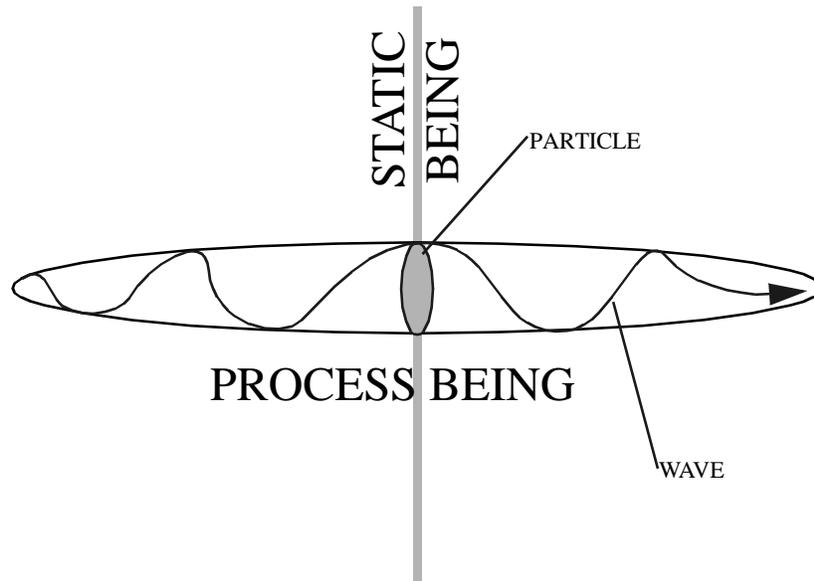
What is interesting is that the eventity exists contained in spacetime posited by relativity theory. Spacetime is also dual in nature. Spacetime is defined by special relativity theory as x+y+z-t: the three dimensions of space *minus* the temporal dimension.   It also has an opposite configuration defined by Heidegger as Timespace. This formulation is equivalent to the light cones of Minkowski's formulation of the spacetime continuum. In this configuration timespace consists of (past-present-future)+nowhere.   Nowhere is the non-causal region between light cones. It is a region in timespace where no causal chains may emanate into our light cone. Timespace/Spacetime   are   duals   and   opposite representations of the same reality.   That reality is the internal structuring of manifestation as discovered by the

physicists. Our own temporality is caught in the web of timespace/spacetime along with every other eventity. We may translate from our own inertial reference frame to any other, but we do not have access to the underlying reality of timespace/spacetime. We only see its two dual modes of appearance. This is significant because the container (timespace/spacetime) and the contained (eventity) both have dual structures, and in both cases we are cut off from access to the underlying reality where the dual representations merge.

FIGURE 9   The relation between spacetime and timespace, particle and wave, Process Being and Eventity. {FIGURE 175}

Macro Temporal Gestalt
PROCESS BEING

SPACETIME
x+y+z-t

TIMESPACE
(present-past-future)+nowhere

PARTICLE

WAVE

EVENTITY
Micro Temporal Gestalt
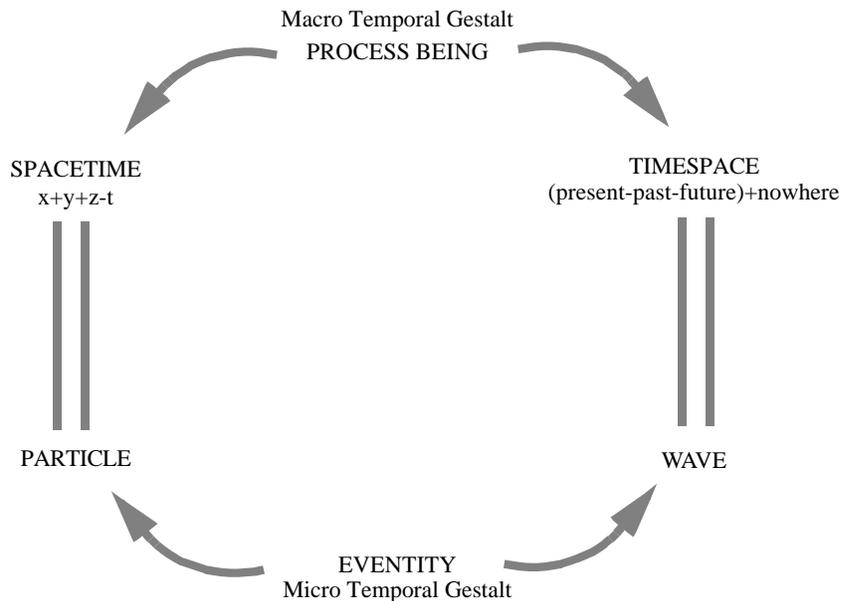
What is interesting here is how particles are situated in spacetime and waves unfold in timespace, but both emerge from a fused underlying reality which might be described as the temporal gestalt. The temporal gestalt

has two levels: micro and macro. The macro level is the whole process of manifestation within which eventities appear. At the micro level, however, each eventity is a temporal gestalt.

FIGURE 10   Picturing the Macro Temporal Gestalt. {FIGURE 176}

STATIC BEING

PROCESS BEING

MACRO   TEMPORAL   GESTALT

Nowhere
(outside light cone)

PAST   FUTURE

PRESENT

Nowhere

EVENTITY
Micro
Temporal
Gestalt

PURE PRESENCE

Point in
x+y+z-t

LIGHT CONE
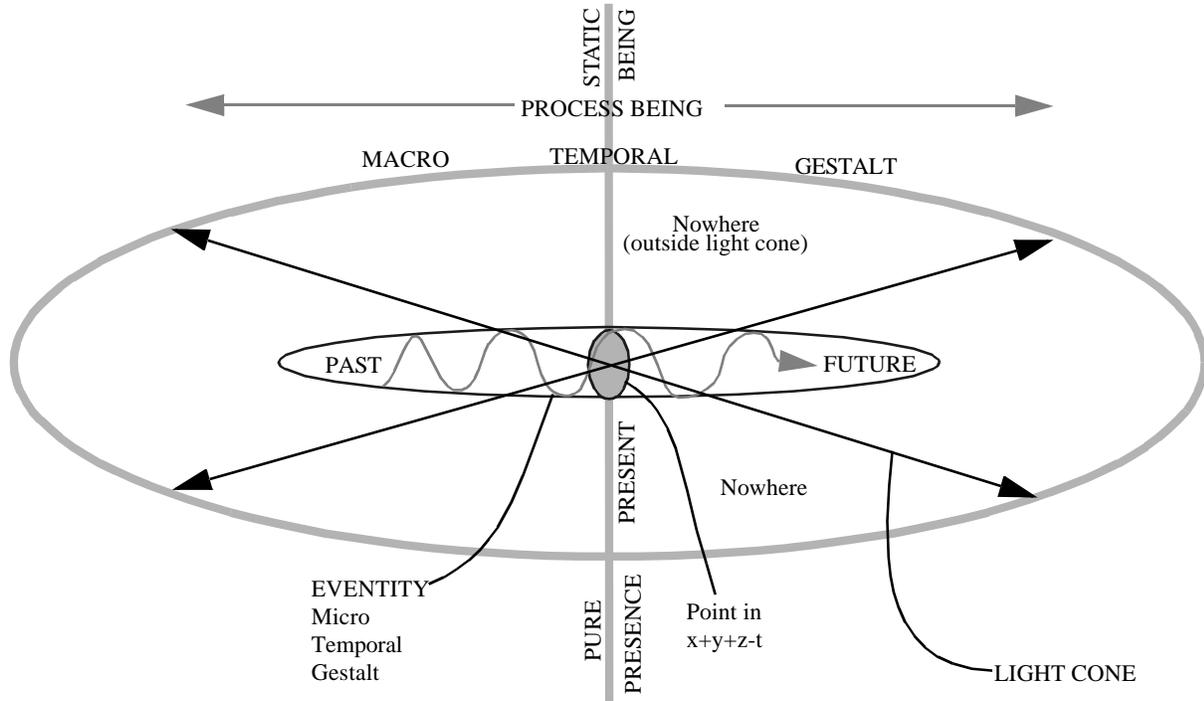
Even more fascinating is how the micro and macro temporal gestalts work together to provide a picture of temporal unfolding which is formal-structural embracing both continuity and discontinuity in the same model. In every discontinuous change something appears out of nowhere or disappears into who-knows-where. The discontinuity may now be explained as the folding of "nowhere" into the temporal gestalt. This "nowhere" appears phenomenally as the nowhere of noncausaltiy

between light cones, the duality between spacetime/timespace, the duality between particle and wave, and Heisenberg's uncertainty principle. There are unexplained lacunae in the temporal gestalt which cause discontinuous phenomena to occur as well as distorting all continuous phenomena in the field because of the curvature of spacetime itself. Physics understands the world from a fundamental structuralist perspective that takes into account and explains the discontinuities in all dynamic formal-structural systems. Heidegger's philosophy of Process Being set forth in <u>Being And Time</u> gives a whole view of the structuralist approach to all phenomena. The structuralist, in effect, focuses in on one discontinuity and maps the transformation in form and content across that discontinuity. That discontinuity is there, however, because of the peculiar structure of the temporal gestalt of manifestation as a whole. Heidegger, through Husserl's work, realized that the Being of the present is only one type of Being. The whole temporal gestalt has its own meta-level type of Being in which temporality is no longer frozen. This macro/micro temporal gestalt patterning is extremely counter-intuitive because it embodies not just dynamic catastrophes, but because the temporal gestalt is itself warped or infolded. These warpages are elucidated by modern physics but not explained. The eventity embedded in the spacetime/timespace continuum/discontinuum is an extremely

strange counter intuitive patterning for the temporal gestalt. It was discovered by rigorously applying reductionist strategies of investigation to the "physical" world. This is to say that by attacking individual cracks or discontinuities in the natural order with the structuralist paradigm individual occurrences of warpages added up to the final picture of overall warpage of reality. David Bohm has called the overall infolding or warpage or reality its "implicate order." The implicate order is explained by an experiment which mixes ink in water. The ink is spun and mixed into the water. But if the spin is reversed, the ink re-emerges from the water completely.[3]

> There is the germ of a new notion of order here. This order is not to be understood solely in terms of the regular arrangement of *events*. Rather a *total order* is contained in some implicit sense, in each region of space & time.

> Now the word "implicit" is based on the verb "to implicate." This means "to fold inward" (as multiplication means folding many times). So we may be led to explore the notion that in some sense each region contains a total structure "enfolded" within it.[4]

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3. WHOLENESS AND THE IMPLICATE ORDER
4. WHOLENESS AND THE IMPLICATE ORDER; D. Bohm; page 149

Bohm gives the examples of how a TV image is encoded in radio waves and then decoded, or how mixed viscous liquids may be folded into each other and then unfolded. He goes on to explore how implicate order is seen in the phenomena of holograms. All of these examples and analogies are in individual eventites which demonstrate some form of implicate order. Bohm wishes to apply these local apparent manifestations of implicate order to the total macro gestalt. This is useful, but it should not be forgotten that the macro and micro temporal gestalts arise from the same ultimate reality and are merely two appearances of essentially the same thing. What is crucial is to keep in mind that the temporal gestalt as a whole is not the same as the point of pure presence on either the macro or micro level. Thus, Heidegger has opened up for us, based on the groundwork laid by Husserl, a new deeper model of temporality. However, this model of the implicate order of the temporal gestalt either as spacetime or timespace, does not account for the repatterning of the gestalt. For the structuralist program and Heidegger's first phase of thought, the temporal gestalt of manifestation is itself frozen. Although the dynamism of the formal-structural system as changes in explicit orders of events or entities occurs, no change to the implicit order is allowed. Changes in the implicit order would mean that the discontinuities would shift positions in relation to each other. This would invalidate

all the structuralists' careful bridge work. However, we do know that emergent events happen. When they happen, we rework the past and future to account for these drastic changes. We assume that these are epistemological changes, not changes to the structure of ultimate reality. However, we only know ultimate reality to some approximation. If it changes within the tolerance of our ignorance, we would never know. What we do know is that at least one major element in the order of things does not change periodically; that is the foundations underlying our world understanding of the universe. And from our physics we are learning that how we look at the world has an effect on how the world turns out to be in our experimental results. If our own part in the implicate order turns over so drastically, why not the whole of it? We have four good examples of how emergence plays an important role in the universe.

> 1) The universe itself came into existence with a big bang;

> 2) life appeared on earth;

> 4) social reality appeared;

> 3) discursive intelligence appeared in human beings.

Each of these examples demonstrates that the physical

part of the implicate order undergoes large changes as well. Thus, emergence is crucial in both the epistemological and physical aspects of the total temporal gestalt of manifestation. We must seriously consider the possibility of changes in the implicate order of the temporal gestalt, so that the deeper layer of time laid bare by Husserl and Heidegger merely points to even deeper layers that occur through emergent events that change the implicate order of the temporal gestalt.

Changes in the implicate order of micro temporal gestalts are emergent events. Emergent events lead to the repatterning of macro temporal gestalts. The socio-technical dynamic formal-structural system is one example of the macro temporal gestalt. The process of unfolding of this macro temporal gestalt is one large emergent event because its implicate order periodically changes inexplicably. Thus, one would expect large emergent events to move through the same phases as their constituent micro emergent events. Since micro and macro temporal gestalts are opposites, they are, in fact inversions of each other. As Nietzsche said, objects are just subjects turned inside out. So it is with micro and macro temporal gestalts. The overall macro emergent temporal gestalt moves through its series of phases in reverse order from the micro emergent temporal gestalts which are forms that appear on its background. This is

because what the micro temporal gestalts as emergent events are coming from is exactly the same thing that the macro temporal gestalt as an emergent event is heading towards. The emergent events on the micro level are heralds bringing news of what the macro level emergent event is fast approaching.

FIGURE 11   Reversibility and Emergence. {FIGURE 183}

Emergent Unfolding
Socio-technical
Formal Structural System

ULTIMATE
REALITY
AND
MEANING

Emergent Eventities
Micro Temporal Gestalt
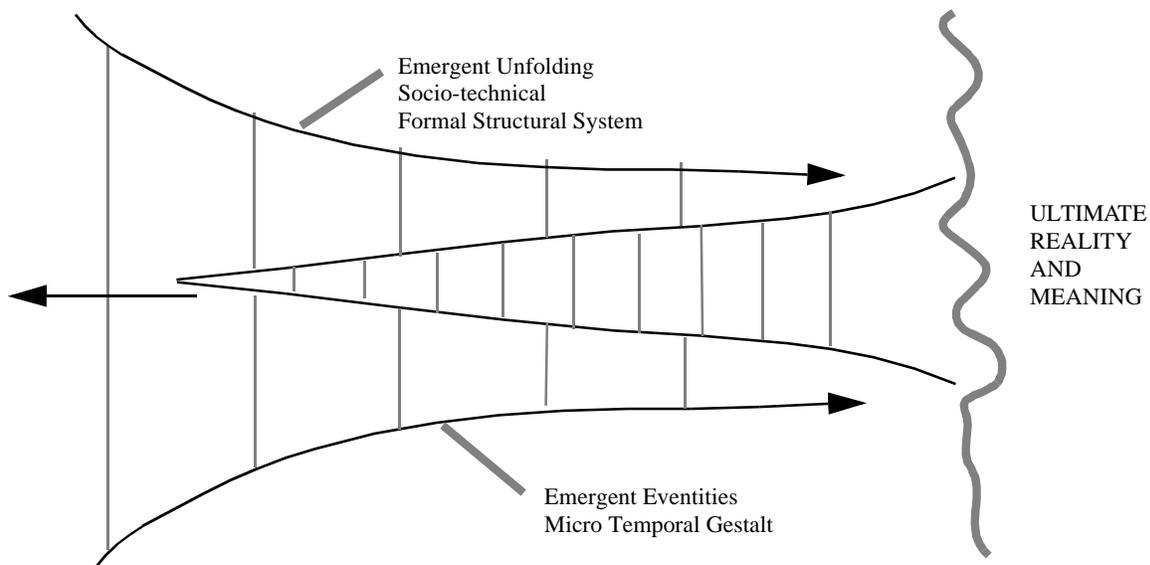
Emergent events at the micro level trigger repatternings of the macro level temporal gestalt. These repatternings are themselves intrinsically erratic. They are experienced as catastrophic discontinuous changes in the implicate order of the temporal gestalt. However, what they, in fact, reveal is that the implicate order has a deeper ordering which allows change to the implicate order periodically. This is made clear by the fourfold patterning of both macro and micro emergent events. Of

course, they remain catastrophes which might be described by Rene Thom's cusps and umbilics. However, we see them as minimal systems, and thus they take on the forms of the minimal system: tetrahedra, knot, torus, and mobius strip. In these geometric forms we recognize the fundamental inturning of any minimal system. The system itself is always a temporal gestalt. The minimal system has four aspects or moments: structural form, interference, field, and paradox. As a form or shape it manifests structural characteristics as a lattice.

**FIGURE 12**   Tetrahedral Lattice. {FIGURE 184}
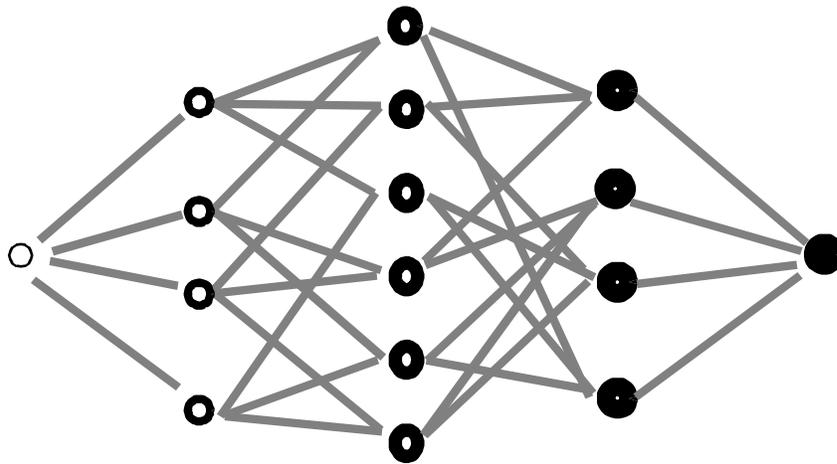
This structural patterning that results in a from may be viewed instead as an interference pattern within a field. The knot constructs this interference pattern and follows its weave through space. The torus, on the other hand, represents the field itself. Each eventity is also a field within which interference might take place. As a torus, the field is infinite yet finite at the same time. As a

Mobius strip, the minimal system exhibits paradoxicality of the particle/wave or spacetime/timespace variety. The Mobius strip appears to have two faces and two edges when really it only has one of each. Thus, these four forms from geometry give us an excellent means of thinking about the minimal system or eventity. We may translate these "particle-like" geometric features into temporal features that are their duals:

PARTICLE   CHARACTERISTIC
WAVELIKE

knot   interference pattern
standing waves

tetrahedron   lattice (structural
form)   soliton

                                          torus
field   channels

mobius strip   paradox
instantaton

SPACE LIKE   TIME
LIKE
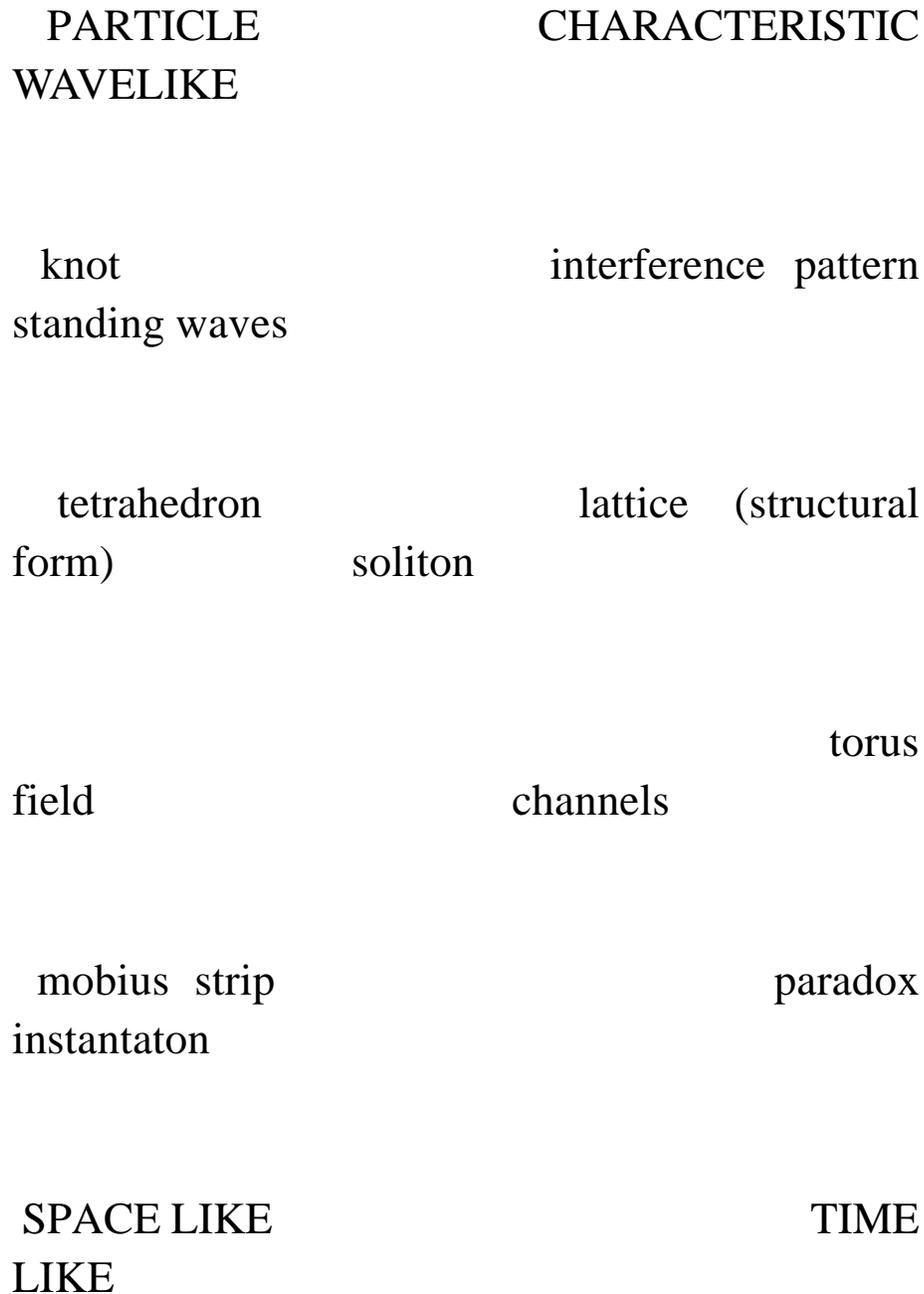
When we look at the repatterning of the implicate
ordering of the temporal gestalt, we see a turning over of
the gestalt. Just like the gestalt contains many figure

ground relations, so too, on a deeper level, the gestalt itself has many faces. When the gestalt repatterns, it turns yet another of its over all faces toward us. What we see as a new gestalt is really just another formerly hidden, or implicit face of the same gestalt. All gestalts have forms that become figures which have structural patterning: tetrahedron. All gestalts have fields which connect all visible figures and relate them to the background: torus. All gestalts have interference patterns which cause some figure/ground relations to disappear when others appear: knot. All gestalts manifest paradoxical flip-flopping between figure/ground configurations occasionally: mobius strip. The minimal system describes the major features of each gestalt; that same gestalt has its own temporal patterning. Thus, it is a spacetime/timespace container of eventities that has its own extrinsic and intrinsic orders. When an emergent event occurs and the gestalt repatterns itself, then intrinsic changes occur between figure - field - interference pattern - figure/ground relations.

The connection between micro emergent eventities (that is eventities whose implicate order has changed) and macro emergent repatterning of the temporal gestalt must be clarified. Because we have focused in on the emergent event, we now see them as their own gestalt, and thus we treat them as a system. Because they are treated as a

system, they take on the overall form of the minimal system. As a minimal system, the emergent event displays the four aspects of every minimal system (knot, torus, tetrahedron, Mobius strip). These four aspects harken back to the description of the emergent event as a gestalt. When the emergent event occurs, each level of its own internal order is successively repatterned in order to effect a total gestalt repatterning. This repatterning foreshadows the repatterning of the entire macro-gestalt. This is understandable because the micro and macro gestalts are inverted duals. That is, they are two faces of the same thing as either container or contained.

FIGURE 14   Conceptual relations of minimal system views. {FIGURE 187}

tetrahedron

- structural - lattice
- form - geometric
- *whole figure* arising and returning

knot

- interference; standing waves
- figure/figure separations

mobius strip

- figure - ground - figure transformations
- global verses local

torus

- field channel

- infinite verses finite

**FIGURE 15**   The Proto-technical has many gestalt faces. {FIGURE 188a}
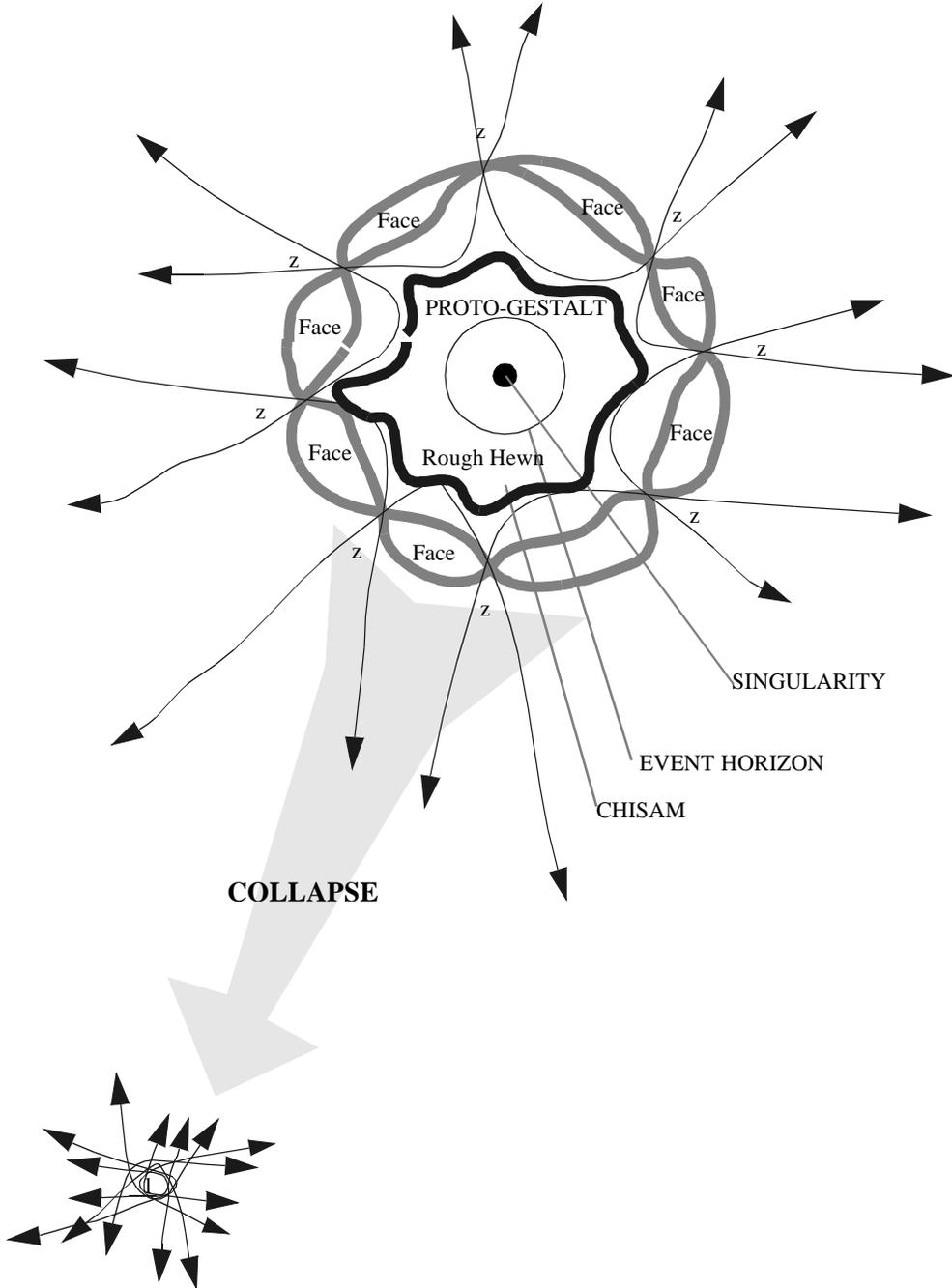
**FIGURE 16**   The Meta-technical z {FIGURE 188b}

j

Old Implicate Order   New Implicate Order

Transformative
Wave Running   Old Regime   New Regime
Through Eventity

Old Fore/Back-ground Relation   New Fore/Back-ground Relation

Catastrophe

Old Background   New Background
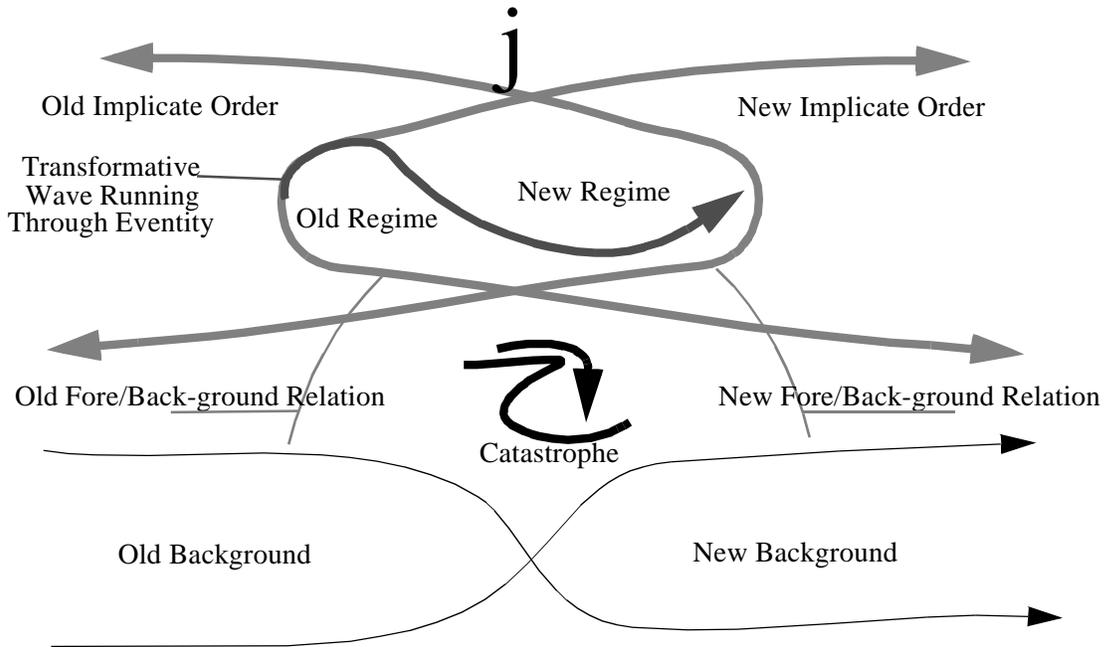
FIGURE 17   Formal-Structure of the Technical {FIGURE 188c}

Being#2   Being#1

Figure

Fore/Back-ground relation   Ground
Static Implicate Order

BACKGROUND Of GESTALT FACE
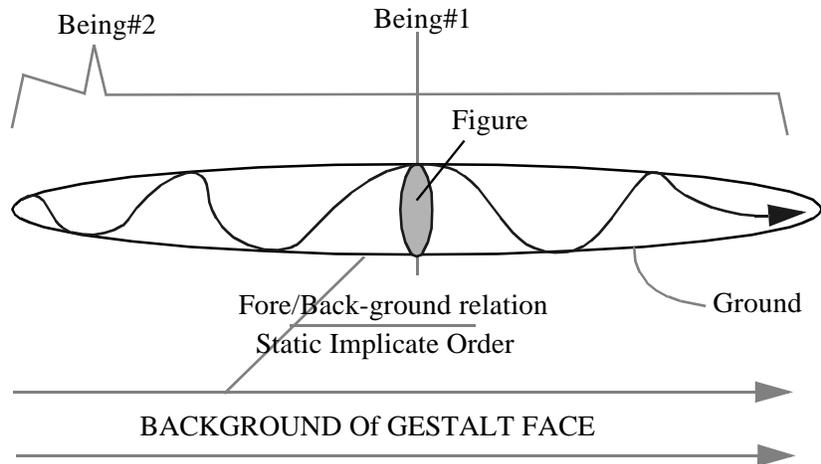
FIGURE 18   Phases of unfolding from the Proto-Gestalt {FIGURE 189}

Phase 1	Phase 2	Phase 3	Phase 4
Proto-Gestalt	Faces of Gestalt	Transition from regime to regime	Eventity within Regime
Chiasmic			
	Singularity and Event Horizon		
Proto-technical	Meta-technical	Structural	Formal
	Emergent Event	Eventity	Form
		Minimal System	
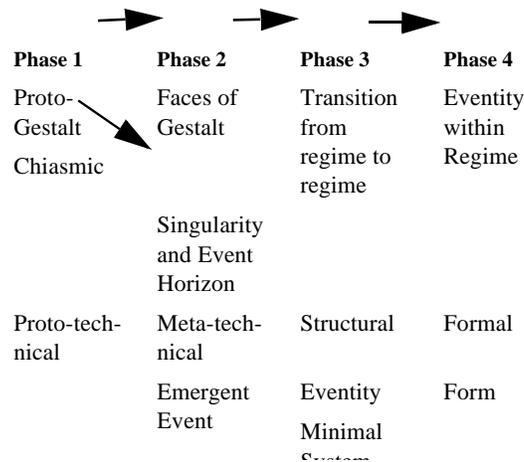
The repatterning of a temporal gestalt shows us for the first time that the gestalt has several configurations or faces. Each of these faces appears when the implicate order within the gestalt changes. This reveals a deeper level of coherence within the gestalt. The gestalt can change its figure ground patterning and still remain a gestalt. The eventity becomes the emergent event which heralds this global transformation of the temporal gestalt. The eventity as emergent participates for a time in both the old and new configurations or faces of the gestalt.

The emergent eventity experiences the rolling wave by which the transition occurs from one implicate order to the next. Each successive implicate order acts as a tighter teleonomic filter. The emergent eventity bridges the two faces of the macro temporal gestalt and integrates the

conflicting claims of each implicate order in which it participates. The emergent eventity is the testing ground for a new overall configuration of the temporal gestalt of the entire formal-structural system. As a testing ground the emergent eventity tries channels within the play left in the teleonomic filter already accrued. Successful emergent eventities will act as a bridge to the completely new gestalt patterning. As the gestalt patterning changes, more possibilities are tried for the changes in implicate ordering. As the possibilities of a gestalt are systematically explored, the permutations of the implicate orders become clear. Within these possibilities a single possibility will be chosen and will become channeled. The channel once laid down will become the pattern that the whole temporal gestalt will take on.

FIGURE 19 **Relation between the faces of the Proto-Gestalt. {FIGURE 191}**

Possible Face

j

Possible Face

Current Face **j**

Possible Face

j
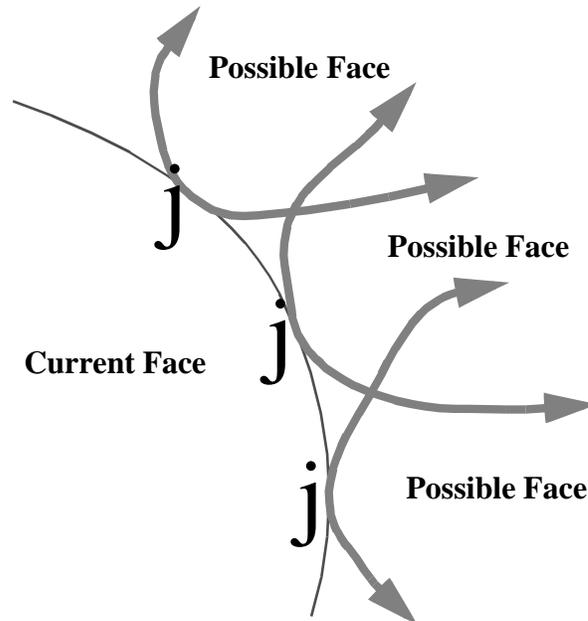
This means that some emergent events are completed while others remain incomplete.   The incompleted emergent eventities will have explored some possibilities of the reordering of the implicate order of the macro temporal gestalt. Completed emergent eventities will have triggered wholesale repatterning of the macro temporal gestalt. Incompleted emergent eventities form a halo around the completed emergent eventity.   They represent explored possibilities of routes not taken. They have gone deeper than mere excrescences and may be viewed as acts of tilling the soil out of which the true emergent eventity appears. Those completed emergent eventities have a different character from the aborted emergent eventities.   They plumb deeper into the

foundations of time. By exploring multiple possible gestalt faces, the inner possibilities for repatterning the implicate order have been explored. This nexus of possible gestalt faces will be called the proto-gestalt. The true emergent event delves directly into the proto-gestalt. When the true emergent eventity acts as a bridge between gestalt faces, it is expressing the inner form of the proto-gestalt. The proto-gestalt is a source from which all the gestalt patternings arise. It is the inner source of all possible implicate orders. Genuine emergences must tap this source. The proto-gestalt, once tapped, opens a channel for a complete transition from one face of the temporal gestalt to another. The emergent eventity makes this transition, and this heralds the spread of the new gestalt pattern throughout the whole of the temporal gestalt.

The proto-gestalt is outwardly the permutations of all possible implicate orders within the macro temporal gestalt. Inwardly the proto-gestalt is the source from which all actualized gestalt patternings or faces unfold. The proto-gestalt is the infolded set of implicate orders in the same way that explicit orders of events and entities in the temporal gestalt faces are the unfolded implicate orders. All true emergent events must tap the proto-gestalt. This means they must express the deepest possible ordering layers of the socio-technical formal-

structural system. The teleonomic filter is a realization of possibilities embedded in the proto-gestalt. The formal system takes a path through the gestalt patternings realizing successive gestalt faces. Emergent events explore the boundaries of the current gestalt face seeking to render explicit further implicit possible orderings. Every once in a while such an exploratory emergent eventity will tap into the proto-gestalt, and a new possibility will be unearthed and then actualized.

In the process by which a socio-technical formal-structural system develops over time, it moves through formal to structural to meta-technical to proto-technical phases. This is because as successive gestalt faces are explored, a clearer picture gradually comes to the surface of the entire temporal gestalt. At first only the figures on the grounds are seen. The backgrounds themselves are not noticed. Movement between figures within the gestalt are a mystery. Formal systems are constructed to describe the forms seen. Formal systems are the most abstract and the least concerned with the actual workings of nature. Logic and mathematics eschew nature completely, and idealists like Kant legitimates this tendency. Kant's categories have nothing to do with nature, but only with mental constructs. This is why they are a perfect example of a mechanization of ideation. Formal systems have pure presence at the ideal "now"

point in time. But they are also frozen because of that. Kant idealized the structure of the calculus as the architecture of his philosophy. The calculus can be used to mimic continuous changes over time. It can also be used for successive approximations of the "now" point at infinity. The formalism of the calculus allows continuous changes to be frozen and analyzed. These continuous changes become frozen at the "now" point at infinity, and second order functions can describe "instantaneous" acceleration. The function stands as a frozen equation, and the acceleration is a frozen quantity. The calculus is used to render all continuous motions as idealized curves frozen in the Being of pure presence. Because the equation itself can stand for an infinite number of points, it seems to bring all of infinity into immediate grasp of the ideal observer (transcendental subject) within the infinitesimal now.

Once forms are clearly defined, then the discontinuous changes as one form transforms into another, become an issue. The structuralist reductionist rigor or discipline is used to make those discontinuous transformations amenable to description. Discontinuous functions may be used to model the changes in relation to continuous changes. However, here a completely new concern comes to the fore that requires a different mathematical approach. That new mathematical approach is called

statistics. Statistics were developed to the greatest extent through their application to quantum theory. Statistics concern probabilities of actualizations, not with ideal forms. In statistics numbers are used to understand the world directly, not to describe it from afar as ideal curves and trajectories. Statistics are based on counting and measurement of actual occurrences. Probabilities express ratios of actual measured outcomes which fall into probability distributions that then may be idealized as equation derived curves. There is a close relation between statistical mathematics of probability and the understanding of the temporal gestalt by Heidegger. Actualizations may be thought of as counted presentations as events hit the pane of pure presence. As temporal gestalts move through the plane of the "now" certain, actualizatons occur in a pattern. This pattern is described by statistics. Statistics may be seen as a way of showing the actualized traces of the whole temporal gestalt. It is not concerned with ideal forms that only inhabit the plane of the now. Instead, it is concerned with the traces of actualizations left by passing temporal gestalts through the now plane.

The interesting thing about statistics was that it was discovered to perfectly describe quantum phenomena. Eventities could be described successfully as probability waves even if it could not be understood how they could

be both particles and waves at the same time. The relation of position to velocity could be described stochastically for eventities even though the fundamental uncertainty remained. Thus, eventities became for modern physics basically statistical in nature. This was a recognition that the eventity extended beyond the now point and demanded a different type of mathematics to describe both its actualizations and the impossibility of completely rigorous definition like ideal mathematical objects. Eventities are known by the pattern of actualizations as they pass through the present. They are nothing more than this pattern. It is not possible to look inside them to see the equation that generates the pattern. Eventities are black boxes with unknown interiors that are only known by the pattern of the actualizations as they pass through the present.

Up until recently mathematics thought it could describe all phenomena deterministically using ideal forms and through statistics. However, other forms of mathematics have arisen which are parallel to the meta-technical and proto-technical arenas. These new kinds of mathematics describe aspects of emergence. Within the meta-technical realm the descriptive media from mathematics is fuzzy sets and logics developed in the seventies by Zehda. Within the proto-technical realm the descriptive mathematical medium is chaos. Chaos theory has

recently been well described by James Gleik. These two new branches of mathematics have a special significance for us because they allow us to model mathematically what is occurring in emergent events, and to describe those events in terms of mathematically-founded theoretical tools.

Actualizations which occur as the temporal gestalt passes through the plane of the now, do not come from nowhere. There must be a realm of possibilities out of which the actualizations arise. Zehda set out to describe these realms of possibilities that lead to actualizations. He developed what has been called possibility theory to this end. Numbers are given not true/false designations to describe the difference between actualizations and non-actualities. Instead, the range between zero and one can either be a real number line or a lattice showing intermediate possibilities. Thus, a range starting with no possibility through improbable through probable to actualized can be formed. The mathematical properties of these descriptive numbers have been fully explored and differentiated from statistical numbers. Numbers which are both stochastic and possibilistic at the same time are called "hyper-numbers."[5]

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5. INTRODUCTION TO FUZZY ARTITMATIC; A. Kaufmann

FIGURE 20   {FIGURE 199}
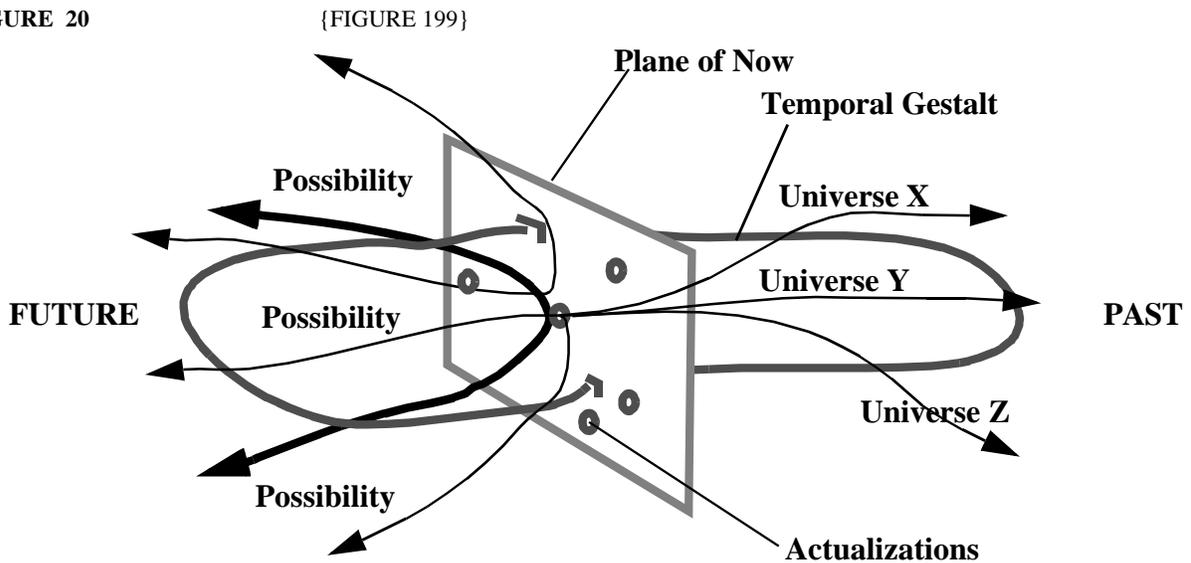
Fuzzy numbers have been shown to be highly consonant with hedges "like," "sort of," "more or less," "almost," etc. used in everyday speech. This shows that we deal with possibilities very naturally in our everyday associations with the world. Each actualization before it occurs lives in a realm of possibilities. After actualization occurs, a splintering of multiple parallel universes occurs. Our universe is the one with a particular set of actualizations. Some say that parallel universes are the only way to avoid the paradoxically of quantal states. In terms of emergence these possible future worlds with different possibility weights are the realm explored by emergent events. The current implicate order weights the possibilities highly toward those consonant with the current gestalt patterning. However, other possibilities exist and may be explored.

Abortive emergent events explore these possibilities. Occasionally these rare possibilities are realized in which case a true emergent event occurs. The rare has no rule.[6] Thus, the rare possibility may become actualized and overturn the current gestalt pattern. In physics these are called quantum fluctuations. Some think the whole universe is just one big quantum fluctuation -- a highly improbable yet possible event that occurred. Emergent events explore these possible permutations of the implicate order. Occasionally these rare possibilities are actualized, in which case the macro temporal gestalt as a whole must change.

However, this does not explain how possibilities may be transformed into actualizations. This transformation is brought about by propensities. Watanabe has proposed that propensity theory must complete the set of deterministic, probabalistic, and possibilistic types of mathematical descriptions. Propensities are tendencies for a possibility to be actualized. Propensities are inherently chaotic: dependent on precise initial conditions and deterministic chaotic patterns of tendency. Which possibilities are realized is determined by chaotic processes. These processes are not random but highly deterministic. However, because of the ultra precision of initial conditions, it is in practice impossible to know

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6. cf. Sidi Ali al-Jamal

which propensity will throw a particular possibility into existence. The chaotic propensities are contributed by the proto-gestalt. When the emergent event finds a channel within the possible implicate order permutations, then it is chaotic phenomena that will determine the tendency to realize this possibility. Thus the proto-gestalt acts as both the source of possible implicate orders and the means of determining if these possiblilites will be realized. This puts the proto-gestalt in almost complete control over emergent events.

Emergent eventities explore the play in the implicate order, and occasionally these possibilities are allowed to actualize through some chaotic tendency that causes a rare event to occur despite the odds against it set up by probabilities. Probabilities determine the current regime. Propensities overthrow the current regime and realize rare possibilities through chaotic tendencies. When the emergent eventity has discovered a new path in the implicate order's permutations, and that path is opened by a propensity, then it is possible for that seed crystal to repattern the whole temporal gestalt. This repatterning is a catastrophic event that spreads from the seed emergent event to the whole temporal gestalt. Once unleashed, the dissipative wave of restructuring cannot be stopped. It uses the old implicate order as the material for its imposition of a new pattern that shows a new face of the

temporal gestalt not seen before. In the new face certain latent possibilities have been discovered and used. This usage increases the rigidity of the teleonomic filter. It limits the possibilities of the evolution of the whole temporal gestalt. It takes the socio-technical system one step further toward extinction through total exploration of all the possibilities for implicate ordering. As the socio-technical system develops, it goes through phases related to each level of its temporal structuring. First, it is a formal system concerned only with figures arising out of the gestalt. Then it becomes fascinated with discontinuities within the gestalt where forms transform into other forms inexplicably. In this second phase structural rigor is used to describe discontinuities and the action of time within the temporal gestalt. In the third, meta-technical phase the different faces of the gestalt become visible as several transformations of the whole gestalt patterning become visible. Finally, the proto-technical source of all the possible faces become visible. In our own culture this proto-technical phase is just beginning in which the proto-gestalt for the myriad faces of our culture is beginning to be explored. For us this is the virtual space within the womb created by software where artificial life abounds. The socio-technical system slowly approaches the comprehension of each of these phases through the working out of the inner possibilities within our "form of life." It approaches these levels of

comprehension in the opposite order form that which each emergent eventity manifests these same phases. Emergent eventities must tap into the proto-gestalt and channel the new possibilities of implicate order into actualities which later become the deterministic past. Rare possibilities become actualized via the work of chaotic propensities which finally are reconstructed as ideal deterministic progressions. G.H. Mead's vision of emergent events has become clearer in the last sixty years. The fact that he recognized that the structure of emergent events, which we can now discuss from a mathematical perspective, is implicitly social was a great leap of inspiration on his part.

The proto-gestalt may be described as a primal scene for the whole temporal gestalt. As a primal scene it sets the primary archetypal structure for the entire unfolding of the temporal gestalt. The primal scene itself never appears. It is always implicit and must be reconstructed imaginatively. Heidegger speaks of the primal scene as the "always already lost origin" that may never be made present, but which every gestalt repatterning repeats. The primal scene of the proto-gestalt appears as the goal always approximated with greater refinement, but never fully reached. The primal scene is the other which always haunts the temporal gestalt like Islam haunts the West. The incomprehensible yet familiar Other from the

same source: "Abraham." The primal scene is the lost origin of the temporal gestalt. The origin of language; the origin of life; the origin of the universe; the origin that cannot ever be reclaimed fully that determined everything that followed. The proto-gestalt is the intersubjectivity problem for the phenomenologists. The proto-gestalt is the origin of community and society. Everything whose origin cannot be determined falls within the realm of the proto-gestalt. The emergent event taps this origin and releases a segment of its energy into the formal-structural system causing a massive shift in the gestalt's patterning. For Mead the holy grail was the explanation of social phenomena for an objectivist perspective. Along with Durkheim, he wanted social phenomena to be recognized as it own level of reality for legitimate study impervious to reduction. Thus, Mead realized that social phase of the proto-gestalt when he identified it as intrinsically connected to emergence. The social is a level of reality whose origin is lost, yet everything we know flows form the social reality. Mead was one of the first to point this out clearly. The social is prior to the psychology of the individual. But we do not experience the social directly as we do the psychological. For pure phenomenology the social appears as a "problem" of intersubjectivity. The socio-technical system has a proto-gestalt that is identical with the problem of intersubjectivity. The socio-technical system

invents its own primal scenes to cover-up and displace this lost irrecoverable origin. The whole temporal unfolding revolves around this proto-gestalt. Each stage of re-enactment brings us closer to a goal never achieved. Eventually we discover the goal is the same lost origin in another guise. The primal scene is transformed into an ideology of progress. The primal scene is the "same" that in Nietzsche's philosophy eternally recurs. It is the sameness that binds identity and difference together. It is the archetypal process that determines all the permutations of implicate orders for the temporal gestalt. Whenever emergence occurs, the origin is unleashed into existence and meaning pours forth. Emergence is inherently social. But that is not all; it is the reappearance of the always already lost origin to take possession of the temporal gestalt and transform it yet again.

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